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越南河內之網路購物其風險認知對消費者態度
與購買意願的影響

IMPACT OF PERCEPTION RISK TO THE CONSUMER'S ATTITUDE AND
PURCHASE INTENTION ONLINE SHOPPING IN HANOI, VIETNAM

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碩 士 學 位 論 文

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準碩士推薦函

本校企業管理學系管理科學碩士班研究生 Pham Minh Luan君在本系修業 1.5年，已經完成本系碩士班規定之修業課程及論文研究之訓練。

1、在修業課程方面：Pham Minh Luan君已修滿 __39__ 學分，其中必修科目：研究方法、決策專題、管理科學、經營專題 等科目，成績及格(請查閱碩士班歷年成績)。

2、在論文研究方面：Pham Minh Luan君在學期間已完成下列論文：

(1)碩士論文：Impact of Perception Risk to the Consumer's Attitude and Purchase Intention Online Shopping in Hanoi, Vietnam

(2)期刊論文：

本人認為 Pham Minh Luan君已完成南華大學企業管理學系管理科學碩士班之碩士養成教育，符合訓練水準，並具備本校碩士學位考試之申請資格，特向碩士資格審查小組推薦其初稿，名稱：Impact of Perception Risk to the Consumer's Attitude and Purchase Intention Online Shopping in Hanoi, Vietnam，以參加碩士論文口試。

指導教授：　　　　　簽章

中華民國 106年 1 月 3 日

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Minh Luan Pham

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Title of Thesis: Impact of Perception Risk to The Consumer's Attitude and
Purchase Intention in Online Shopping in Hanoi, Vietnam

Department: Master Program in Management Sciences, Department of
Business Administration, Nanhua University

Graduate Date: January 2017   Degree Conferred: M.B.A.

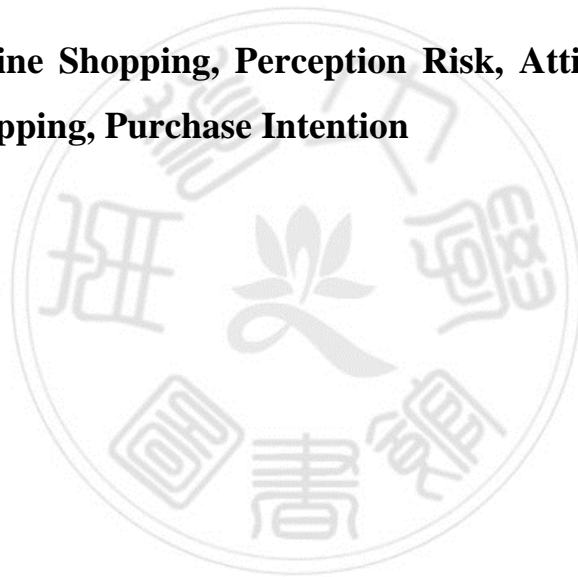Name of Student: Pham Minh Luan   Advisor: Shu-Hung Hsu. Ph.D.

Abstract

With the development and outbreak of the era of digital technology as today had made the world more and more change. It brought to life a more modern, more comfortable, better and gradually changing consumption habits of people. For consumers, the search for suitable products and participate in this form as a hobby or a significant cost savings. For now, this is a new business model, saving management costs, land costs, advertising costs, staff costs ... and it is gradually proven development trends in the present and the future of the economy. In fact, today's customer is not really much excited with this form of online shopping. Consumer sentiment has many wondering, worried because of underlying risks and other issues.

Based on the research model of (Zhang et al., 2012) and research models of Pi & Sangruang (2011) on perception risk impact on attitude and purchase intention in online shopping, this study aims at identifying factors related to perception risk affects customer's purchase intention through customer's opinion. The author perform a survey and collecting opinions from customers by using questionnaires after that analyzing the data. By doing this, the author used to some methods such as the descriptive statistics, exploratory factor analysis (EFA), test the scale, Cronbach's Alpha, multiples regression and using SPSS software. This study performed survey and learn about Hanoi market

(north of Vietnam). The find of paper discovered four perception risk which took interest in customers as quality risk, financial risk, private risk, after-sale risk in Vietnam's market. Besides, the finding was more assert about the relationship between general perception risk and attitude toward online was negatively and attitude toward online shopping was positive. Research services help to better understand the factors affecting the intention of the user using the online service. This subject contributes to the development of the theory of customer behavior in online shopping. Thence, it can be considered as a reference document for more specific studies and broader later.

Key words: **Online Shopping, Perception Risk, Attitude toward Online Shopping, Purchase Intention**

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CHAPTER 1
INTRODUCTION

1.1. Research Backgrounds and Motivations

The Internet had a speedily developed into the global phenomenon and affects the market and our workplaces, it has completely changed the way traditional business (Rowley, 1996). By far, the Internet was not only a communications network but also the global media for consumer transactions. With the quickly growth in recent years, the Internet became the indispensable tool for communication, services, and trade (Delafrooz et al., 2010). Internet is proving to be useful means for the purchase with the benefits and convenience brought compared to traditional shopping. Consumers are no take longer time and find the place, they can use the Internet to purchase products/services everywhere (Hasslinger et al., 2007). With this strongly development of the Internet in Vietnam in recently years, the consumer quickly become familiar with online purchases.

As the results of the Department of E-Commerce and Information Technology report (Vietnam E-commerce, 2014), had 39% of population used the Internet and the value of online purchases of a person was estimated at around 145 dollars (person/year) and revenues from B2C (Business-to-Consumer) reached USD 2.97 billion, capture rate 2.12% in the total retail sales of the country. Meanwhile, Taiwan's online retail sales is about USD $ 29.3 billion, China is about USD $ 217.34 billion, Australia' market is USD $ 16.3 billion, while that of Indonesia - the 4th in the world with (253 million inhabitants) reached only about USD $ 2.6 billion.

Company Market Research Asia Plus for research (applications Q & Me) has conducted a survey on the market of E-commerce in Vietnam in July/2016.

Study participants included both men and women aged stage > 18 and currently living and working in Hanoi. Throughout the survey, questions about consumer behavior related to online shopping are in place in order to learn about this growing market. As figure 1, the survey indicated that 67% of the urban population had ever bought goods online before. Some E-commerce sites are popular Lazada, Hot-deal, and Tiki. And Facebook is also an e-commerce channel popular with 47% of consumers had been buying on this channel.
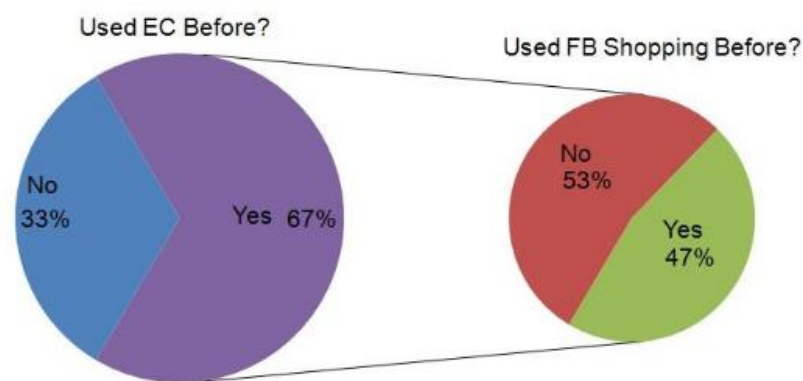
Figure 1.1 Usage rate of EC and face book shopping

Source: Brandsvietnam.com/ E-commerce market and Shopping Online Behavior in Vietnam.

Customer product selection focused on technology items such as furniture and electronics (60%); fashion and cosmetics (60%); household items (34%); books and stationery reach (31%) and remain other items. In Vietnam, after ordering, the majority buyer still chose type of payment by cash reach (64%), via electronic wallet accounts for (37%), and through bank accounts (14%). With the population was over 90.73 million people, with 39% of the population used the Internet and 58% of them participate in online shopping, to achieve such results are very encouraging. At the same time, it also indicates the

potential development of e-commerce market in our country is huge (Department of E-commerce and Information Technology, 2014).

Parallel development of e-commerce, human life is also greatly enhanced, thus buying/selling on the Internet is gradually becoming more popular. Besides the convenience, online shopping has its drawbacks as many bad objects advantage of the sale are not met to carry out acts of fraud. Most popular is still taking advantage of the sale by faith to scam "non-delivery while transferred money" or transfer of counterfeit goods, incorrect as a description. By the very sophisticated tactics such as creating a scenario or even established a website address, clear information, but are merely virtual address ... etc, had a lot of people would fall for this tactic. Not only buyers but also sellers can easily be fooled if not vigilant when selling online.

A recent study by the market research of Cimigo Netcitizens (2014) about Vietnam's E-commerce market showed that only 14% of consumers feel safe when bought products online. This is a very small number compared to the growth potential of Vietnam's E-commerce market. Based on Company Market Research Asia Plus report (2016) as Figure 2, the result showed that has up to 35% of customers stopped buying in the payment process for fearing of risks. The two main reasons that 35% of people had to cancel orders when "defective product delivery" (36%) and "change your mind" (27%) after ordering. This may stem from 85% of online shoppers pay cash on delivery, so they can cancel your order at any time before delivery.
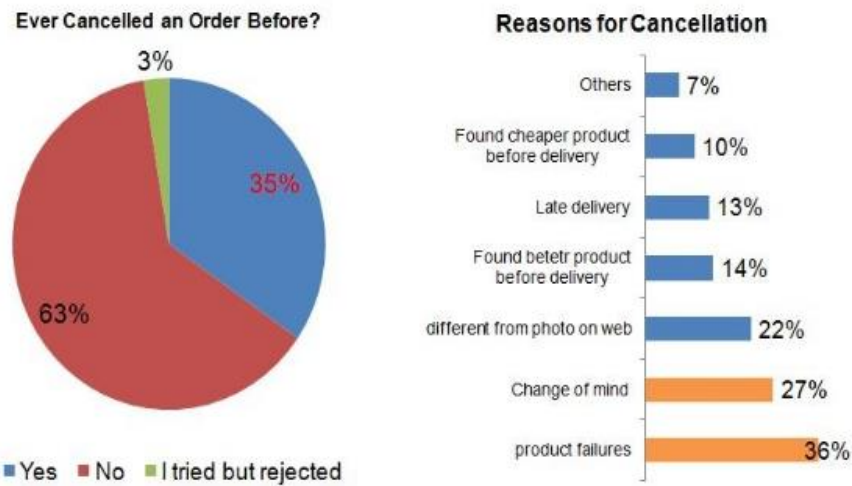
Figure 1.2 The reason for order cancellation

Source: Brandsvietnam.com/ E-commerce market and Shopping Online Behavior in Vietnam.

Besides, the report result as Figure 3 was also showed that had three most popular commodity on the market that electronic commerce fashion industry is the most popular with 46% who had purchased selected products in this sector, 39% about It/mobile and 35% for household items. Men and women also differ when purchasing products Women Fashion Electrical Appliances and more, while the most male oriented on products Electronics/Mobile.
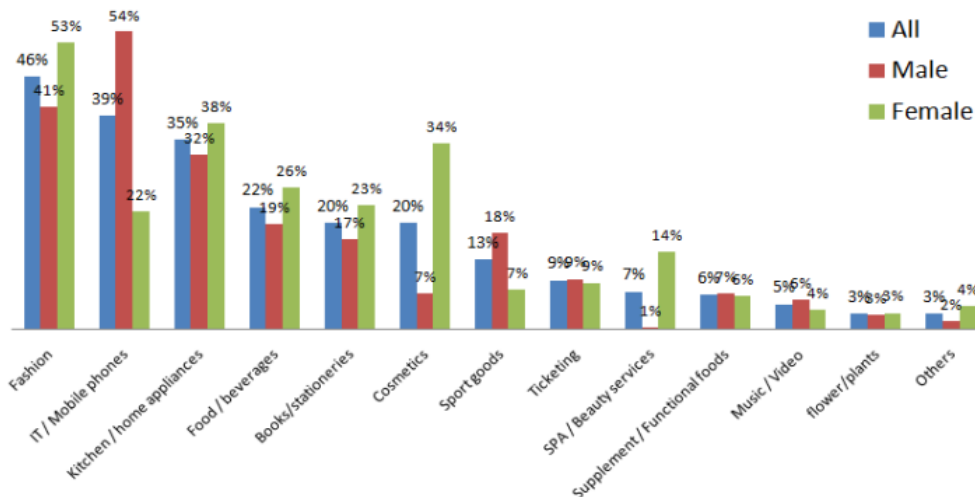
Figure 1.3 Purchased kind of product on e-commerce

Source: Brandsvietnam.com/ E-commerce market and Shopping Online Behavior in Vietnam.

Therefore, creating confidence for consumers in buying/selling on the Internet that's a matter of the extremely importance. This study contributes to the development of effective business strategies for online business enterprise and that is why I chose this topic.

1.2. Research Objectives

Identify risk factors in online shopping based on customer's perception and measure impact to the general perception risk in the customer's online shopping in Hanoi market.

Measure the impact of general perception risk to attitudes towards online shopping and purchase intention of customers in the Hanoi market.

Helping enterprisers to realize and decrease perception risk of customers for online shopping. Thence, helping entrepreneur online business refer and build their marketing strategies more effective

1.3. Delimitation and Scope

Delimitation: The research focus on learn about E-commerce, find out about effecting of perception risk to customer's attitudes and intention. This study described eight soft of perception risks in online shopping including: health risks, quality risks, private risks, financial risks, social risks, time risks, delivery risk, after-sale risk.

Scope: To be limited to customer surveys ever bought online in Hanoi City, but not in the scope of all provinces and cities nationwide.

1.4. The Structure of Research

The research will be divided into five chapters which based on the different characters and are mentioned below:

Chapter 1: Introduction

This chapter described background and motivation, purpose of research and the aim at thesis also are discussed.

Chapter 2: Literature Review

The Literature review provided a theoretical frame for the research, from previous papers that related to online shopping behavior, perception risk, the attitude toward online shopping, purchase intention. On the other hand, the author suggest about research models to estimate.

Chapter 3: Methodology

In this article, the author introduces the research methods, the research process, and how to collect data to test models research which applied in Hanoi (Vietnam). From that foundation, the author designed suitable questionnaire for scale. The study describe the research process, implementation methods to assess the scale. Topics using quantitative research methods

Chapter 4: Analysis and Result

After checking the reliability questionnaire and analysis of research data, results include factor loading analysis; Cronbach's Alpha value; multiple regression analysis, all results are presented in detail in the results.

Chapter 5: Conclusions & Solutions

The last section of the thesis is the conclusion for the whole research of implementing the analysis and the survey data results explanation. Beside, bases on the result, author suggest solutions which help online-business improve their services aim at attracting customers.

The whole structures of research are recapitulated in Figure 4 below:

Chapter I. Introduction

Chapter II. Literature Review

Chapter III. Research Methods and Methodology

Chapter IV. Results Analyses Dicussion

Chapter V. Conclusion and Recommendation
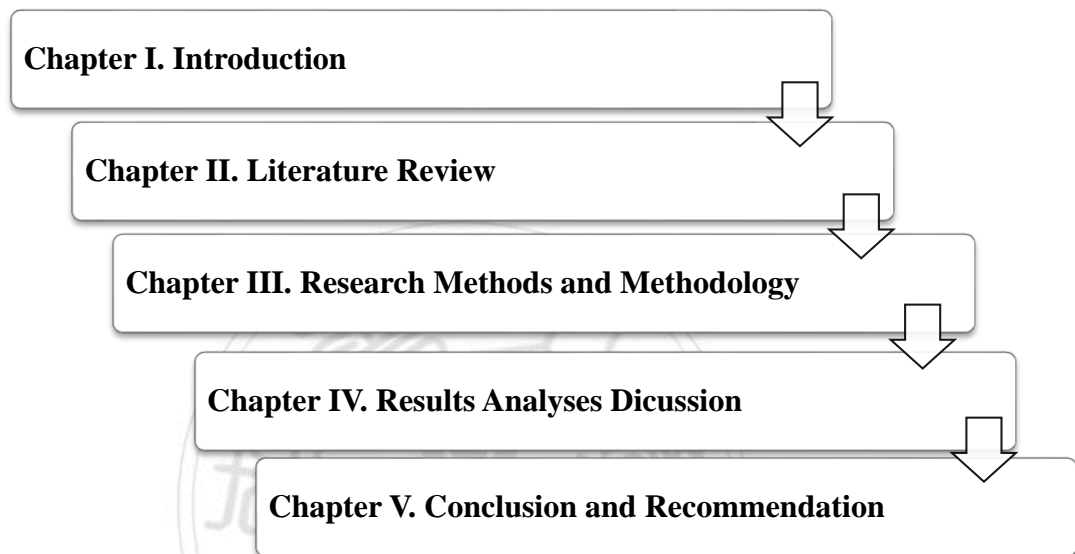
Figure 1.4 Flow chart of the research

CHAPTER 2
LITERATURE REVIEW

In this section presents the theoretical basis and research models. In this stage, the authors have presented an overview of the online shopping next to reality app E-commerce and online shopping in Vietnam last period of time with the theoretical basis of perception risk in online shopping. Besides to research the relationship between the perception risks impact on attitudes towards online shopping and purchase intention, the author suggest research the model.

2.1. Definition of Online Shopping Behavior

Online shopping behavior is a process of direct customers to buy products/services from suppliers in real time via the Internet. It is a type of E-commerce, to have success contact must lead includes five steps as a relation with conventional shopping behavior (Liang & Lai, 2000). To have a final decision, many E-commerce studies show that the interaction of intention and behavior which was built on the information available which they know (Pavlov & Pygenson, 2006). Nowadays, online customers will have more advantage than the customer of a physical store because the Internet has strong power interactivities between customers and seller as good availability information of product/service. The online customer will have more advantage when they used online such as convenient, save time and save money. They can connect anywhere and anytime. But on the other side, they will also face risks during buying, they cannot know exactly about the product as trying. They don't have high trust than contain stores due to lack of direct information. Online shopping form reputed that as a novelty shape in buying methods. In

order to promote customers shopping online more, a minimum thing is customer must apprehend that they have a good negotiate in online shopping than traditional shopping channels (Keeney, 1999).

2.2. Benefits of Online Shopping

That is the benefit of e-commerce applications of the online trading business and the benefit of customers in online shopping. This section will describe the advantage of online shopping:

Convenience and Saving Time:

Internet shopping brought convenience and save time for the buyer. And while it also satisfies the product, service as traditional stores. Developing and changing technology, lifestyle makes decreasing of consumers at the physical store and shopping malls (Davies, 1995; Cheeseman & Breddin, 1995). Customers can purchase goods in the comfort and convenience when they're at home, do not have access to the store. Following the results of the MasterCard Survey, "Internet Shopping" (1996) pointed that consumer site Internet as (Instrument of Convenience). Unlike traditional store have fixed the time for opening. Shopper can purchase goods anytime when they use the Internet even if unavailable at their place. Besides, the Internet allows customer can buy products of supplier around the world. Following to Ernst and Young's (1998, 2000) reports 'Internet Shopping' and 'Global Online Retailing' noted that in comparison to certain stores, when shopping on Internet. Customer won't be face of bad weather or any transportation cost involved; the Internet allows customers are able to keep their own timetables for finding out, purchasing goods. But according to (Australian Online Shopping and Future Expenditure Report 2001) and Danish E-commerce Association survey have similar results that customers can overtop about price and product choice.

Gartner G2 research director David S. refer that convenience is the best importantly. He said that shoppers won't wait for increase or decrease of price, but fast delivering andvarious in selection are always important thing; the price was under the picture along with convenience, but it's not the principal cause the customer go shopping online (Regan, 2002).

Lower fee and better product selection:

Using the Internet for shopping will overtake the fee and time of traditional stores. The buyer can purchase goods from comfort and convenience of home that no need to go the store. Shopper can easily find stores, websites, able to view detail information of a product, compare price and quality at different stores and website. Besides, shopper has no longer to bear the costs and under information like traditional stores. In the past, retail salespeople limited about the audience, various products, transaction, the best way is going to the store but today shopping online on the Internet seem as a way of alternative (Grewal et al., 2002).

Better information and Lower Prices:

Shopper can collate prices between providers easily. With information price on the Internet, the buyer was less assailable to overpaying when buying from the physical store. In another side, the buyer will be able to buy direct from a manufacturer on the website. Examples of such companies are "Dell Computer" and "Amazon.com". Both are able to sell their products at lower prices as compared to most physical retail storefronts.

2.3. Online Shopping

Advancements in Internet technology has facilitated the development of shopping at home. The Internet has given organization opportunities to expand

their business through E-commerce, this development had power affected to worldwide marketing (Alkailani & Kumar, 2011). Today, the Internet was a well-liked tool for consumers easy search information, compare, and purchase. The nature of the Internet provide for consumers the opportunity to effectively use the online shopping utility by picking the availability information of products up, allows comparison of diverse properties, directly and reduces the cost of searching for information of potential customers (Alba et al., 1997). The company can also get benefits from the Internet, as increasingly using Internet of customers and shopping approaches of their procurement activities, the enterprises can seize the occasion to utilize the Internet as an approach to collect attraction and keep up existing customers and potential customers. With this approach, online retailers must understand consumer perception of the character of the site and the behavior of their online shopping.

Online shopping is an electronic trading system used by business to customer (B2C) or business-business (B2B). This system provide to the customer more channel of information, as well as has a better selection, facilitation and saving cost (George, 2002). Quereshi & Siegel (2000) defined that online shopping as the process where consumers can go to buy products/services through the Internet. Reasons for shopping online have proved in which saving time, avoid comparing, availability anytime 24/24 hours (Karayanni, 2003). Online shopping form was a plot for traditional buying channels because of variety products, information. (Lohse & Spiller, 1998) .Online shopping has been actively spreading on the basis of advanced Internet technology, along with the expansion of the scope, the size of E-commerce market globally (Looney & Chatterjee, 2002). To be successful in online shopping assorted shape, the online shopping model best known as the so-called dot-com (Porter, 2001). Dot-com is known as an interaction between

consumers and businesses around the globe via the website. (Rifkin & Kurtzman, 2002).

Despite the rapid growth, the most popular tool for online shopping, but in other respects, online shopping forms also inherently risky because there is little interaction between staff and customers (Laroche et al., 2005).

2.4. Online Shopping and E – Commerce in Vietnam
2.4.1. Development of E-commerce and Internets in Vietnam

According to the survey report by "We are social Vietnam" said that the rate of user Internet were 30.8 million in 2012. The rate of Internet users in the total population was 34 percent (higher than the world average is 33 percent). Particularly in 2012, Vietnam has added 1.59 million new users. In particular, according to a survey by "We are social", 55 percent users in Vietnam believe that using the Internet can help them feel more self-confidence. Social networking, mobile phones, and digital devices in Vietnam are growing with incredible rapidity, with users who used the Internet in the country build up 5 percent since the survey report at the end of 2011. Also based on "We are social" surveyed by us see the special time on the internet in Vietnam developed over time: 73 percent people who under 35 years old; 66 percent of Netizen's user to reach the web every day and they spend an average of 29 hours per month on the network; 88 percent go online at home and 36 percent at the coffee store; 81 percent remain accessible via desktop, 56 percent via a mobile device and 47 percent via laptop (multiple users simultaneously both types of device 2-3); 95 percent access to news location; 90 percent watch videos on Internet (the average rate in Asia was only 69 percent); 61 percent of Internet users ever done shopping online; 86 percent users in Vietnam visited social networking; more 8.5 million people have Facebook account, and 9 percent of Internet users have Twitter account in the past month.

2.4.2. The Improvement of Online Shopping and E-commerce in Vietnam

Visa's survey results in 2012 with more than 1,000 objects in Vietnam, shows the Internet has become an indispensable part of everyday life for most people in Vietnam, Internet usage is about the middle global average, with 67 percent of users go online every day (68 percent globally). This helps set up a suitable environment for e-commerce development. Results showed that 98 percent of respondents in Vietnam was searching for products and services online in the past 12 months. In this period time have 71 percent purchased online and 90 percent of answers said that they continue to purchase online in the future. Another reason contributing the development of e-commerce in Vietnam is due to increase consumer confidence in the security of online payments.

Nearly 70 percent of consumers shopping online last year, said the improvement in security has persuaded them to shop online more and more often. Also according to this study, growth opportunities for Vietnam market is huge. By 60 percent of businesses in the country have yet to be able to accept online payment transactions, and only about 20 percent of Vietnam has a bank account.

According to experts in the field of online business identification, E-commerce continue to grow and be able to say "ERUPT" in 2013. "The Internet sector units in Vietnam will move out of the page E-commerce itself. Some foreign companies also realized potential and started investing into the Vietnam market. This is a good notice for the possibility of development of this kind of business in the next year. While some sites tend to follow the path to introduce goods, the majority of companies in the online sector in 2012 has focused on the real trading with customers. In 2011 Vietnam rapid development by Group-on program (Group and Coupon) should run the world according to the international market went down in 2012, leads to the influence of local firms

although now the payment was made easier by the cooperation between the bank website to create the electronic payment, but the online payment still contain certain risks for organizations e-commerce in Vietnam. In fact, the majority of enterprises still use COD payment method (online buyers still pay cash to the supplier upon receipt of the product). Private issues in payment becomes an important issue also which decided the user's behavior on the Internet. Nearly 70% of online shoppers in 2011 said the improvement in security has persuaded them to shop online more and more often. The majority of people surveyed (83%) reported feeling more trust in online payment systems. As reported by Vietnam CIMIGO- the company of marketing research in 2012, the activities of Internet users often make when entering online, including 18 different online activities, divided into five categories: crawl; online entertainment; online communication; blogs and social networks, and eventually online business. The majority of the activity on the internet is used to read the news (95%), followed by the use of the site to search (94%), music activities, academic studies, work accounting for over 60%. Besides online shopping activity/ online auction of consumers, Vietnam last time still accounts for a high proportion (35%). This showed that the demand and potential growth of online shopping forms besides the traditional business in Vietnam in the present stage is huge. The usage of online shopping websites to increase in recent years are a positive signal for investors and businesses with online shopping market development in Vietnam fertile today.

2.5. Perception Risk in Online Shopping

2.5.1. Perception Risk

When talking about the theory of perception risk. In the simplest form, it is knowledge about risks that the consumer faced and find approach to cut them with certainty be able to help online-business when they are developing their

strategy (Greatorex & Mitchell, 1993). Choices made in the decision-making process of the consumer-related products, services and retail formats chosen by the consumer, the researchers are interested from the type of retail as well as products and various services, to learn why consumers make the choice on different ones will be helpful in understanding consumer behavior.

The theories of perception risk are trying to clear some questions related to the decision of consumers to help understand the behavior of consumers. Perception risks are feeling risk sentiment drawn from personal experience when to make a decision, but not sure. The issues about perception risks have been processed in the other studies which proven to form all the purchasing decisions follow different levels, thus affecting to behaviors (Chaudhuri, 1997; Mitchell, 1999). The study of risks in the context of different shopping has developed with the active support of risk-taking behavior can be measured as the attitudes of consumers towards the purchase. Therefore, any actions of consumers will create the results which they see with a degree of uncertainty.

As Kogan & Wallach (1964), the concept of risk was described with two aspects: (1) the opportunity aspect emphasis on probability and (2) dangerous aspect that the emphasis is on severity the significant negatively consequences although many filtering to define risk was proposed, including the expected value theory (Cunningham, 1967) and expected utility theory (Currim & Sarin, 1983), the risk is still a decided subjective expectation of a loss of consumer, so the term is perception risk, these are aware of the uncertainty and also as a result disadvantage when buying products or services (Dowling & Staelin, 1994). Perception risk was measured as dissatisfaction, expected in purchasing, based on the objectives of consumer purchases (Guiherme et al., 2006). Those old acquaintances in online shopping will be found out what they are looking for as faster, frequently and with a safely purchase rate is usually higher than newcomers. If there is a need to distinguish between those who carry out

repeated purchases, those purchases are not repeated, the repetition or familiar with the procurement process can reduce perception risks.

According to Xiang, Y. & Dai (2009), purchase intention was influenced by groups of factors including perceived benefits and perception risks. Cognitive benefits positively influence online shopping decisions and perception risk negatively impact on customer' decisions. According to model (TAM) is given by Davis (1989) who mentions the element of awareness of the advances, comfortable of using, the attitude and intention to use that benefits. Based on Davis' study said that customer's perception of gaining and losses can be understood as perception of benefits and risks. Zeithaml (1988) suggested that customers will have options to realize the highest benefits firstly before making decision. Meanwhile, Mitchell (1999) pointed out that there are customers tend to consider the perception of risk than maximizing cognitive benefits in the process purchase. Ability to conceptualize losses from the purchase of a brand and subjective consequences can, similar to (Cunningham, 1967).

Perception Risk with products/services: Bauer (1967) mentioned that belief as a risk factor determining consumer' behavior which is a major factor really affecting to the buyer. Cox & Rich (1964) refers the perception risk as the perceived about risks which customer was uncertainty when shopping. Cunningham (1967) found that the risk of poor performance, risk, health risks and costs. Roselius (1971) noted that there are four soft of losses related to the type of risks: duration, danger, ego and money. Jacoby & Kaplan (1972) risk classification of consumers in the following risk types: physical, psychological, social, finance and implementation (performance). Taylor (1974) suggest that the uncertainty or risk perception can create anxiety affects the decision-making process of consumers. Murphy & Enis (1986) defines risk perceptions are subjective evaluations by customers for shopping consequences of mistakes.

Bellman et al. (1999) concerned about the demographic variables to explain online shopping by consumers Gefen (2002) repeated concern about online shopping and that the trust and satisfaction of consumers is an important prerequisite to continue shopping.

Guilherme et al. (2006) interested in the differences in perception risk related to the intention to purchase goods or services and whether it is a relevant product high or low. Consumer perceptions negatively affect the process of doing based on the assessment negative outcomes and likely outcome will happen (Dowling, 1994). Jacoby & Kaplan (1972) determined about five kind of risks: financial risks, performance risks, physical risks, psychological risks and social risks.

Previously, Roselius (1971) have approached the concept of the type of risk awareness by classifying the losses may be possible for consumers encounter when buying decision is the loss of time, loss Furniture dangers, losses ego and money to take time with losses of risks not identified by Jacoby & Kaplan (1972).

2.5.2. Perception Risk in Online Shopping

As the benefits of E-commerce brings out the difference of online shopping in the future but the negative issues were badly trend in online shopping are also top concerns today (KO et al., 2004). The risks in online shopping as always an essential role in purchasing decisions and behavior of consumers. There are two main risks: One is uncertainty as deciding and the other is cost or the consequences in buying (Barnes et al., 2007). Although recognizing the benefits from Internet, but besides, the Internet also brings uncertainty related to a purchase process as exaggerated information, quality products. Consumers can feel the risk in high level when buying online, assess with traditional form (Lee &Tan, 2003). Perception risk was defined as the

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possibility of failure while participating in online shopping with products not satisfactory need versus desire by KO et al. (2010). Perceived risk reducing consumer confidence when buying over the Internet, it is a barrier to lead to purchase decisions of customers (Barnes et al., 2007). Many of the researchers have demonstrated that perception risk of customers in e-commerce has affected negatively consumer's behavior, attitudes toward using e-commerce.

Risks related to online purchases often outweigh the risks related to what the seller in the traditional procurement such as the consumer does not have the ability to directly assessed to quality product, don't have enough information from salesperson, social interaction as family, friends…etc and payment security individual (Salo & Karjaluoto, 2007; Zhou et al. 2008). Consumers are afraid to offer online credit card information for any supplier because don't have trust supplier Web in exchanging. Perception risk with consumers, it's considered as a reluctance to utilize the credit card to carry out electronic transactions (Hoffman et al., 1999). But perception risks and costs in the eyes of each consumer is different, some buyers said that Buying product/ services on E-commerce hide many risks, and others appreciate the benefits of E-commerce, such as easy to finding information and compare products, price (Martin & Camarero, 2009). According to Forsythe & Shi (2003) said that the risks about the product in the process buying affect to purchase decisions in Vietnam market, such as consumers often have no sympathy for products made in China. Previous studies have suggested that the following types involved in the purchasing decisions of consumers: financial risk, product risks, convenience risk, health risks, quality risks, risks time risk, delivery risk, after-sales risk, performance risk, psychological, social, and privacy risks, stylish design and so on (Martin & Camarero, 2009; Tasi &Yeh, 2010; Almousa, 2011 ; Javadi et al., 2012; Zhang et al., 2012).

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Previous studies have shown that customers prefer face to face when buying fashion products, size and clear product pricing. In the situation of online shopping, consumers had a fear about the color or quality of the product may not be the same as it appears on the computer screen. According to Bhatnagar, M. & R. (2000) found that final decision to buy a product/service online which is mainly dependent on customer' perception risk. They also concluded that expensive item and always put the customer's self-centered. Those items that reflection the personality of someone such as clothing and cosmetics which buy online less.

2.6. The Component Elements of the Perception Risk in Online Shopping

Based on research of Zhang et al. (2012) and Pi & Sangruang (2011), the research will follow to eight important factors of perception risk including: *health risk, quality risk, time risk, delivery risk, social risk, private risk, financial risk and after-sale risk* to evaluate influence on buying behavior according to theory, the evidence, experience were collected from customers.

Health Risk

Awareness of health risks also known as physical risk perception, it mentioned as the highest risk type of business-operation environment. It's relative to the safety bout health of the individual who buy product/service (Pi & Sangruang, 2011). Consumers that buy a product or service may cause physical damage to the buyer or user. Health risks are issues related to the potential threat to health, physical, or welfare of consumers (Su, 2003).

Quality Risk

Perception risk of quality also called implementation risks, based on the belief about product/service which offered by the provider is not done as expected or does not give the benefits to expectations. It is defined as the losses relative to products or brand is not performed as expected.

Quality risk is uncertain and the results of a product do not work at a level expected in online shopping, it may be higher because consumers cannot check the real reason before buying products, which will doubt about the performance level expected product (Dipayan et al., 2004). Risk performs sometimes called quality risk.

Private Risk

It is the ability to take control own information of each customer. Consumers may feel limitation in controlling their personal information, it can be revealed as a result after online trading. That's why the customer hesitant provide their personal information to make an online transaction. Private risk had added to the E-marketing theory as a supplement in risk measurement (Forsythe & Shi, 2003).

Financial Risk

Financial risks are identified as at risk when the real cost may exceed the cost of procurement plans online. Approximate to the general risk management, financial risk management entails exploring sources of risk, risk measurement, and plans to solve them, from that focus on how to avoid risks using financial instruments to manage the costs and risks. It associated with the loss of money for product choice/poor service. Financial risks are one aspect in determining consumer behavior (Lim, 2003). Financial risks could be emanated by controlling or misusing financial information of the recipient credit card

numbers or credit card number was intercepted by hackers. Financial risks could also be caused by inappropriate products (Bhatnagar et al., 2000), it was described as paying for the product but did not receive the full value of the product (Roehl et al., 1992).

Time Risk

Time risk related to waste or expectation time on purchasing of product and the time wasted in the case of a selection of products/services. The necessary time for finding a suitable site, looking for information and transaction processing (Forsythe & Shi, 2003). Time risk offer convenience time and so on might be profuse when to purchase a product which replaced (Hanjun et al., 2004). It consists disadvantage in the process of transferring, submitted order, delay product (Forsythe et al., 2006).

Social Risk

Social risks reflected in the personal disappointment by his friends in case of the choice of products/services to poor. Consumer perception about buying products/services cannot satisfy the standards customer' requirement, lead to social embarrassment (Hassan et al., 2006). The social risk was noted that a product purchase but maybe not accept by friends or family (Li & Zhang, 2002). In fact, consumers were always tried to get advices from others aim at lowering social risk. Social risk is also offered affection of consumer's social group to decision keeping purchasing and using the product of organization through the Internet (Stone & Gronhaug, 1993).

Delivery Risk

Ability losses goods related to the process of delivery such as damage or send products to wrong address after purchasing (Dan et al., 2007). Consumers

supposed that the process delivery goods delayed with various episode, for example, the company put off deliver goods although agreed time with the customers, it cause inconvenience to customer. Besides, consumers also feared that the goods might damage in handling or packaging during transferences (Claudia, 2012).

After-sales Risk

Perception of after-sale risk is the risk of online shopping when suppliers fail to do after-sales service to customers after payment as technical support after the sale, settlement products issues, commercial disputes, and warranty services, etc. (Cao & Gruca, 2004). Sparks & Legault (1993) summarized the two types of after-sales service: the service expected and the unexpected service. Forecasting service customers plan, such as installation software, training, guidance documents, maintenance, and upgrades... The maintenance operations as repair, return, replacement, and services are classified as services unexpectedly.

2.7. Attitude toward Online Shopping

2.7.1. Attitude Definition

A long time, Attitude was always considered as a concept of social psychology. Each researcher has owned their opinions. The foremost definitions were largely consist cognitively, affectively, motivation, and behavioral components.

Krech & Crutchfield (1948) wrote that: "An attitude is defined as an enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world" (p. 152). Those opinions showed that the close relationship individuals' attitude toward online shopping. Allport (1935) defined the attitude as "a mental and neural state of

readiness, organized through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations with which related" (p. 810).

2.7.2. Attitude toward Online Shopping

Attitudes towards online shopping are defined as an expression of active consumers or negatively related to Internet transaction. To explore consumer' attitudes, need to know the customer's characteristics and kind of attitudes toward online shopping, the assessment of customer' attitudes are critically goals. According to Armstrong & Kotler (2000), the choice of consumers in shopping affected by four psychological factors: motivation, perception, learning, ultimately the faith and attitude. This means through motivation and perception, the attitude is formed and consumer decisions. Service attitude is for it between basic characteristics of consumers and the goods/services that meet their demands. Therefore, very important to realize that there are many factors affecting to the formation and change of attitude. Characteristics of consumers as personality, direct benefits from online shopping and awareness as well as pathogens affecting customer's attitude toward online shopping (Cheung & Lee, 2003; Goldsmith & Flynn, 2004; Shwu-Ing, Wu. 2003; Wolfinbarger & Gilly, 2001). Thus, attitudes and understanding of consumers will help managers predict online shopping trends in the future growth of e-commerce. From there, the business can make the appropriate strategy to respond, to satisfy the needs of customers

As Koivumaki (2001) pointed out that the relationship between the benefits of online shopping and shopping frequency performance is positive. The findings of (Forsythe et al., 2002) showed positive relationship and highly significant between the interests, frequency and time spend for online. The previously study about E-commerce had built through two beneficial interests

in: internal and external. Both are important in the choice of the customer (Liu & Arnett, 2000; Muylle et al., 2004; Shih, 2004). External benefits consisted features as choice of products, access to competitive prices ease, information and search costs low. Internal benefits covered features such as design and color (Shang et al., 2005). Shopping interests of consumers can affect behavior similar to shopping in a virtual environment.

Moreover, Shwu-Ing Wu (2003) found the benefits of the customer perception that they care is to include convenience, freedom of choice, various information, design and reputation of the company. These factors have a significant relationship with attitudes towards online shopping. Consumers looking to shop on the Internet because they find the benefits of the Internet, they often compare the benefits between shopping channels. That is the main driving force behind the online shopping more convenient and easy it is predominant push consumers toward buying more online. Online buying behavior process have a close relative with purchasing goods/service online. Similar to traditional forms of procurement, in order to buy products online, customers have to undergo five steps (Liang & Lai, 2000). For example, when customers want to buy a product/service, they will refer immediately agreement online and then find out Information of this product/service on the Internet, all alternative and finally purchase which the best suitable of their demand. But before having purchased product/services, they will fight with a lot of factors which made limited their decisions.

Addition, attitude towards online shopping scale is developed by Pi & Sangruang (2011), as measured by 3 observed variables symbols from ATT1 to ATT3 show as table 2-1 below.

Table 2.1 Attitude toward Online Shopping Scales

Question observed variables	Symbol
In general, the attitude towards my online shopping is positive	ATT1
Online shopping is an attractive alternative to way of traditional.	ATT2
I believe the benefits of online shopping outweigh the risks involved	ATT3

2.8. Purchase Intention

2.8.1. Purchase Intention Definition

Customer's buying decision was intricate. The final decision of the customer was a certainly buy product/service is known as purchase intention. Purchase intention has depended on some external and internal factors. In fact, purchase intention has the close relation with their perception and attitude. During the process of considering and assuming of the certain product, purchase behavior is always an essential key point for consumers (Keller, 2001). When customers decide to buy or use a product / service in certain stores, they drive their intentions towards the product and purchase intent as a precursor for preparing the buying process takes place (Ghosh, 1990). But purchase intention can be renovated by a result of quality perception, value perception and price of the product which they want Zeithaml (1988) and Grewal et al. (1998).

In the process of buying, consumers will be discontinued by external and internal factors, their behavior was interrupted by the physiological motivation to satisfy their demand (Kim & Jin, 2001).

2.8.2. Customer's Purchase Intention

According to research by Li et al. (2002), intent to purchase a sign are said to be willing to buy products / services in the online store. Typically, as measured by the willingness of consumers to buy and come back to buy more.

Intent online shopping related with positive attitudes towards online shopping and it affects decision-making and shopping behavior.

According to Chen et al. (2002) evaluated intent to purchase as an important predictor of actual buying behavior and online purchase intent reflects the wish of the consumer to make the order via the system. Research by Daniel et al. (2005) recommends that the relationship between purchase intention and behavior based on clear decisions based on uncertain or information about the products that customers have to examine it thoroughly. Therefore, behavioral intentions of consumers perform as determinants immediately the acts of the fact that.

The scale of purchase intention online shopping is denoted by PI which based on developing by Pi & Sangruang (2011), as measured by four variables observed from PI1 to PI4 as the Table 2.2.

Table 2.2 Scale of Purchase Intention

Question Observed Variables	Symbol
I will support the online shopping more	PI1
I will be shopping online more instead of traditional buying	PI2
I will use the web to buy a product/service	PI3
Purchasing a product / service online is what I will do when I have demands.	PI4

2.9. The Research Model Zhang et al. (2012)

The perception risk of consumers in online shopping is affected by the following eight risk factors: health risk, quality risk, private risk, after-sales risk, financial risk (economy risk), time risk, delivery risk and social risk, show as Figure 2.1 and the Table 2.3:
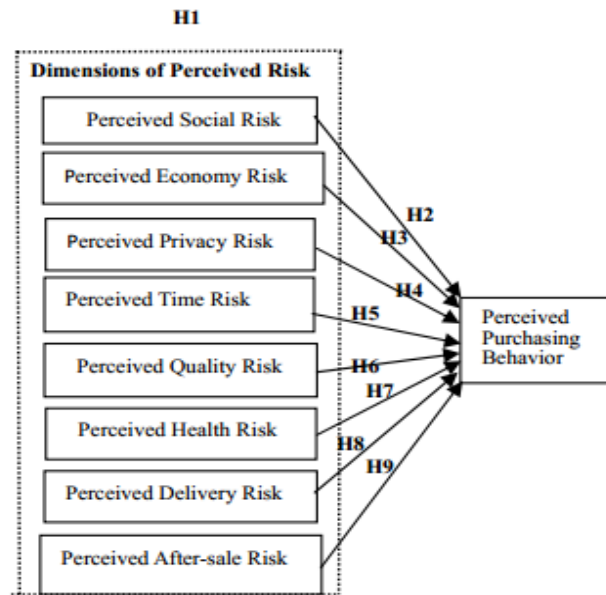
Figure 2.1 Research model of (Zhang et al., 2012)

Table 2.3 The Definition of Component Elements Measures of Perception Risk

Measure risk perception	Definition
Health Risks	As the losses related to the safety or health.
Quality Risk	The ability of the product malfunctioning, it is not like the design, advertising and therefore do not benefit desired.
Private Risks	The potential loss of control over personal information, when the information is used without permission.
Financial Risk	The potential financial costs related to the initial purchase price, as well as subsequent maintenance costs of the product, and the potential financial loss due to fraud
Time Risk	The potential loss of time-related bad to buying decisions involve time-consuming to search, buy products and take time in case of return, replacement products
Social Risk	The ability losses prestigious position of one of the social groups which, reflecting the frustration of individuals among relatives, friends who don't accepted that product/services.
Delivery Risk	Ability losses related to delivery of goods lost or damaged goods sent to the wrong place after shopping
After Sales Risk	Ability losses after sales related to product issues, commercial disputes, and ensure services

Source: Zhang et al. (2012). Dimensions of consumers' perceived risk and their influences on online consumers' purchasing behavior. *Communications in Information Science and Management Engineering, 2(7), 8-14.*

Scale perception risks in online shopping are built by Zhang et al. (2012) as follow:

Health risk: Health risks were measured by 5 variables observed followed by Zhang et al. (2012), it's consist: 1) Using computer prolong to buy products/ services online affect my health (eyes, skin face, brain…); 2) Online shopping prolong make me feel fatigue and loss of vision; 3) The purchase of counterfeit goods affecting my health; 4) It makes me irritable during return or repair the product; 5) The loss of online shopping put pressure on me (irritability, anxious bad mood..).

Quality risk: Quality risks in online shopping followed by Zhang et al. (2012) measured by four variables observed: 1) Shopping online can buy fake goods; 2) The quality of the product really maybe not as described, advertised; 3) I am concerned products in the online cannot satisfy the needs and periodically my expectations; 4) Shopping online cannot get good reviews for the quality of the product.

Private risk: Private risk in online shopping followed by Zhang et al. (2012) measured by four variables observed: 1) Online shopping, my phone number can be abused others; 2) Online shopping, my email address may be abusing others; 3) My credit cards may be another person steals; 4) My personal information may be disclosed to other companies

Financial risk: Hiding costs, financial risks are defined as any concerns about the financial losses that might arise when shopping online. The potential risks related to financial losses, including potential costs of returning product or the ability of any other hidden costs as shipping and handling incident. Moreover, this type of risk may include any financial losses from online shopping in the future may be prolonged because of their lack of protection or your credit card number or financial records other important.

In addition, this risk may be related to the difficulty in repayment. Variance of financial measured by three variables observed: 1) Use online service payment will be charged an extra; 2) Service delivery will be extra charged fee; 3) The price of the product is higher than the market price.

Time risk: Risks related to the amount of time needed to get the product. Moreover, this risk is likely related to the time and effort lost in the return or exchange of products. Risks associated with any remaining technical issues such as slow web server. And this risk may be related to any difficulties encountered in browsing technology websites. All the lost time, such as travel time and waiting time can be included in this type of risk.

Risks of time in online shopping is Zhang et al. (2012) measured by four variables observed: 1) If the product has a problem, the exchange with the seller and the service requires time-consuming; 2) I'll take a long time if the seller does not deliver as promised; 3) Quality of different delivery service, delivery will take more time; 4) The return product through many stages will take longer.

Social risk: Social risks related to purchasing capabilities which affect the way of other' think about person who go shopping in the future. (Zhang et al., 2012) measured variance of social risk by three variables observed: 1) Shopping online will affect to my distant people, friends (fake, outstanding); 2) Product online cannot be recognized by relatives or friends of mine; 3) Shopping online can reduce my assessment by the impact of the others.

Delivery risk: Delivery risks were measured by three variables observed: 1) Service delivery can make the product easy to lose; 2) Service delivery can make perishable products; 3) Service delivery can lead to the wrong delivery address.

After-sale risk: After-sales risk in online shopping following to Zhang et al. (2012) measured by observing 3 variables: 1) If the product has a problem, it is difficult to get immediate intervention of the seller; 2) It is difficult to

resolve disputes in online shopping when products have problems; 3) Buying products online, there is no guarantee of after-sales service.

2.10. The Research Model of Pi & Sangruang (2011)

According to Pi & Sangruang (2011), the perception risk of customers in online shopping directly influence the attitude towards online shopping and indirect effects to purchase intention as Figure 2.2:

Figure 2.2 Research model of (Pi & Sangruang, 2011)

Source: Pi, Shih-Ming & Sangruang, J. (2011). The perceived risk of online shopping in Taiwan. *Social Behavior and Personality Research, 39(2), 175-285.*

(Pi & Sangruang, 2011) pointed that customer's perception risk in online shopping directly influence the attitude towards online shopping customer and indirect impact on purchasing intention. Perception risk of online shopping: Recognizing common risk in online shopping of (Pi & Sangruang, 2011) measured by 3 variables observing: 1) Online shopping involves a high level of risk; 2) There is a high risk that the expected benefits of online shopping will not come true; 3) In general, I always consider buying online is risky.

A positive attitude towards online shopping is assumed to influence on increasing purchase intention. This relationship was examined in many experimental studies based on the theory of model (TRA) to prove it. Attitudes towards online shopping of Pi & Sangruang (2011) measured by 3 variables observing: 1) In general, the attitude towards online shopping is positive; 2) Shopping online is an attractive alternative to traditional shopping; 3) I believed the benefits of online shopping overbalance the risks involved.

The purchase intention was mainly variance as a dependent variable to assess whether research model accurately predicts changes in increasing or decreasing the purchase intention. Increasing purchase intention of online shopping by Pi & Sangruang (2011) measured by four variables observed: 1) I will support online shopping more; 2) I will be buying online more instead of traditional buying; 3) I will use the web to buy a product/services; 4) Buying a product/services on the Internet is what I will do when I have demands.

Increasing purchase intention is an ultimately dependent variable in this model. This study refers to it as the expression of support consumers in shopping online. They are responsible for preventing unforeseen events (Ajzen & Fishbein, 1980).

2.11. The Research Model and Research Hypothesis

Due to the differences in culture and economic development alongside the current status of E-commerce applications and online shopping Vietnam in recent years, along with the theoretical basis of the perception of risk in procurement online, the author suggested the research model for applying in the Vietnam' market. Research model based on two models: Zhang et al. (2012) and Pi & Sangruang (2011), have been inspected in the Chinese market and the Taiwan market.

2.11.1 The Research Model

From the above analysis, the perception risk of the customer in the online shop includes eight types of risks and their direct impact on attitudes towards online shopping and indirect impact on increasing purchase intent customer online showed as Figure 2.3:
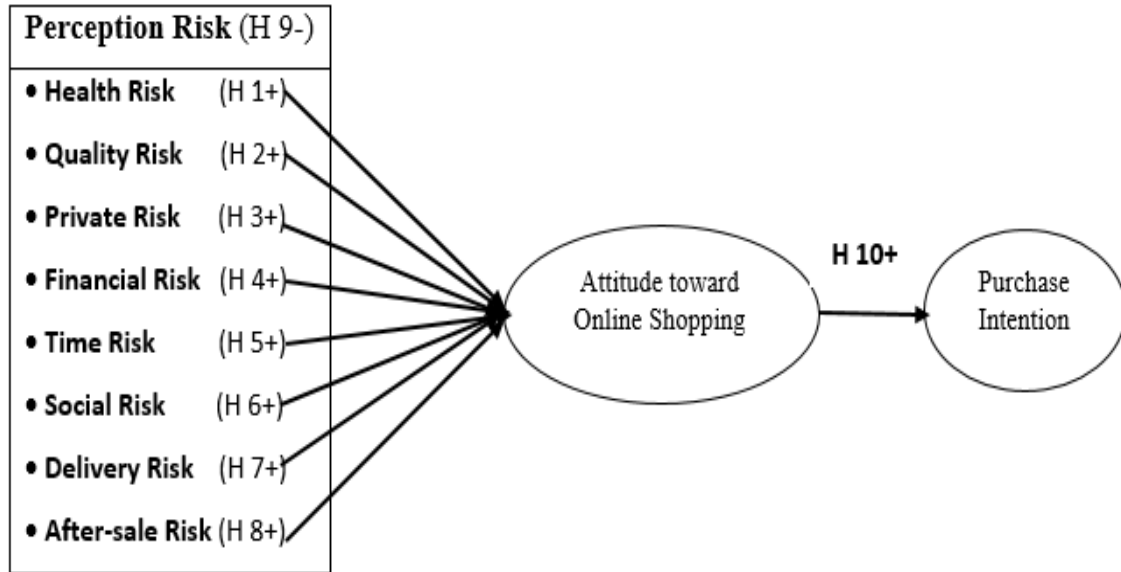
Figure 2.3 The research framework

2.11.2. The Theoretical of Hypothesis

Healthy risk: Defined as the physical risk was affected by using computer long time for checking products or services. There are a lot of people who has a habit sit one place a long time, even nearby all day, only except sleeping to not only for their work but also for buying online. They spend all their time to find and check product's information, besides also used for comparing product from the other websites. The researchers have shown that there is a link between the long house and some health problems, and even premature death due to cardiovascular disease. American dermatologists - Boris Zaks said: "If you use the computer for a long time, make sure the eyes get tired and when

you squint more, the area around the eyes will gradually form wrinkles, often called the crow's feet".

Institute of Health and Safety National additional US state uses a computer lasts a key factor creating a "Computer Vision Syndrome" - visual disorder (abbreviated as CVS). Visual disorders affect 75% to 90% of computer users have eye problems. This is more common bone and joint disorders (approximately 22% of computer users). Therefore, this could be a common condition related careers in the 21st century. According to experts, purchasing online form development is also an opportunity for counterfeit and pirated goods washed, bring more risks to consumers. Because, besides the sales page reputation, won the trust of customers, there are many individuals and organizations have taken advantage of the trust of consumers and the good management of the agency not to blend functionality, put counterfeit goods, poor quality damages the market for consumers and businesses to do business with honesty. One of the most common risk product that is different from receiving promotional images or poor quality, counterfeit designs and famous brands. This situation lasted seriously affect the business activities of enterprises as well as damaging to consumers, especially those affecting the lives and health of consumers, such as fake medicines, functional foods, cosmetics fake...

One more case is not just affecting businesses and also directly affect customers. Many customers after checking online products purchase feel dissatisfied about our products, or products used in a short time was broken, these things make customers feel uncomfortable, frustrating, affect the health. Health risks when shopping online, it is mentioned as the highest risk type of business operating environment. It relates not only to the safety and health of the individual but also affects others (Pi & Sangruang, 2011). Consumers purchase a product or service may cause physical damage to the buyer or user.

Health risk related to the potential threat of safety and physical health of the consumer (Su, 2003).

Thus, have a hypothesis H1:

"H1: There is a positive influence on perception health risk of customers online shopping".

Quality risk: Perception of quality risk was also called implementation risk, based on the belief about product/service offered by the provider is not done as expected or does not bring expected benefits. It is defined as the losses relative product or brand which is not performed as expected. The quality risk is uncertain and the results of a product do not work at a level expected in online shopping, quality risks may be higher because consumers cannot check the reason before actually purchasing the product, which will doubt about the products expected performance level (Dipayan et al., 2004). In fact, also have many consumers buy online purchases to poor quality goods. If the goods have clearly addressed in accordance with the law, consumers have been indemnify, however, if the goods purchase at the company, the store which does not clearly address, virtual address, the consumers will suffer. Based on the aspect of quality risk, this study suggest the hypothesis H2:

"H2: There is a positive influence on perception quality risk of customers on online shopping".

Private risk: For definitions of security, personal information is always a major concern. A common definition of personal data as "data not otherwise available through public sources" (Beatty, 1996). Hatch (2000) showed that online privacy risks normally incurred through the collection and dissemination of personal information about individual consumers when visiting a particular website. As Smith et al. (1996), have emphasized about four elements of the private of online shopping: secondary unauthorized use of personal information,

accessing incorrect personal information by storing digitally, collecting personal information human, and errors in taking customer's personal information. Metzger & Docter (2003) suggested that security concerns online include factors such as anonymity, infiltration, surveillance, and control. In summary, there are many factors about the security of consumers that are very difficult to control. Therefore, when compared with traditional forms of procurement, the security of online shopping forms is difficult to manage. That's why online shopping forms not really get the customer's trust. Besides, the age of information technology with multiple gadgets extremely convenient and helpful. You can freely buy and choose any product that they want everywhere in the world as well as in Vietnam we form transactions and pay online. However, if you do not learn skills as well as the desire to buy cheap, get gifts or discount ... then take the money to buy fake goods, as well as many hidden risks related to payment.

It is the ability to take controlling of personal information. Consumers may feel lessee in controlling their personal information, it can be revealed as a result after online trading, it's made the customer hesitant to provide the necessary information to make an online transaction. Private risk had added to the E-marketing theory as a supplement in risk measurement (Forsythe & Shi, 2003).

Thus, the hypothesis H3 was proposed:

"H3: There is a positive influence on perception private risk of customers on online shopping".

Financial risk: Financial risks are identified as at risk when the real cost may exceed the cost of procurement plans online. Approximate to the general risk management, financial risk management entails exploring sources of risk, risk measurement, and plans to solve them, from that focus on how to avoid

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risks using financial instruments to manage the costs and risks. It associated with the loss of money for time of choice/poor service. Financial risks are one aspect in determining consumer behavior (Lim, 2003). Financial risks could be emanated by controlling or misusing financial information of the recipient credit card numbers or credit card number was intercepted by hackers. Financial risks could also be caused by inappropriate products (Bhatnagar et al., 2000), it was described as paying for the product but did not receive the full value of the product (Roehl et al., 1992).

This research suggested the hypothesis for factor financial risk H4 as:

"H4: There is a positive influence on perception financial risk of customers on online shopping".

*Time risk***:** Defined as the losses of time and inconvenience arising from the difficulty of navigation and/or commands, finding suitable sites, or receive product delays. Time risk related to waste or expectation time on purchasing of product and the time wasted in the case of a selection of products/services. The necessary time for finding a suitable site, looking for information and transaction processing (Forsythe & Shi, 2003). Time risk offer convenience time and so on might be profuse when to purchase a product which replaced (Hanjun et al., 2004). It consists disadvantage in the process of transferring, submitted order, delay product (Forsythe et al., 2006). The hypothesis H5 for time risk was recommended:

"H5: There is a positive influence on perception time risk of customers on online shopping".

Social risk: Social risks reflected in the personal disappointment by his friends in case of the choice of products/services to poor. Consumer perception

about buying products/services cannot satisfy the standards customer' requirement, lead to social embarrassment (Hassan et al., 2006).

The social risk was noted that a product purchase but maybe not accept by friends or family (Li & Zhang, 2002). In fact, consumers were always tried to get advices from others aim at lowering social risk. Social risk is also offered affection of consumer's social group to decision keeping purchasing and using the product of organization through the Internet (Stone & Gronhaug, 1993). Therefore, had advocated for the hypothesis of social risk H6 as:

"H6: There is a positive influence on perception social risk of customers on online shopping".

Delivery risk: Ability losses goods related to the process of delivery such as damage or send products to wrong address after purchasing (Dan et al., 2007). Consumers supposed that the process delivery goods delayed with various episode, for example, the company put off deliver goods although agreed time with the customers, it cause inconvenience to customer. Besides, consumers also feared that the goods might damage in handling or packaging during transferences (Claudia, 2012).

Based on the theory, the hypothesis H7 was proposed:

"H7: There is a positive influence on perception delivery risk of customers on the online shopping".

After-sales risk: Perception of after-sale risk is the risk of online shopping when suppliers fail to do after-sales service to customers after payment as technical support after the sale, settlement products issues, commercial disputes, and warranty services, etc. (Cao & Gruca, 2004). Sparks & Legault (1993) summarized the two types of after-sales service: the service expected and the unexpected service. Forecasting service customers plan, such as installation software, training, guidance documents, maintenance, and upgrades... The

maintenance operations as repair, return, replacement, and services are classified as services unexpectedly.

So, the hypothesis of after-sale risk was suggested:

"H8: There is a positive influence on perception after-sales risk of customers on the online shopping".

Perception risk: is defined as the possibility of failure while participating in online shopping with products not satisfactory need versus desire KO et al. (2010). Perceived risk reducing consumer confidence when buying over the Internet, it is a barrier to lead to purchase decisions of customers (Barnes et al., 2007). Many of the researchers had demonstrated that perception risk exists in E-commerce which has affected negatively to behaviors, attitudes toward e-commerce.

Risks related to online purchases often outweigh and the risks related to something which the seller in the traditional procurement such as the consumer does not have ability to directly assessed to quality of products, and due to receiving not enough information contact of salesperson, interaction and social interaction with others, and payment security and individual (Salo & Karjaluoto, 2007; Zhou et al. 2008). Consumers are also afraid to offer online credit card information because coming out for the supplier. Risk perceptions in consumer's thinking are considered a reluctance to provide credit card information over the Internet to carry out transactions (Hoffman et al., 1999). But awareness about risks in the eyes of each consumer was different. Some buyers said that buying products/ services on E-commerce have a lot of risks and price is very expensive while others appreciated that the benefit of E-commerce such as eased to find and compare products information and price (Martin & Camarero, 2009). According to Forsythe & Shi, (2003) said that the risk product, the product of unknown origin was affecting attitude toward

online shopping and purchasing decisions. In Vietnam, consumers often have to distinguish when products made in China. Previous studies had suggested that the following types involved in the purchasing decisions of consumers: financial risks, product risks, convenience risk, health risks, quality risks, risks time risk, delivery risk, after-sales risk, performance, psychological, social risk, and privacy risks, stylish design and so on (Martin & Camarero, 2009; Tasi & Yeh, 2010; Almousa, 2011 ; Javadi et al. 2012; Zhang et al. 2012).

Thus, the study suggested hypothesis for perception risk H9:

"H9: There is a negative influence of perception risk and attitude toward online shopping of customers".

*Attitude toward online shopping***:** As described above, based on theory of model TRA, attitudes towards online shopping has positively influence on increasing purchase intention. This relationship has been successfully tested in the research and theories mentioned in H10. This research is aware of the difficulties that arise when predicting actual results using the intended behavior, such as changing the influence of time, between the performance and the real intention of behavior (Ajzen & Fishbein, 1980). So, purchase intention in this study mainly as a control variable to assess whether research model accurately predicts changes in increasing purchase intention.

Forsythea et al. (2002) showed a positive relationship and highly significant between the interests of Internet shopping, shopping frequency and amount spent online. The previous study of online shopping has established two beneficial interests: internal and external. Both are important in the choice of the customer (Liu & Arnett, 2000, Muylle et al. 2004); Shih, 2004). External benefits include features such as choice of products, access to competitive prices ease, information and search costs low. Benefits inside cover features

such as design and color (Shang et al., 2005). Shopping interests of consumers can affect behavior similar to shopping in a virtual environment.

Thus, the hypothesis H10 was recommended:

"H10: There is a positive influence on attitude toward online shopping and purchase intention".

2.12. The Research Hypotheses

According to above theoretical, research establishment, the research hypotheses were suggested as Table 2.4 below:

Figure 2.4 The Research Hypothesis

Hypotheses	Hypothetical relationship
H1: There is a positive influence on perception health risk of customers on shopping online.	+
H2: There is a positive influence on perception quality risk of customers on online shopping	+
H3: There is a positive influence on perception private risk of customers on online shopping	+
H4: There is a positive influence on perception financial risk of customers on online shopping	+
H5: There is a positive influence on perception time risk of customers on online shopping	+
H6: There is a positive influence on perception social risk of customers on online shopping	+
H7: There is a positive influence on perception delivery risk of customers on online shopping	+
H8: There is a positive influence on perception after-sales risk of customers on online shopping	+
H9: There is a negative influence on perception risk and attitude toward online shopping of customers	-
H10: There is a positive influence on attitude toward online shopping and purchase intention	+

CHAPTER 3
RESEARCH METHODOLOGY

In this part, author introduces the research methods, the research process, and how to collect data to test models research which applied in Hanoi (Vietnam). From that foundation, the author designed suitable questionnaire for scale. The study describe the research process, implementation methods to assess the scale. In this study, author also use quantitative research method.

3.1. The Design of Study

Formal research studies using quantitative methods to collect and analyze survey data as well as estimates and test research model. The aim of this study is at testing the quantitative research models and measurement set out in the model factors research (Multiple regression) to prove hypotheses which author suggested.

3.2. The Research Process

The whole research process will describe below as Figure 3.1
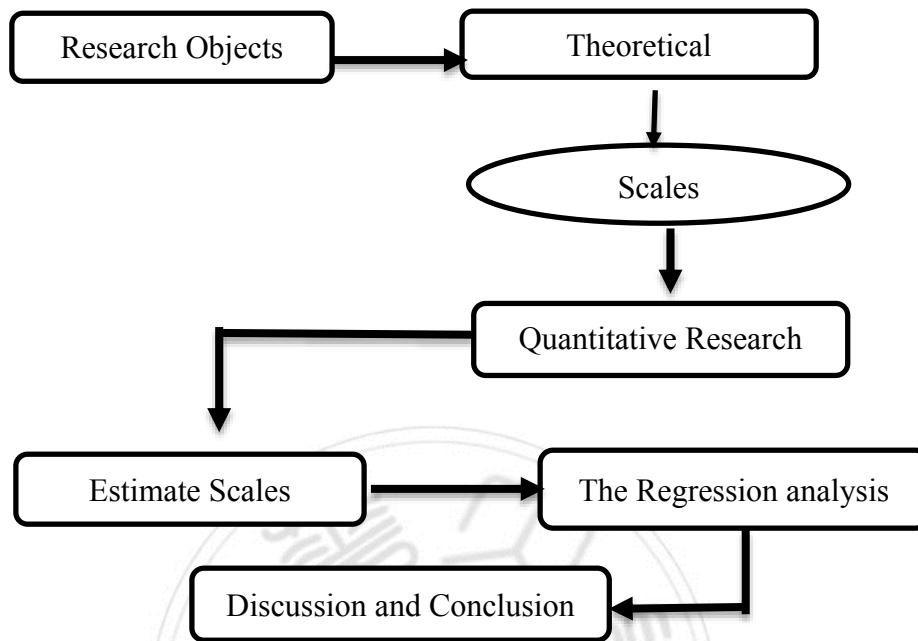
Figure 3.1 The research process

3.3. Sample

Subjects in the study survey are consumers shopped online in Hanoi place. Follow to (Hair & CTG, 1998), to ability explore factor analysis (EFA), requiring to collect data on a sample of at least 1 to 5 observed variables. In addition, to apply regression analysis method, the best sample size necessary to make sure the formula: $n > 8m + 50$ (where: n is the sample size; "m" is the number of independent variables of the model) (Tho, 2011).

The study used two techniques for sampling as random sample and convenient sample. The random sampling technique was used to perform sampling and assigned to the respondents in Hanoi (north of Vietnam). On the other hand, the author also sends friends, the family members who purchases online and live and work in Hanoi. To avoid the difficulties of the respondents

in the reply, the author has translated the questions in this study into Vietnamese to match the style and language. Hanoi is one of the largest city in Vietnam with a large population level and is the highest economic concentration Vietnam. According to the results of the census date 31/12/2015, the population is 7,558,956 people in Hanoi with the highest population density in the inner city (Hoan Kiem, Hoang Mai, Hai Ba Trung,...). In this study, the questionnaire was delivered through e-mail to the districts of the city, where there are trade development services.

The target respondents of this survey is that all those who have experienced online shoppers, has aged 18 and older, students, working people, people who have retired but still involved shopping online. In this study, survey questions were examined in a number of key areas of Hanoi via by email. Another method, the author has sent survey questions via Facebook channel for friends, family, group of people through working in Hanoi. In addition, some websites like iPanel, vinaresearch, viewfruit ...the author also used to distribute the survey questions. The survey was presented in the period of 2 months from September 15th to November 15th). After 2 months, the total number of people receiving survey questions is 250 people, but only 246 respondents. After deleting not significantly respondent and clearing data so that total valid sample size of 225 was completed.

3.4. Data Analysis Methods

Once collected, questionnaires were reviewed and removed the unsatisfactory copies. After collecting, data was encrypted and was put in processing by using SPSS 22.0 software.

With SPSS 22.0 software, doing data analysis through descriptive statistical formula, frequency tables, graphs, testing the reliability scale,

exploring factor analysis (EFA), Regression analysis and other analysis (Mean, One-sample T-test).

3.4.1. Factor Analysis (EFA) and Reliability Test

The reliability of the scales was assessed by Cronbach alpha coefficient. Using Cronbach's coefficient alpha reliability before factor analysis (EFA) to eliminate variables inappropriate because this garbage variables can create dummy elements (Tho & Trang, 2009).

Cronbach's coefficient alpha only trust that the measure has linked together or not; but did not observe any necessary variables and observed variables left to be retained. Meanwhile, the calculation of the correlation coefficient between variable-general will help weed out those who do not observe the variables contributing to the description of the concept to be measured (Trọng & Ngọc, 2005). Therefore methods of factor analysis (EFA) was used next in this study. Factor analysis method EFA (Exploratory Factor Analysis) helps us to assess the value of the two types of scale are important values and values converge discrimination.

For each variable in this study, factor analysis was used to analyze and identify items of high value, and then compared with theoretical items suggested. After analyzing factors item-total correlation-to, the alpha coefficient, and correlation matrices are calculated, from which to determine the uniform scale for each structure.

The analytical process is done for all of the structures based on the following conditions:

1. Factor loading > 0.6
2. KMO > 0.5 ; Bartlett's sig-value < 0.05
3. Eigen-value > 1
4. Explained variance > 0.6

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5. Item to correlation-value > 0.45; Cronbach's α-value > 0.5

3.4.2. Regression Analysis

The purpose of regression analysis method is considered the influence of the variable depends on other variables (independent variables) to identify the exactly correlation between such variables. Regression analysis is a method that is very popular in researching and was used to testing the research model. In this research, the author used to multiple regression analysis as the main method to inspected the affection of risk scale to general perception risk and from the general perception risk to attitude toward Online and increase purchase intention as follows:

1. In the first step analysis, the authors conducted included variables such as health and risk, quality risk, financial risk, private risk, time risk, social risk, delivery risk, after-sale risk to the test, in other words , the author test hypotheses simultaneously as H1, H2, H3, H4, H5, H6, H7, H8 to check the suitability of the assumptions in the regression analysis method with dependent variable is the general perception risk (PR), the independent variables are 8 risk factors above.

2. In the next step analysis, to prove the hypothesis H9 is accepted or rejected, the author continued to use the method of regression analysis to assess the dependent variable is attitude towards shopping online (ATT) and the independent variable is the general perception of risk (PR).

3. In the third analyze for hypothesis H10. Regression analysis approach continued use in 3rd run. Here, the dependent variable is the intention to buy (PI), and the independent variable is the attitude towards online shopping (ATT).

3.4.3. Mean, One-sample T-test

In this paper, the authors use the method of Mean, One-sample T-test aimed at analyzing and identify risk factors hidden in online shopping. And that is the basis for the author can offer strategic solutions to help online entrepreneurs recognize and change in time in order to improve the quality of products/services.

3.5. Measurement Factors

To the extent of the research of the subject, all of the scale was based on the model of (Pi &Sanguang, 2011) and research model of Zhang et al. (2012). Through qualitative research, we corrected and added to suit the purpose of research. These variables are measured by Likert scale of 5 levels.

The object of the research is surveying customers have ever done shopping online. Factors of perception risk measured through 9 scales (including 33 observed variables). Factors of attitude toward online shopping are measured through 1 scale (including 3 observed variables) and factors of purchase intention are measured through 1 scale (including 4 variables observing).

3.6. Scale of Perception Risk of Online Shopping and the Scale of Perception Risk Factors

3.6.1. Scale Perception Risk

Scale perception risk of online shopping is denoted by PR.

During the process of purchasing, customers always feel risky in shop online because they feel that there was a high level of risks. So the general perception risk in online shopping was developed by Pi & Sangruang (2011) measured by 3 variables serving, from PR1 to PR3 symbols show as the Table 3.1.

Table 3.1 Scale of General Perception Risk

Question Observed Variables	Symbol
Online shopping involves a high level of risk	PR1
There is a high risk that the expected benefits of online shopping will not come true.	PR2
In general, I always consider buying online is risky	PR3

3.6.2. Scale Factors of Perception Risk

Health Risk Scale

Scale health risks of online shopping are denoted as HR. Customers perceive the existence of a health risk in online shopping to purchase counterfeit goods, fake goods affect the health along with the impact of computers and the stretch easily lead to irritability straight as to solve problems arising with the product supplier problems. So health risk scale developed by Zhang et al. (2012) measured in 5 observed variables, symbols from HR1 to HR5 as Table 3.2.

Table 3.2 Health Risk Scale

Question Observed Variables	Symbol
Using computer prolong to buy products/ services online affect my health (eyes, skin face, brain…)	HR1
Online shopping prolongs make me feel fatigue and lead to vision loss.	HR2
The purchase of counterfeit goods affecting my health	HR3
It makes me irritable during return or repairs the product	HR4
The loss of online shopping put pressure on me (irritability, anxious, bad mood…)	HR5

Quality Risk Scale

Quality risk scale in online shopping is denoted by QR. With rapidly explosion of Internet (online shopping activity) over time, it make more interesting and raise the living standards. But in parallel with benefits that the Internet bring, the Internet also hidden a lot of different risks. Especially in online shopping especially in online shopping, the possibility that customers

buy shoddy goods as counterfeit and pirated goods is very high than traditional form. Therefore, customers are always apprehensive and concerned about the quality risk when conducting online shopping.

Therefore, as Zhang et al. (2012), quality risk scale was measured by four variables observed, which they named QR1 to QR4 and displayed in Table 3.3.

Table 3.3 Quality Risk Scale

Question Observed Variables	Symbol
Shopping online can buy fake goods	QR1
The real quality of the product maybe not as described, advertised.	QR2
I am concerned products in the online shop can be not meet the needs and expectations of me.	QR3
Online shopping cannot get a good review of the quality of products	QR4

Private Risk Scale

The scale of private risk in online shopping denoted by PVR. When conducting online purchases manipulate welding guests must offer personal information, credit card information. This makes them very afraid because of the very high private risk to IT infrastructure private, secure mode of shopping online site not as expected.

Zhang et al. (2012) developed variance private risk with four variables observed, symbols from PVR1 to PVR3 shown as Table 3.4:

Table 3.4 Private Risk Scale

Question Observed Variables	Symbol
Online shopping, my phone number can be abused others	PVR1
Online shopping, my email address may be abusing others	PVR2
My credit card can be stolen by others	PVR3
My personal information may be disclosed to other companies	PVR4

Financial Risk Scale

Scale financial risk in online shopping is denoted by FR. In addition to concerns about the financial risk of incurring such costs shall be included in the cost for added services such as online payment, delivery, the hidden costs... Customers also feared to risk completely lose money when paid online but not receiving the goods.

Therefore, through qualitative research, the research has added variable FR4 on financial risk scale which developed by Zhang et al. (2012) "*I feared might lose money when paid but did not receive the product*". The scale of financial risk in research models measured by four variables observed, from FR1 to FR4 symbols on the Table 3.5 below:

Table 3.5 Financial Risk Scale

Question Observed Variables	Symbol
Use online payment service will be charged extra	FR1
Service delivery will be charged extra	FR2
The price of product online in higher than market prices	FR3
I feared might lose money when paid but did not receive the product	FR4

Time Risk Scale

Scale Time Risk in online shopping was denoted by TR. Most of the customer concept, customers were very distressed also about the issue of time in online shopping as time-solving problems that arise when goods have problems, delivery time, payment time, change the product.

Therefore, the time scale of risk developed by Zhang et al. (2012) measured by four variables observed, from TR1 to TR4 symbols. Here, the research had added one new variable (TR3) "*Quality poor service delivery, delivery will take more time*," shown as Table 3.6:

Table 3.6 Time Risk Scale

Question Observed Variables	Symbol
If the product has a problem, the exchange with the seller and the service requires time-consuming	TR1
I will take a long time if the seller does not deliver as promised	TR2
Quality poor service delivery, delivery will take more time	TR3
The return of products through many stages will take more time	TR4

Social Risk Scale

Scale social risks of online shopping are denoted by SR. When buying online, customers are also always interested in whether products they buy have met with complaints, not accepted by the family, their friends or not, can affect the family, their friends or not ... that's the social risks that customers always think of when shopping online by the quality of goods in online shopping did not meet customer's expectations of people who relatives or friends.

Therefore, the results of qualitative research, social risk scale developed by Zhang et al. (2012), as measured by 3 observed variables, symbols from SR1 to SR3. At this, the research added the other variable (SR1) "*Online shopping will affect my family or friends",* shown as Table 3.7.

Table 3.7 Social Risk Scale

Question Observed Variables	Symbol
Online shopping will affect my family or friends	SR1
Online products may not be accepted by my family or friends	SR2
Online shopping can reduce my assessment by the impact of others	SR3

Delivery Risk Scale

Risk scale delivery of online shopping is denoted by DR. In the online business, vendors are always want the goods to be delivered to customers as soon as possible, this requires quick delivery service.

Therefore, the results of qualitative research, delivery risk scale was developed by Zhang et al. (2012), as measured by 3 observed variables, symbols from DR1 to DR3, shown as Table 3.8:

Table 3.8 Delivery Risk Scale

Question Observed Variables	Symbol
Service delivery can make the product easy to lose	DR1
Service delivery can make perishable products	DR2
Service delivery can lead to the wrong delivery address	DR3

After- sales Risk Scale

After – sales risk scale in online shopping is denoted by ASR. In addition to quality issues, product pricing, information security ... is a factor that the customer is always the concern and fear most online shopping is risky after the sale. As with the development of shopping sites more difficult today can know all suppliers that are following after-sales best sellers so they can rest assured the transaction. This has created awareness of the risks after sales customer when shopping online. Therefore, the results of qualitative research, the scale of risk developed after sales by Zhang et al. (2012), as measured by 3 observed variables, symbols from ASR1 to ASR3, shown as Table 3.9.

Table 3.9 After–sales Risk Scale

Question Observed Variables	Symbol
If the product has a problem, it is difficult getting the intervention of the seller	ASR1
Difficult to resolve disputes about the product in online shopping when they have problems.	ASR2
Buying products online have no the assurance of after-sales service	ASR3

3.7. Validity

Researchers have used models measuring about perception risk of Zhang et al. (2012) in the Chinese market and measurement model of Pi & Sangruang (2011) for the Taiwan market. Some scales have been added and adjusted to suit the Vietnam market. Further trends of consumer, market characteristics and other elements of culture, society, economics, politics in the two markets also different from Vietnam. That's why the author want to apply this model at Vietnam' market in in terms of E-commerce (online shopping).

Evaluate scale reliability by Cronbach's alpha coefficient. Cronbach's alpha for testing each risk factor as health risks, quality risks, private risks, financial risks, delivery risk, time risk, after-sale risk and social risk.

3.8. Reliability of Pre-test

After collecting data in the first month, the author has used the first 30 samples for testing in order to check the reliability of the questionnaire. The scale in research was evaluated by Cronbach's alpha tool. Author extracted some things like this:

Variable item QR2, QR3, PR3 has the correlation coefficient of variation of the total is 0.366, 0.405, 0.406, it does not achieve the significant level of condition (*Corrected item-total correlation >.45*). If these variables was eliminate while Cronbach's alpha values had high score as 0.723, 0.705, 0.859, so the author decided to accept and keep these variables for analyzing EFA to the next step with enough data survey in order to confirm them have the practical the significance of the model or not before removing them out of the construct.

The results reliability evaluation of scales shown that remaining variances are achieved reliability standard with the correlation coefficient of total

variation of all variables are greater than 0.45, so all of these scales will be used for exploring next step.

Besides this is still perform that the questionnaire use for collecting data absolutely reasonable. All of results showed in the Table 3.10 below:

Table 3.10 The Result of Pre-test

Items	Scale mean after deleting item	Scale variance after deleting item	Item to Total Correlation	Cronbach's α
Healthy Risk Scale (HR): Cronbach's alpha = .871				
HR1	12.13	17.116	.718	.834
HR2	12.77	17.047	.781	.820
HR3	12.48	16.991	.628	.859
HR4	11.90	18.157	.656	.849
HR5	12.65	17.037	.694	.840
Quality Risk Scale (QR): Cronbach's alpha = .714				
QR1	10.84	4.206	.733	.502
QR2	11.29	5.013	**.405**	.705
QR3	11.03	5.366	**.366**	.723
QR4	10.77	4.581	.520	.635
Private Risk Scale (PVR): Cronbach's alpha = .863				
PVR1	11.94	6.196	.624	.855
PVR2	11.97	5.899	.741	.814
PVR3	11.90	5.490	.677	.837
PVR4	11.90	4.757	.814	.776
Financial Risk Scale (FR): Cronbach's alpha = .843				
FR1	9.29	9.746	.731	.772
FR2	9.94	10.129	.726	.776
FR3	9.65	9.770	.614	.829
FR4	9.06	10.729	.639	.813
Time Risk Scale (TR): Cronbach's alpha = .874				
TR1	11.13	6.049	.862	.787
TR2	10.97	5.966	.751	.830
TR3	11.13	6.049	.736	.836
TR4	10.90	7.290	.586	.889
Social Risk Scale (SR): Cronbach's alpha = .875				
SR1	5.94	4.129	.665	.904
SR2	5.65	3.970	.769	.806
SR3	5.58	3.985	.841	.746
Delivery Risk Scale (DR): Cronbach's alpha = .832				
DR1	6.74	2.731	.784	.674
DR2	6.32	3.626	.727	.735
DR3	6.42	4.052	.593	.856

Table 3.10 The Result of Pre-test (…. Continues)

Items	Scale mean after deleting item	Scale variance after deleting item	Item to Total Correlation	Cronbach's α
After-sale Risk Scale (ASR): Cronbach's alpha = .819				
ASR1	5.71	5.013	.739	.665
ASR2	6.35	5.437	.700	.711
ASR3	6.06	5.196	.568	.852
Perception Risk Scale (PR): Cronbach's alpha = .758				
PR1	7.16	2.806	.673	.573
PR2	6.71	3.280	.723	.529
PR3	6.45	4.189	**.406**	.859
Attitude toward Online Shopping (ATT): Cronbach's alpha = .767				
ATT1	6.87	3.183	.504	.786
ATT2	6.77	2.914	.657	.624
ATT3	7.06	2.596	.646	.631
Purchase Intention (PI): Cronbach's alpha = .837				
PI1	12.68	5.092	.655	.800
PI2	13.03	5.032	.598	.825
PI3	12.45	4.856	.668	.794
PI4	12.45	4.589	.757	.753

CHAPTER 4
THE RESULT AND ANAYSIS

This chapter show the results of testing scale Cronbach' alpha reliability, analysis of the eight risk factors; perception risk variance; variance of attitudes towards online shopping; variance of purchase intention , the results of the regression analysis steps. In addition, the author present results also ran Mean, One-sample T-test about the elements that customers are the most concerned.

4.1. The Information Sample Research

Sexual: In the total 225 people who is surveyed, have 113 people who were male (representing 50.2%), and have 112 people who were female (account for 49.8%).

Age: Total 225 people who gave response, have 102 people in "under 25 age" stage (45.3%), 87 people who had age in "26-35" stage (38.7%), have 20 people who were in "36-45" stage age (8.9%), 13 people were in "46-55" stage age (5.8%) and 3 people were in " Above 55" stage age (1.3%).

Education: In total 225 people were surveyed, with 8 people were "High school or lower" level (accounting for 3.6 %), "Vocational school" have 8 people (3.6%), with 46 colleges people (20.4%), the Bachelor degree has 119 people (52.9 %), After Bachelor has 44 people (19.6%).

Occupation: In total 225 people who surveyed, has 23 people is "Supervisor" (10.2%), 39 people were "Executive Staff" (17.3%), 33 people were "Sale Employee" (14.7%), people who is "Student" has 41 people (representing 18.2%), "Staff of Technical" has 18 people (8.0%), "Sale/ Household" has 13 people (5.8%) and "Other" has 58 people (25.8%).

Income: In the total of 225 people surveyed, with 34 people with incomes below 3 million (15.1%), 54 earners 3.1-5 million VND (accounting for 24.0%), 63 earners 5.1 to 7 million VND (28%), 7.1 to 10 million VND income 35 (15.6%), 39 people earning more than 10 million VND (17.3%).

Relationship: Of the 225 people surveyed, 136 people who is in single status (60.4%) and 89 people who were married (39.6%).

The information were summarized as the Table 4.1 below:

Table 4.1 The Information of Respondents

Categories	Frequency	Percentage (%)
Gender		
Male	113	50.2
Female	112	49.8
Age		
Under 25	102	45.3
26-35	87	38.7
36-45	20	8.9
46-55	13	5.8
Above 55	3	1.3
Education		
High school	8	3.6
Vocational level	8	3.6
College level	46	20.4
Bachelor Degree	119	52.9
After-bachelor	44	19.6
Job		
Supervisor	23	10.2
Executive Staff	39	17.3
Sale Employee	33	14.7
Students	41	18.2
Staff of technical	18	8.0
Sale/House hold	13	5.8
Others	58	25.8
Income (VND)		
Under 3M	34	15.1
3,1M-5M	54	24.0
5,1M-7M	63	28.0
7,1M-10M	35	15.6
More than 10 M	39	17.3
Relationship Status		
Single	136	60.4
Married	89	39.6

4.2. Reliability of Sample

According to the result of evaluating reliability variables of all scale in 225 samples first. The scale in research was evaluated by Cronbach's alpha tool. Author extracted some things like this:

The variable HR3 has a correlation coefficient of total variation is 0.435 less than minimum of conditions "Corrected item-Total Correlation" > 0.45. Thus the author has decided to eliminate variables HR3 "The purchase of counterfeit goods affecting my health" and continue testing.

After eliminating HR3, the authors continued examine the reliability of construct health risk and found that the variable correlation coefficient HR4 total variable is 0.470. If removing this variable, can see Cronbach's alpha value of it equal 0.782 very high. Therefore, the author decided to retain this variance HR4 for analysis EFA continued to affirm, they have practical significance in the model before removing them.

The results reliability evaluation of scales shown that all of them are achieved reliability standard with the correlation coefficient of total variation of all variables are greater than 0.45. So all of these scales will be used for exploring next step.

Through table above all of Cronbach's alpha coefficient is greater than 0.5. So believe that the investigation has a fairly good reliability. Besides this is still perform that the questionnaire use for collecting data absolutely reasonable, shown as the Table 4.2:

Table 4.2 The Result of Conbach's Alpha Value of Variances

Items	Scale mean after deleting item	Scale variance after deleting item	Item to Total Correlation	Cronbach's α
Healthy Risk Scale (HR): Cronbach's alpha = .788				
HR1	11.65	7.050	.663	.702
HR2	12.24	5.386	.669	.686
HR4	11.55	7.785	.470	.782
HR5	12.18	6.069	.596	.725
Quality Risk Scale (QR): Cronbach's alpha = .861				
QR1	12.61	6.720	.666	.836
QR2	12.61	6.748	.681	.831
QR3	12.89	5.658	.731	.811
QR4	12.70	5.748	.756	.798
Private Risk Scale (PVR): Cronbach's alpha = .821				
PVR1	12.87	4.648	.485	.844
PVR2	13.05	4.122	.708	.741
PVR3	13.05	4.154	.695	.748
PVR4	13.05	4.185	.692	.750
Financial Risk Scale (FR): Cronbach's alpha = .839				
FR1	12.71	4.655	.713	.776
FR2	12.63	4.592	.703	.780
FR3	12.47	4.750	.688	.787
FR4	12.74	4.942	.580	.834
Time Risk Scale (TR): Cronbach's alpha = .906				
TR1	12.61	5.792	.777	.882
TR2	12.55	5.722	.813	.870
TR3	12.66	5.421	.810	.871
TR4	12.60	5.678	.756	.890
Social Risk Scale (SR): Cronbach's alpha = .836				
SR1	7.26	4.301	.601	.853
SR2	6.78	3.287	.724	.745
SR3	6.81	3.861	.776	.695
Delivery Risk Scale (DR): Cronbach's alpha = .832				
DR1	8.59	2.752	.656	.801
DR2	8.13	3.059	.694	.760
DR3	8.32	2.861	.719	.732
After-sale Risk Scale (ASR): Cronbach's alpha = .856				
ASR1	7.70	2.156	.656	.863
ASR2	7.40	1.963	.778	.752
ASR3	7.46	1.875	.756	.772

Table 4.2 The Result of Conbach's Alpha Value of Variances (…..Continues)

Items	Scale mean after deleting item	Scale variance after deleting item	Item to Total Correlation	Cronbach's α
Perception Risk Scale (PR): Cronbach's alpha = .745				
PR1	8.02	3.026	.455	.787
PR2	8.16	2.516	.626	.605
PR3	8.24	2.011	.667	.550
Attitude toward Online Shopping (ATT): Cronbach's alpha = .855				
ATT1	8.60	2.446	.729	.789
ATT2	8.44	2.372	.755	.764
ATT3	8.74	2.228	.691	.830
Delivery Risk Scale (DR): Cronbach's alpha = .832				
PI1	12.68	5.031	.604	.838
PI2	12.89	4.447	.656	.821
PI3	12.55	4.588	.752	.779
PI4	12.77	4.426	.737	.783

4.3. Factor Analysis (EFA)

4.3.1. Factor Analysis (EFA) to the Scale of Risk

When analyzing EFA for the scale of risk awareness, the author uses extracted principal component analysis method with varimax rotations and the point of the end when criticizing the factor has eigenvalue bigger 1. The scale of risk that is used includes 8 factor with 29 observed variables. After testing the scales by Cronbach alpha, the result shows 29 observed variables are satisfactory and may continue into EFA.

The analysis confirmed was made to all construct like the data is taken and adapted from previous studies and the following criteria to be followed in the factor analysis:

1. Factor loading < 0.6

2. KMO > 0.5 ; Bartlett's sig-value < 0.05

3. Eigen-value>1

4. Explained variances > 0.6

5. Item-total correlation> 0.45; Cronbach's α> 0.5

The full of explanation of factor analysis were shown in the table 4-3 below:

Health risk scale

In the table, there was a total of five variances items in this construct which used to explain for construct health risk. The results show that all of the variances of this construct were bigger than 0.6 while Items HR1 has highest score (0.836) that means this item had the highest reaction in health risk construct.

All of the items has corrected item- total correlations are above 0.45, contributing to high value of constructing $\alpha = 0.788$, and eigenvalue= 2.458 thus representing the high internal consistency within health risk construct. The five items had accumulated a total 61.443% of explained variance which show these are important underlying items for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed that KMO coefficient = 0.667, so the analysis EFA matching data collected. Chi-square statistical test of Barlett's worth 300.517 significant with sig = 0.000, therefore, the health risk variables are correlated with each other on the overall scope

Quality Risk Scale

There were a total of four variances items in this construct which used to explain for construct Quality Risk. The results show that all of variances of this construct were bigger than 0.6 while Items QR4 has highest score (0.866) that means this item had highest reaction in Quality Risk construct.

All of the item had corrected item- total correlations are above 0.45, contributing to the high value of construct $\alpha = 0.861$, and eigenvalue= 2.823 thus representing a high internal consistency within Quality Risk construct. The four items had accumulated a total 70.573% of explained variance which show these are important underlying items for this construct. Based on all criteria, we

can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed KMO coefficient = 0.750, so the analysis EFA matching data collected. Chi-square statistical test of Barlett's worth 453.716 significance with sig = 0.000, therefore, the quality risk variables are correlated with each other on the overall scope

Private Risk Scale

There was a total of four variances items in this construct which used to explain for construct Private Risk. The results show that all of the variances of this construct were bigger than 0.6 while Items PVR3, PVR4 has highest score (0.847) that means this item had the highest reaction in private risk construct.

All of the items had corrected item- total correlations are above 0.45, contributing to the high value of constructing α= 0.821, and eigenvalue= 2.621 thus representing a high internal consistency within Private Risk construct. The four items had accumulated a total 65.522% of explained variance which show these are important underlying items for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed KMO coefficient = 0.788, so the analysis EFA matching data collected. Chi-square statistical test of Barlett's worth 337.912 at sig = 0.000 significance, therefore, the private risk variables are correlated with each other on the overall scope.

Financial Risk Scale

There was a total of four variances items in this construct which used to explain for construct Financial Risk. The results show that all of the variances of this construct were bigger than 0.6 while Items FR2 has highest score (0.854) that means this item had the highest reaction in financial risk construct.

All of the items had corrected item- total correlations are above 0.45, contributing to the high value of constructing α= 0.839, and eigenvalue= 2.700 thus representing a high internal consistency within Financial Risk construct. The four items had accumulated a total 67.505% of explained variance which show these are important underlying items for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed KMO coefficient = 0.812, so the analysis EFA matching data collected. Chi-square statistical test of Barlett's worth 348.929 at sig = 0.000 significance, therefore, the financial risk variables are correlated with each other on the overall scope.

Time Risk Scale

There was a total of four variances items in this construct which used to explain construct Time Risk. The results show that all of the variances of this construct were bigger than 0.6 while Items TR2 has highest score (0.899) that means this item had the highest reaction in time risk construct.

All of the items had corrected item- total correlations are above 0.45, contributing to the high value of constructing α= 0.906, and eigenvalue= 3.124 thus representing a high internal consistency within Time Risk construct. The four items had accumulated a total 78.107% of explained variance which show these are important underlying items for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed KMO coefficient = 0.851, so the analysis EFA matching data collected. Chi-square statistical test of Barlett's worth 573.290 significant with sig = 0.000. This explains that, while the risk variables are correlated with each other on the overall scope.

Social Risk Scale

There were a total of three variances items in this construct which used to explain for construct Social Risk. The results show that all of variances of this construct were bigger than 0.6 while Items SR3 has highest score (0.910) that means this item had highest reaction in Social Risk construct.

All of the item has corrected item- total correlations are above 0.45, contributing to high value of construct α= 0.836, and eigenvalue= 2.264 thus representing a high internal consistency within Social Risk construct. The three items had accumulated a total 75.476% of explained variance which show these are important underlying items for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed KMO coefficient = 0.685, so the analysis EFA matching data collected. Chi square statistical test of Barlett's worth 291.385 at sig = 0.000 significance, therefore, the social risk variables are correlated with each other on the overall scope.

Delivery Risk Scale

There was a total of three variances items in this construct which used to explain for construct Delivery Risk. The results show that all of the variances of this construct were bigger than 0.6 while Items DR3 has the highest score (0.883) that means this item had the highest reaction in delivery risk construct.

All of the items had corrected item- total correlations are above 0.45, contributing to the high value of constructing α= 0.832, and eigenvalue= 2.245 thus representing a high internal consistency within Delivery Risk construct. The three items had accumulated a total 74.8282% of explained variance which show these are important underlying items for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed KMO coefficient = 0.717, so the analysis EFA matching data collected. Chi-square statistical test of Barlett's worth 257.065 at sig = 0.000 significance, therefore, the delivery risk variables are correlated with each other on the overall scope.

After-sale Risk Scale

There was a total of three variances items in this construct which used to explain for construct After-sale Risk. The results show that all of the variances of this construct were bigger than 0.6 while Items ASR2 has the highest score (0.908) that means this item had the highest reaction in after-sale Risk construct.

All of the items had corrected item- total correlations are above 0.45, contributing to the high value of constructing α= 0.856, and eigenvalue= 2.331 thus representing a high internal consistency within After-sale Risk construct. The three items had accumulated a total 77.708% of explained variance which show these are important underlying items for this construct. Based on all criteria, we can conclude that the reliability and internal consistency of this factor are acceptable.

Analytical results from EFA showed KMO coefficient = 0.710, so the analysis EFA matching data collected. Chi-square statistical test of Barlett's worth 318.026 at sig = 0.000 significance, therefore, the after-sale risk variables are correlated with each other on the overall scope.

Table 4.3 Results of Factor Analysis

Constructs	Items	Factor Loading	Engine Value	A-Explained (%)	Item- Total Correlation	Cronbach's α
Health Risk Scale (HR) KMO=.667; BTV=0.000			2.458	61.443		**.788**
	HR1	.836			.663	.702
	HR2	.832			.669	.686
	HR4	.691			.470	.782
	HR5	.767			.596	.725
Quality Risk Scale (QR) KMO=.750; BTV=0.000			2.823	70.573		**.861**
	QR1	.817			.666	.836
	QR2	.826			.681	.831
	QR3	.851			.731	.811
	QR4	.866			.756	.798
Private Risk Scale (PVR) KMO=.788; BTV=0.000			2.621	65.522		**.821**
	PVR1	.668			.485	.844
	PVR2	.860			.708	.741
	PVR3	.847			.695	.748
	PVR4	.847			.692	.750
Financial Risk Scale (FR) KMO=.812; BTV=0.000			2.700	67.505		**.839**
	FR1	.852			.713	.776
	FR2	.854			.703	.780
	FR3	.836			.688	.787
	FR4	.749			.580	.834
Time Risk Scale (TR) KMO=.851; BTV = 0.000			3.124	78.107		**.906**
	TR1	.877			.777	.882
	TR2	.899			.813	.870
	TR3	.898			.810	.871
	TR4	.861			.756	.890
Social Risk Scale (SR) KMO=.685; BTV=0.			2.264	75.476		**.836**
	SR1	.806			.601	.853
	SR2	.888			.724	.745
	SR3	.910			.776	.695
Delivery Risk Scale (DR) KMO=.717;			2.245	74.828		**.832**
	DR1	.843			.656	.801
	DR2	.869			.694	.760
	DR3	.883			.719	.732
After-sale Risk Scale (ASR) KMO=.710;			2.331	77.708		**.856**
	ASR1	.836			.689	.658
	ASR2	.908			.645	.703
	ASR3	.898			.582	.790
Health Risk Scale (HR) KMO=.667; BTV=0.000			2.458	61.443		**.788**
	HR1	.836			.663	.702
	HR2	.832			.669	.686
	HR4	.691			.470	.782
	HR5	.767			.596	.725

After exploring factor analysis (EFA), we see the risk scale are grouped into 8 factors: Quality risk Factors (QR1, QR2, QR3, QR4); Time risk factor (TR1, TR2, TR3, TR4), Financial risk factors (FR1, FR2, FR3, FR4), After-sale risk factor (ASR1, ASR2, ASR3), Private risk factor (PVR1, PVR2, PVR3, PVR4), Health risk factors (HR1, HR2, HR4, HR5), Delivery risk factors (DR1, DR2, DR3), Social risk factors (SR1, SR2, SR3), shown as the table 4-4 below:

Table 4.4 Scale of Variances Remaining

Variances Items	Questions
The second factor: Quality Risk (QR)	
QR1	Shopping online can buy fake goods
QR2	The real quality of the product maybe not as described, advertised
QR3	I am concerned products in the online shop can be not meet the needs and expectations of me
QR4	Online shopping cannot get a good review of the quality of products
The thirst factor: Private Risk (PVR)	
PVR1	Online shopping, my phone number can be abused others
PVR2	Online shopping, my email address may be abusing others
PVR3	My credit card can be stolen by others
PVR4	My personal information may be disclosed to other companies
The fourth factor: Financial Risk (FR)	
FR1	Use online payment service will be charged extra
FR2	Service delivery will be charged extra
FR3	The price of product online in higher than market prices
FR4	I feared might lose money when paid but did not receive the product.
The fifth factor: Time Risk (TR)	
TR1	If the product has a problem, the exchange with the seller and the service requires time-consuming
TR2	I will take a long time if the seller does not deliver as promised
TR3	Quality poor service delivery, delivery will take more time
TR4	The return of products through many stages will take more time

Table 4.4 Scale of Variances Remaining (….Continues)

Variances Items	Question
The fifth factor: Time Risk (TR)	
TR1	If the product has a problem, the exchange with the seller and the service requires time-consuming
TR2	I will take a long time if the seller does not deliver as promised
TR3	Quality poor service delivery, delivery will take more time
TR4	The return of products through many stages will take more time
The sixth factor: Social Risk (SR)	
SR1	Online shopping will affect my family or friends
SR2	Online products may not be accepted by my family or friends
SR3	Online shopping can reduce my assessment by the impact of others
The seventh factor: Delivery Risk (DR)	
DR1	Service delivery can make the product easy to lose
DR2	Service delivery can make perishable products
DR3	Service delivery can lead to the wrong delivery address
The eighth factor: After-sale Risk (ASR)	
ASR1	If the product has a problem, it is difficult getting the intervention of the seller
ASR2	Difficult to resolve disputes about the product in online shopping when they have problems.
ASR3	Buying products online have no the assurance of after-sales service
The first factor: Health Risk (HR)	
HR1	Using computer prolong to buy products/ services online affect my health (eyes, skin face, brain…)
HR2	Online shopping prolong make me feel fatigue and lead to vision loss.
HR4	It makes me irritable during return or repairs the product
HR5	The loss of online shopping put pressure on me (irritability, anxious, bad mood…)

4.3.2. Factor Analysis (EFA) to General Perception Risk

Scale general perception risk of online shopping that the subject using with three variables observed (PR1, PR2, PR3). After testing by Cronbach Alpha, the result shows that the three observed variables are satisfactory and may continue into EFA. The results showed that three variables were analyzed observations of one factor by factor load factor (factor loading) are greater than 0.6 to the observed variables are important factors, we have practical significance.

Besides, KMO = 0.636 coefficient, so the analysis of EFA matching data. Statistics of test Chi-Square Barlett's worth 178.290 at sig = .000 significance, so the observed variables are correlated with each other on the overall scope. Reached 66.603% deduction variance, indicating that one factor explaining drawn 66.603 % of the data variance, thus the draw factor is acceptable. Stops when criticized factors in construct PR with eigenvalue = 1.998. As the result in the Table 4.5:

Table 4.5 The Result of EFA to Perception Risk

Variances Items	Construct
	PR
PR1	.714
PR2	.849
PR3	.877
Eigen-value	1.998
Explained variance (accumulative) (%)	66.603
Cronbach's α	.745

4.3.3. Factor Analysis (EFA) to Attitude toward Online Shopping

Scale Attitude toward Online shopping that the subject using with three variables observed (ATT1, ATT2. ATT3). After testing by Cronbach Alpha, the result shows that the three observed variables are satisfactory and may continue into EFA. The results showed that three variables were analyzed observations of one factor by factor load factor (factor loading) are greater than 0.6 to the observed variables are important factors, we have practical significance.

Besides, KMO = 0.726 coefficient, so the analysis of EFA matching data. Statistics of test Chi-square Barlett's worth 300.293 at sig = .000 significance, so the observed variables are correlated with each other on the overall scope. Reached 77.506% deduction variance, indicating that one factor explaining

drawn 77.506% of the data variance, thus the draw factor is acceptable. Stops when criticized factors in factor 1 with eigenvalue = 2.325 as shown in the Table 4.6

Table 4.6 The Result of EFA to Attitude toward Online Shopping

Variances Items	Factors
	1
ATT1	.884
ATT2	.898
ATT3	.859
Eigen-value	2.325
Explained variance (accumulative) (%)	77.506
Cronbach's α	.855

4.3.4. Factor Analysis (EFA) of Purchase Intention

Scale of purchase intention was used with four variables observed (PI_1, PI_2, PI_3, PI_4). After using Cronbach's α test, the results showed that three items were satisfactory and continues to be put into subsequent analysis (EFA). The results showed that four variables were analyzed observations of one factor by factor load factor (factor loading) are greater than 0.6 to the observed variables are important factors, we have practical significance.

Besides, KMO = 0.788 coefficient, so the analysis of EFA matching data. Statistics of test Chi-square Barlett's worth 387.089 at sig = .000 significance, so the observed variables are correlated with each other on the overall scope. Reached 68.886% deduction variance, indicating that one factor explaining drawn 68.886% of the data variance, thus the draw factor is acceptable. As the result in the Table 4.7:

Table 4.7 The Result of EFA to Purchase Intention

Variances Items	Factors
	1
PI1	.771
PI2	.810
PI3	.872
PI4	.863
Eigen-value	2.755
Explained variance (accumulative) (%)	68.886
Cronbach's α	.848

Through EFA results, we can conclude the study suggested model remains the same as the original and no adjustment model.

4.4. Multiple Regression Analysis

4.4.1. The Impact of Factor Risk to General Perception Risk in Online Shopping

After the calculation of the variable in the mean of each scale, the authors conducted included all elements of the scale of risk (factor 8) to consider the factors affecting the overall risk perception of the customer in online shopping by using the method Enter. The regression results show of "R Square" is corrected 0.505, it means that the linear model was constructed in accordance with the data set was 50.5% and the model proper for the data at 95% confidence level (due to F-value= 27.566 has sig-value = 0.000 less than 0.05).

Magnification factor (VIF=1) is very small (less than 10), showed that the independent variable are not closely related to each other so there is no multi-collinearity phenomenon. Thus, the correlation of the independent variable to the results of the model was affected. Results of regression analysis shown in Table 4.8.

Table 4.8 The Result of the First Regression Analysis

Model	Variances	Standardized Coefficients Beta	T -value	Sig.	Collinearity Statistic Tolerance	VIF
1	Constant		1.554	.122		
	QRF1	.258**	3.373	.001	.391	2.555
	HRF1	.119	1.812	.071	.531	1.883
	PVRF1	.239**	3.042	.003	.370	2.701
	FRF1	.257**	3.016	.003	.315	3.171
	TRF1	.057	.942	.347	.621	1.610
	SRF1	.041	.679	.498	.617	1.621
	DRF1	-.281***	-4.830	.000	.679	1.474
	ASRF1	.108*	2.217	.028	.968	1.033
Adjusted R Square =.487; F value = 27.566; .Sig F = .000						
Dependent variable: PRF1. *** $p<0.000$, **$p<0.01$, *$p < 0.05$						

H1: There is a positive influence on perception health risk of customers in online shopping.

As the result in table above, the variance of health risk has beta value = .119, sig= .071 bigger than 0.05, so conclude that the variance health risk was insignificant due to p-value > 0.05. The result showed that the variance of health risk had a negative influence on general perception risk of customer. The other hand, rejected H1. The result of health risk shown as the Table 4.8.

H2: There is a positive influence on perception quality risk of customers on online shopping.

The output of regression analysis found that the variance of quality risk is significant with beta value = .258, sig. =.001 satisfy (p<0.001). Thus, asserted that quality risk had a positive influence on perception risk of customers in online shopping. So, accepted H2. The result achieved that When conducting online shopping, the customer always concerns products/ services purchased online do not meet their expectations as well as the ability to be able to buy pirated goods, counterfeiting and product is not as described on the website of the provider because they can only see the product on the network, not the

actual visible and they always wonder about the uncertainty will occur as the Table 4.8.

H3: There is a positive influence on perception private risk of customers on the online shopping.

As the result in Table 4.8, the variance of private risk has beta value = .239, sig= .003 less than 0.05. For this reason author concluded the variance private risk was absolutely significant. The result showed that the variance of private risk had a positive influence on general perception risk of customer. The other hand, accepted H3. From the results bring, it shows that information security systems market in Vietnam is not high, it always creates a perception in the minds of customers a sense of insecurity when shopping online as information their personal data may be lost or misused, especially credit card information. Private risk was becoming indeed precarious with customers as the table 4-8.

H4: There is a positive influence on perception financial risk of customers on online shopping.

The result of regression analysis showed that the variance of financial risk is significant with beta value = .239, sig. =.003 satisfy at p-value < 0.05. Thus, asserted that financial risk had a positive influence on perception risk of customers in online shopping. So, accepted H4. These mean, the customer thought that shopping online can be a mistake to spend money when they have to pay extra delivery costs and hidden costs that may arise in the prices of products/services online. Besides, they also fear to lose the money altogether if paid to the supplier in advance but did not receive the product/service. The result shown as in the Table 4.8.

H5: There is a positive influence on perception time risk of customers on online shopping.

As the result in the table 4-8 above, the variance of time risk has beta value = .057, sig= .347 more than 0.05. So author affirmed that the variance time risk was not significant with hypothesis due to p-value > 0.05. On the other hand, the variance of time risk had a negative influence on general perception risk of customer. The other hand, rejected H5. These mean delivery time in online shopping at times not as expected by the customer but that is only due to some objective reasons, such as the weather, vehicles.... This day, in order to attract customers to the stores or shopping, entrepreneurs are always associated services very attractive, especially the quick delivery time, quickly and it is also a benefit from online purchases bring out which clients expect. So can see, the time risks in online shopping were not too worrying shown as the Table 4.8.

H6: There is a positive influence on perception social risk of customers on online shopping.

Regression analysis is practiced to analyze the impact of social risk on perception risk and the result showed that the relationship between social risk and perception risk was negative, the other hand the result analysis was insignificant at p-value=.347 due to p-value > 0.05. Therefore, the hypothesis H6 was rejected. This result was also shown that there is no worry about social risk of customer in Vietnam market. When customers wish to purchase the product online, they have enough time to check, look up information or advice from friends and relatives. So the customer's concerned products/services they buy are not accepted by friends, their loved ones are not really accurate, or is a special case. For example, you want to buy a product online with your friend who donates money to buy. But when you gave a decision, you did not discuss

with your friend. This causes discomfort to that friend or does not accept that product as the Table 4.8.

H7: There is a positive influence on perception delivery risk of customers on online shopping.

As the result in table 4-8, the variance of delivery risk has beta value = -.281, sig= .000 less than 0.05, so conclude that the variance delivery risk was absolutely insignificant at (sig=.000). The result showed that the variance of delivery risk had a negative influence on general perception risk of customer. The other hand, rejected H7. This was happened due to although the online-enterprises were accelerating the process of delivery to the customer as quickly as possible aim at creating a competitive advantage for other businesses, but not so that their service delivery is poor quality because the current business cooperation, most of the online business enterprises signed with courier service reputation and their delivery staff well-trained, quality. Therefore customers should always be sure to provide services for them. Most businesses in E-commerce association, they are now largely passed down to use the service "ship" to minimize the risk of customers in online shopping. Moreover, due to the form of payment when buying dominate current network is a form of payment in cash. The customer only paid when they received products and check if there is no condition, damaged or lost. Hence, delivery risk factors are no longer a concern of customers when shopping online shown as the Table 4.8.

H8: There is a positive influence on perception after-sale risk of customers on online shopping.

As the result in table 4-8, the variance of after-sale risk has beta value = .108, sig= .028 less than 0.05, so conclude that the variance after-sale risk was absolutely significant at p-value <0.05. The result showed that the variance

of after-sale risk had a positive influence on general perception risk of customer. The other hand, accepted H8. This result showed that the customer always interested in after-sales service from the supplier, they do not know the vendor will have good after-sales service or not, if any trouble occurs for the product/service they bought shown as the Table 4.8.

Thereby, the customer's perception of the risk is the highest quality risk, which has the most influence because coefficients (beta = 0.258) which are the largest in the Beta, that means when the perception of quality risk of customer increased one unit, the general perception risk of them will also increase (0.258) units respectively. Next is the impact of financial risk (beta = 0.257), private risks (Beta = 0.239), health risk (beta = 0.119) and finally is the after-sale risk (beta = 0.108).
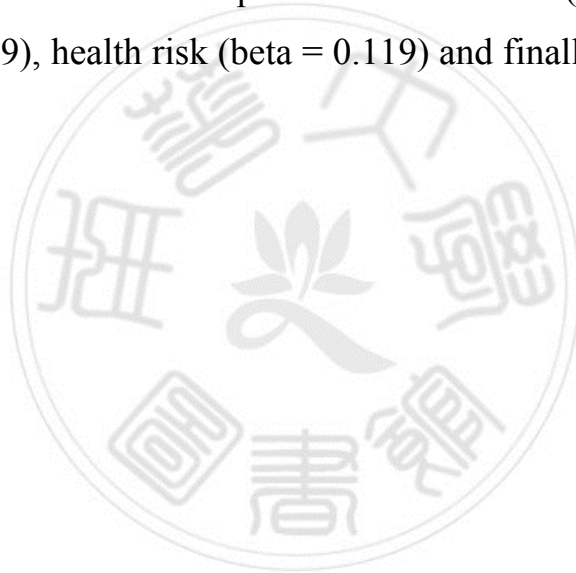
From the results above, we accept the hypothesis H $_2$, H $_3$, H $_4$, H $_8$, and rejected the hypothesis H $_1$, H $_5$, H $_6$, H $_7$, shown as the 4.9 below:

Table 4.9 The Results of Hypotheses

Hypotheses	Hypothetical relationship	Note
H $_1$: There is a positive influence on perception health risk of customers on online shopping	+	Rejected
H $_2$: There is a positive influence on perception quality risk of customers on online shopping	+	Supported
H $_3$: There is a positive influence on perception private risk of customers on online shopping	+	Supported
H $_4$: There is a positive influence on perception financial risk of customers on online shopping	+	Supported
H $_5$: There is a positive influence on perception time risk of customers on online shopping	+	Rejected
H $_6$: There is a positive influence on perception social risk of customers on online shopping	+	Rejected
H $_7$: There is a positive influence on perception delivery risk of customers on online shopping	+	Rejected
H $_8$: There is a positive influence of perception after-sales risk of customers on online shopping	+	Supported

Compared with the findings of Zhang et al. (2012) on risk perception in online shopping for the Chinese market and research of Pi & Sangruang (2011) for the Taiwan market, there are some differences compare to this study:

Quality Risk (implementation risks) are appearing and influential in all three studies. This shows that customers are always aware of risks quality of products/services in online shopping. This is the leading risk factor in the customer's perception that online business enterprise needs to concern.

Financial risks are not affected in studies of Zhang et al. (2012) in the Chinese market by in China, enterprises online pay product policy without changing the conditions for 7 days to minimize financial losses for clients. But the financial risk in research affecting Pi & Sangruang (2011) in the Taiwan market, and in this study because, in Vietnam and Taiwan, the online business

is still no major policies to reduce and ensure financial losses for customers in online shopping to financial risks still exist.

Private risks do not affect in the two studies mentioned above in the Taiwan market, and China, but impact of this study is due: IT applications in E-commerce market in Taiwan and China are developing; online shoppers in China has always considered safety and security is a basic requirement when conducting online shopping. While in Vietnam is still in the preliminary completion of information technology systems in electronic commerce, and type of online shopping in Vietnam only really developed and widely applied in the near future here, it is still a lot of risks in information security issues by the customer when buying online.

Health risks were affected in the study by Zhang et al. (2012) and were not effect in this study. With China' market, the issue of health risk is the problem that the customer is always a concern, worry when shopping online, recently has appeared several replicas, fakes in the market, generally it was affect to consumer's health as well as the reputation of genuine suppliers. Due to the Vietnam' market is a new market in the field of e-commerce, in addition to the products that customers buy, the products of small value, which makes customers subjectivity attitude of quality or product issues. Besides, the customers think that using computers long does not affect their health.

After-sales risks were also influential in research of Zhang et al. (2012) in the Chinese markets, and in this study. And social risks also affected in research of Pi & Sangruang (2011) for the Taiwan market, and in this study. This shows that the customer is aware of this risk factor in online shopping, which affect the attitude and intention to increase their online shopping in the future.

4.4.2. Effecting of Perception Risk of Online Shopping to The Customer's Attitude towards Online Shopping:

"H9: There is a negative influence of perception risk and attitude toward online shopping".

After the calculation of the variable in the mean, the authors conducted included overall perception risk affecting to the customer's attitude in online shopping by using "Enter" method in SPSS. The model fitted with data at 95% confidence level (the level of statistical significance "F- value= 3.943" at sig. = 0.048 < 0.05) as the Table 4.10 below.

Table 4.10 The Results of the Second Regression Analysis

Model	Variances	Standard Coefficients Beta	T -value	Sig.	Collinearity Statistic Tolerance	VIF
2	Constant		17.774	.000		
	PRF1	-.132*	-1.986	.048	1.000	1.000
Adjusted R Square =.013; F value = 3.943; .Sig F = .048						
Dependent variable: ATTF1. *** p<0.001, **p<0.01, * p<0.05						

Magnification factor (VIF=1) is very small (less than 10), showed that the independent variable are not closely related to each other so there is no multi-collinearity phenomenon. Thus, the correlation of the independent variable to the results of the model was affected. The result of regression analysis showed that perception risk negatively influence on attitude toward online shopping because (beta= -.132 and significant with (sig = .048) are less than 0.05), so safe to reject Ho. So we can conclude that the hypothesis H9 – "There was a negative influence on general perception risk and attitude toward online shopping" was accepted. It's mean that the higher risks in online shopping more and more has negative trend customer's attitude.

4.4.3. Effecting of Attitude towards Online Shopping to Purchase Intention "H10: There is a positive influence of attitude toward online shopping and purchase intention".

After the calculation of the variable in the mean, the authors conducted included construct attitude toward online shopping affecting to increase purchase intention of the customer by using the method Enter. The regression results show of "R Square" is corrected 0.248, it means that the linear model was constructed in accordance with the data set was 24.8% and the model fitted with the data at 95% confidence level due to F-value= 75.006 significant at sig. = 0.000 less than 0.05). The result was shown in Table 4.11.

Table 4.11 The Results of the Third Regression Analysis

Model	Variances	Standard Coefficients Beta	T -value	Sig.	Collinearity Statistic	
					Tolerance	VIF
3	Constant		9.228	.000		
	ATTF1	.502***	8.661	.000	1.000	1.000
Adjusted R Square =.248; F value = 75.006; .Sig F = .000						
Dependent variable: PIF1. *** *p<0.001, **p<0.01, * p<0.05*						

Results of regression analysis showed that factors attitude towards online shopping the same way affect to increase purchase intention of customer online shopping (due to beta= .502 and significance with sig = 0.000 very small), so safe to reject Ho. This means the customer's attitude toward online increases one unit as 0.502, so the purchase intention will also increase by 0.502 units respectively. So can conclude that the hypothesis H10 was accepted.

4.5. Analysis of The Customer's Comments for the Scale of Risks in Online Shopping:

Using t-test method to compare the average value of the components of risk with (Neutral = 3) to assess customer's perception when assessing these

factors. The results showed that the scale, customer' perception when assessing the risk factors affecting the general perception risk with relatively high, with significance value of sig. = 0.000, especially the scale of risk perception on financial, quality risk, private achieved Agree = 4 in five points Likert scale used in the study.

Regression model showed that perceived risk of customers on private is most impactful to the overall risk perception in the customer's online shopping and customers assess its level is the highest Mean (QR) = 4.3356, reached on the Agree = 4 of the scale and the highest in all of the factors that impact the overall risk perception. And the lowest level of assessment is after-sale risks Mean (SR) = 3.7600. The remaining factors on the level of the scale and the difference are not great shown as the table 4.12 and figure 4.1 below:

Table 4.12 The Average Value of Factor Risk Scale with One-Sample Test

Factors	Mean Value	Test value = 3		
		T –value	Sig. (2-tailed)	Std. Error Mean
QR	4.2344	22.794	.000	.05416
PVR	4.3356	29.921	.000	.04464
FR	4.2122	25.738	.000	.04710
ASR	3.7600	16.701	.000	.04551
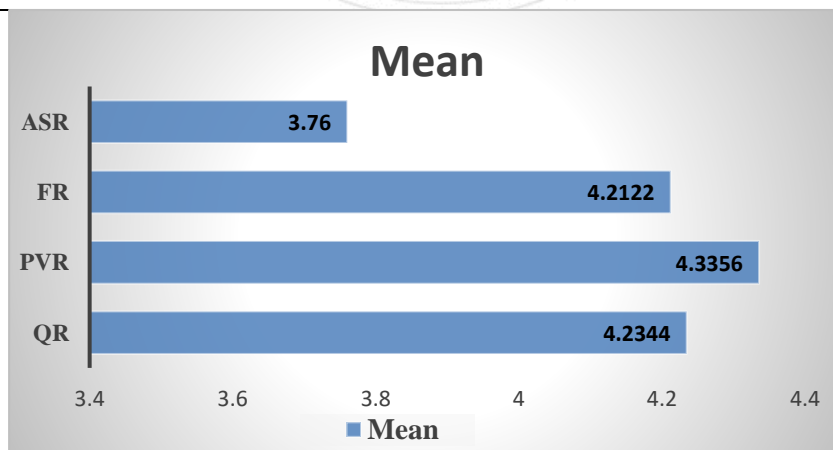
Figure 4.1 Mean value of factor risk

4.6. Analysis of the Customer's Comments for Perception Risk, Attitude toward Online Shopping and Purchase Intention

Using t-test method to compare the average value of the components of risk to the midpoint of the scale (Neutral = 3) to assess customer perceptions when assessing these factors. The results showed that the scale and severity of the customers about attitudes towards online shopping and purchase intent at high levels Mean (ATTF1) and (PIF1) = 4.2963, 4.2411 with a significance level sig. = 0.000, which indicates that their assessment of general risk awareness is not high (Mean (PRF1) = 4.0681, shown as the Table 4.13 and Figure 4.2.

Table 4.13 The Average Value of PR, ATT, PI with One-Sample Test

Factor	Mean Value	Test value = 3		
		T-value	Sig. (2-tailed)	Std. Error Mean
PR	4.0681	21.433	.000	.04984
ATT	4.2963	26.297	.000	.04929
PI	4.2411	26.629	.000	.04661

Figure 4.2 Mean value of PR, ATT, PI

CHAPTER 5
CONCLUSION AND SOLUTION

The last part of the thesis is concluded for the entire study, the authors summarize the processes of analyzing steps. Through this study, the authors offer suggestions from personal opinion about the solution, to resolve the issue through the experience, the knowledge that the author gained.
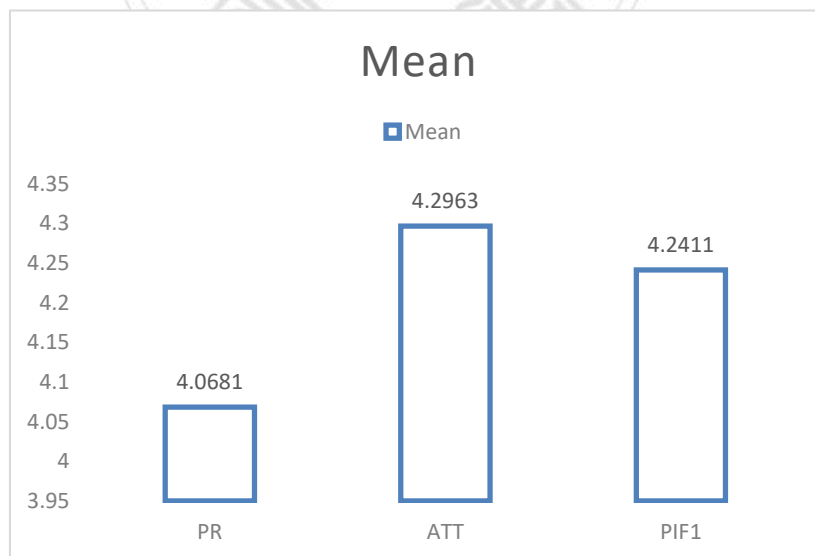
5.1. Summary

This is the formal research with the aim of testing the impact of risk perception in online shopping to the attitude towards online shopping and increasing purchase intention of customers in Hanoi area.

In Chapter 2 the theoretical basis, the author was based on perception models of risk measurement of Zhang et al. (2012) with 8 risk factors for perception in online shopping, including health risk, quality risks, financial risk, social risk, private risk, after-sales risk, time risk, delivery risk. Besides, the author also based on research models of Pi & Sangruang (2011) on the impact of general perceptions risk and attitudes toward online shopping and purchase intention.

Through two research-scale model building risk awareness and attitudes towards online shopping and increased purchase intent by 2 authors above, author have proposed models for cognitive research the risk factors, attitudes towards online shopping and increased intent to purchase the application at Hanoi market (northern Vietnam). In particular, the scale of the risk factors directly impacts the general perception risk of customers in online shopping including eight factors: health risk, quality risk, financial risk, private risk, after-sales risk, time risk, delivery risk, social risk.

In Chapter 3, research design and build scale based on formal research. Research is done by official quantitative approach customers through online interviews with a sample size n = 225. The object is the customer survey had been shopping online and in the area of Hanoi, ensure the occurrence relative target customer groups in the online shopping and large market share websites today

Results of the study are presented in chapter 4, after analyzing the reliability Cronbach 'alpha, realize the value of the variables were compared with values satisfying conditions. Hence all the variables correspond were put into the next step analysis, it is EFA. Results exploring factor analysis showed that the scale of the risk factors include eight components: health risk, quality risk, private risk, after-sales risk, financial risk, delivery risk, time risk and social risks; scale of general risk perception included three observed variables; the scale of attitude toward online shopping also included three observed variables and scale of increase purchase intention embraced four observed variables.

5.2. Research Conclusion

Also, research on this issue, (Gewald, Wullenweber & Weitzel, 2006) studied five types of perception risk. The results of their data analysis indicated that all the hypothesis that significantly affect results.

As a result of Pi & Sangruang (2011), the perception risk has a strong influence of negative attitudes towards online shopping. In their study, they used seven different risks: convenience, financial, physical, psychological, implementation, social, and time. The main hypothesis of their general perception risk is negatively affected to attitudes towards online shopping. Taiwan is a country to achieve the development of information technology at a high level. Awareness of risk as a key optical perception and behavior is an

important prerequisite for consideration of customer attitudes towards online shopping. Therefore, the results of their study showed that perception risk directly impacts on attitudes, and indirectly affect the purchase intention. The factor risk of perception risk is the most strongly influence the attitude of customers is the convenience, financial, physical, performance, and social factors. Their results showed that five risks in online shopping which they studied are significant in the Taiwan market.

According to the study by Zhang et al. (2012), customer's perception risk is a key factor affected online purchasing behavior. In this study, they have empirical research on spatial structure of consumers' perception risk (CPR) for the entire process of B2C e-commerce, and eight risk factors faced by consumers using it is a health risk, quality risk, private risk, economic risk, time risk, social risk, delivery risk and risks after sales. Experimental test results indicate that there are five risk factors including health risk, quality risk, time risk, delivery risk and after-sales risks which the customer interested in. The results also showed that three other risk factors, a private risk, social risk and economic risk factors considered less relevant.

In this research, the author prevented test in Vietnam' market with eight risk factors including health risk, after-sale risk, quality risk, private risk, social risk, financial risk, time risk, delivery risk. Through the inspection results and theoretical models for regression analysis results are as follows: In the first regression showed that there are four factors that affect the overall perception risk of the customer in the online shop includes : quality risk private risks, financial risk and after-sales risk. The remaining factors are health risk, time risks, social risks and delivery risk do not affect the overall risk perception of customers in online shopping. Thereby, the risk factors most influence the overall risk perception of customers in online shopping is quality risks (Beta = 0.258); the second influence is the financial risk (beta = 0.257), the third is the

private risk (beta = 0.239) and the lowest is the after-sale risks (Beta = 0.108). The perception risk of online shopping is the problem that the customer is very interested in e-commerce. This study indicates that the online shopping complex is considered a dangerous manner, despite its innumerable benefits. To reduce consumer awareness of online risks and increase affordability, businesses need to grasp the dangers and come up with ways to resolve it quickly.

Results the regression analysis in table 4-9 showed that the overall perception risk of online shopping negatively affects the attitude towards online shopping. Compared to the study by Zhang et al. (2012) in the Chinese market and Pi & Singruang (2011) in the Taiwan market. General perception risk in online purchases is negatively influenced by the attitude towards the customer's purchasing. This suggests that the risk when buying online is always a big problem that all customers are interested.

Results the regression analysis in table 4-10 showed that attitudes towards online shopping the same way affect to increase purchase intention. But Othman et al. (2012) have shown that there is an emphasis on the importance of the variables in the model theory of planned behavior (TPB) includes attitudes, subjective, self-perception behavior in online shopping. The study analyzes the variables affecting the intended behavior of 313 officers and university lecturers in Jordan. Research models using linear structure to consider the causal relationship suit intended behavior theory. The study results showed that attitude no significant direct impact on online shopping intended while subjective norms, and perceived behavioral autonomy significantly affect intended.

That means that not whenever the attitude of customers increases, they also make the decision to purchase. To make a purchase decision, customers

will have to depend heavily on factors such as budget, the needs, the appropriate time...etc.

The research results have practical implications for businesses and marketers in the field of Vietnam's online business. It helps them to have a view on the impact of the perception of risk factors in online shopping behavior of customers. From that basis the factors affecting the perception of risk in order to reduce their customers' online shopping, to attract customers to the website as well as increase enterprise's market share.

All the results of hypotheses summarized in the Table 5.1 below:

Table 5.1 Results of All Hypothesis

Hypotheses	Hypothetical relationship	Results
H1: There is a positive influence on perception health risk of customers on online shopping	+	Rejected
H2: There is a positive influence on perception quality risk of customers on online shopping	+	Supported
H3: There is a positive influence on perception private risk of customers on online shopping	+	Supported
H4: There is a positive influence on perception financial risk of customers on online shopping	+	Supported
H5: There is a positive influence on perception time risk of customers	+	Rejected
H6: There is a positive influence on perception social risk of customers	+	Rejected
H7: There is a positive influence on perception delivery risk of customers	+	Rejected
H8: There is a positive influence of perception after-sales risk of customers	+	Supported
H9: There is a negative influence of perception risk and attitude toward online shopping	-	Supported
H10: There is a positive influence of attitude toward online shopping and purchase intention	+	Supported

5.3. Solution

Based on the research results shown that the risk factor was the most influence on the overall perception risk of customers in online shopping is

quality risk (Beta = 0.258); The second influence is the financial risk (beta = 0.257), the third is the private risk (beta = 0.239), the fourth is after-sale risks (Beta = 0.108). The main risk of this perception has a direct impact on attitudes towards online shopping customer and indirect impact to purchase intention procurement their online.

Therefore, solutions that businesses need to focus on reducing the perception risk of customers in online shopping is the mitigation measures, quality risk, financial risks and private risk and after-sale risk. Through this research, the author suggests some solution to reduce risks and improve services.

5.2.1.Solution for Quality risk

Risk quality of products and services are the leading concern of customers when shopping online with beta = 0.258. Enterprises need to do the following to minimize customer's quality risk:

Besides, the diversification of products in order to attract attention and customers to the website, the provider must have a quality control process on tight firstly. Products/services business enterprises should be the branded product, good warranty and after sales service from the manufacturer. Enterprise product development massively but without the ability to control the quality, it will increase the perceived risk of customers in online shopping. Especially products for men such as technology products, electronics, the quality assurance associated with the authentication source, origin, warranty and product brand is what the online business enterprises to consider when the perception of risk for men in online shopping than women.

The business ads, the ad must be honest in order to create customer confidence when it comes to online shopping sites. Customer must be provided full information on the quality of products on the website, such as color, size,

material, style, warranty, specifications ... Moreover, this information must also go together with product images, vendors should use 3-D images and real images of the product to the customer can be assured more information about the products they buy, reducing the perception of risk in the move and the intention of the customer's purchase. Further help customers reduce risk time for finding information about products.

The online shopping website to be integrated a number of features to reduce the risk perception of the customer. For example, "a discussion forum," "a Corner Comments and feedback ", hosted on the company's website allows users to" exchange ideas, recommendations, and word of mouth about products, companies and websites ", and that is an important mechanism important to reduce risk perception of consumers. The creation of the comment area, customer comments on their website so that customers can secure more information and product quality, while their perception of risk is greatly reduced. This also contributes to enhancing the shopping experience for customers when it comes to online shopping website of the business.

In addition, businesses can apply policies to try the product and return the product within 7 days of use if the product does not meet the expectations of customers, which helps clients can be assured use product and brand trust business website more. It has a positive effect in reducing the concerns of consumers about product quality.

Using the available authentication beliefs are most common today as Safe-web, Truth marks, "Nganluong"...authenticated by a third party in order to increase customer confidence in product quality, service quality on sale website their customers, reduce risk in customer perception. Brand Safe-Web is 3rd party evaluation of these factors on a most objective way based on 5 principles of its activities (including building trust, protection of personal information, the implementation of concluding contracts, advertising honestly, to settle

complaints). It also creates the prestige to attract potential customers to the website of your business.

In fact, in the world suggest that the endorsement of the third party reputation, also known as "trust mark" impact greatly affect a customer's confidence when shopping at a website. In Vietnam, each case fraudsters themselves have established websites for sale products very cheaply to scam buyers a very easy way. Therefore, there should be 93% of online purchases that "trust mark" has a huge impact on their decisions and only 75% of consumers shopping at sites with "trust mark". So now, the website of authenticated by the above organizations have great significance in reducing the risk perceptions of customers in online shopping.

As reported by "Cyber-Source" and "Truste", the website increase sales by 15-30% after the equipment "trust mark", customers are willing to buy expensive than the 5% mark in the trust websites than pages this website is not an endorsement. Trust mark helps the customer peace of mind and added incentive procurement, particularly useful for small businesses to compete with larger businesses. Do this well, it will contribute positively to reducing risks in the perception of quality of customer purchases, will purchase and ongoing purchases on the corporate websites. It has a positive impact on the attitudes and intentions of customers.

5.2.2.Solution for Financial Risk

To reduce customer awareness of financial risks major online shopping, enterprises need to take the following issues:

Guide and encourage customers to use the form of payment guarantee and safer through the intermediary payment system in the form of the electronic wallet. It is designed to protect the buyer in the form of payments on hold and trust-mark certification prestige sales website. And must propaganda for

shoppers know, let they will not take any charges when using this secure payment.

Enterprises should build their website insurance mechanism that customer funds to pay for such products when there is a risk that in order to create peace of mind for customers when dealing with customers of your business website. Guaranteed payments should also be concerned with e-mail marketing. The size of this risk is usually considered as one of the main concerns of online shoppers, although the payment system has been developed and has received customer acceptance of online shopping in the segment Hanoi market.

To propagate and encourage customers to use other forms of delivery of these sites had participated "shipchung.vn" network of e-commerce association. This form of delivery depository or otherwise payment guests pay only when they get the product they need. This mode is suitable for groups of customers prefer to pay by cash on delivery (Cash COD- delivery).

Provide clear information and comprehensive products to customers can better compare. Besides, enterprises should develop policies to price competitive products to attract customers to its website, it also avoid making people worried.

5.2.3. Solution for Private Risk

This study has provided a set of factors are considered affecting the attitudes and intentions of consumers shopping online. Information technology allows consumers to compare benefits and prices ease and accuracy never seen before. To cater to a large number of consumers, online vendors need to reduce risk perceptions among consumers:

To address the risks identified in the study, the supplier can attach the privacy policy on the site to reduce the perception risk of consumers. Due to the perception of online shopping is increasing so awareness of risks in online

shopping will decline. The study highlights that the supplier must ensure network reliability and security of data, it definitely makes the potential customers into regular customers shopping online.

Establish how the use of corporate sales website user-friendly and safe, with high security. Vendors can guide consumers who are affected by security risks on their website, which helps increase the level of consumer confidence, increase purchase intentions customer.

As mentioned above about building website of Safe-Web labeled, it also has great significance in reducing the perceived security risk when online shoppers. Safe-Web addition to ensuring compatibility and goods you received the product for sale on the website, but also ensure other interests of consumers, such as the right to protection of personal information that you have saved during the online transaction or resolve complaints and claims in the event of a dispute occur.

5.2.4. Solution for After-sale Risk

To reduce the perception of risk for customers after the sale, the enterprise should perform the following issues:

Be informed of the commitment, the after-sales policy of the enterprise clearly on the website. Must strictly implement commitments and after-sales policy that has now set out to build trust with customers.

Online business enterprise to ensure the interests of customers, specifically to work with the supplier/manufacturer of prestige, with warranty, after sales service and clear; must contain binding commitments for product warranty for customers to manufacturers ... in order to avoid the risk of the customer perception that most often do not get the good after-sales services when making online purchases.

The commerce site should be emphasized refund policy and provide good service for consumers to enhance and support the buying experience positive shopping on the Internet.

5.3. The Strategies for Reducing Customer's Perception Risk in Online Shopping

The strategy is presented in the Table 5.2 can be combined at the same time, depending on the capacity of businesses and the defects are in the online business website to be able to reduce the perception risk of the customer to the website and enterprise. From there, help trader can entice customers to visit their website as well as increasing market share, expansion of the business market in fierce competition phase current.

Table 5.2 The Strategies for Reducing Customer's Perception Risk

Perception Risk	Strategies
Quality Risk	Change product policy; refund guarantee; guarantee of payment; product search tool on the website of the business; sales promotion; Local suppliers; word of mouth from family, friends or word of mouth - to comment on the internet; website promotion reputation; creating brand loyalty
Financial Risk	Guaranteed refund; payment security; pricing policies; resolve questions directly with salespeople
Private Risk	Guaranteed refund; guarantee of payment; previous experience in online shopping; security policy, labeled Trustmark.
Health Risk	Announcing the inspection records and safety certification, product quality, health and safety consulting for the product.
After-sale Risk	Sales promotion; enhance the website's reputation; Local suppliers; guaranteed refund, exchange of products; resolve the questions directly with salesperson.

5.4. Limitation and Future Research Direction

Limitations of the subject lie in the scope of the study, the only subject surveyed perceived risk and its influence on attitudes and intentions in the

online shopping customer at City area. Hanoi, but not on a large scale survey in provinces and cities nationwide.

The topics had just studied affect the relationship between perception risk and attitudes towards online shopping and increasing purchase intention without affecting other factors. Meanwhile perceived benefits also affect the attitudes and intentions of customers in online shopping. Hence, the next research direction is open to study the effects of perceived benefits and perceived risks to the attitudes and intentions of customers in online shopping in all provinces and cities in Vietnam. The level of confidence in online shopping depends heavily on consumer awareness activities are conducted through the Internet. Although today, the Internet offers great benefits for consumers but some other views that the Internet also hides a lot of risk. Customers online purchasing decisions because they believe in the benefits of used it. Forsythe et al. (2006) stated that mimic cognitive benefits of what customers get from shopping online. Perception benefits of online shopping have been determined from customer' satisfaction measurement about products/services offers. Also as Kim et al. (2008), they indicated that cognitive benefits is considered a positive confidence of consumers for online transactions than other online transactions. The benefits of online shopping have an intimate relationship with the attitude and intention to purchase (Jarvenpaa & Todd, 1996). Researchers have listed a number of different interests combined, with the intent to influence online such as shopping convenience, various selection, easy for buying. From there, we can see cognitive benefits is a critical factor, among other factors in order to assess, lifts intent, the attitude of customer purchases.

I hope that, with this proposal would open up future research orientation of the market in Vietnam in general and Hanoi in particular markets.

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APPENDIX

Appendix A: English Questionnaires

Dear Respondents

This questionnaire is to investigate of customer's problem when they buy something on the Internet. Therefore, we are anxious to understand better that problems. From that we can give some solutions to increase quality to safe for customers.

You have been chosen as one of person who interested respondents for this study. We will give prominence to your opinions about this issue. We sincerely invite you to spend a few time about 10 minutes to finish questionnaire below. Make sure personal information will be no public and your answer will be kept in strict confidentiality. Your help is big advantage for this research and understanding about this issue in the future. We do evaluate your cooperation.

Thank you

Sincerely Yours,

Section I. Personal Information

Q1: Gender

 1. Male

 2. Female

Q2: Age

 1. Under 25

 2. 26-35

 3. 36-45

 4. 46-55

 5. Above 55

Q3: Education

 1. High school and lower

2. Vocation School

3. College school

4. Bachelor degree

5. After Bachelor

Q4: Occupation

1. Supervisor

2. Executive Staff

3. Sale Employee

4. Students

5. Staff of Technical

6. Sale/Household

7. Others

Q5: Annual Income (VND)

1. Under 3M

2. 3.1M-5M

3. 5.1M-7M

4. 7.1M-10M

5. More than 10M

Q6: Current Relationship

1. Single

2. Married

Section II. Measurement of Variances

1. Strongly disagree

2. Don't agree

3. Neutral

4. Agree

5. Strongly Agree

Q1: Health Risk Scale (HR)

Questions	Measurement				
Using computer prolong to buy products/ services online affect my health (eyes, skin face, brain…)	1	2	3	4	5
Online shopping in prolong make me feel fatigue and lead to vision loss.	1	2	3	4	5
The purchase of counterfeit goods affecting my health	1	2	3	4	5
It makes me irritable during return or repair the product	1	2	3	4	5
The loss of online shopping put pressure on me (irritability, anxious, bad mood…)	1	2	3	4	5

Q2: Quality Risk Scale (QR)

Questions	Measurement				
Shopping online can buy fake goods	1	2	3	4	5
The real quality of the product maybe not as described, advertised	1	2	3	4	5
I am concerned products in the online shop can be not meet required and expectations of mine	1	2	3	4	5
Online shopping cannot get a good review of the quality of products	1	2	3	4	5

Q3: Private Risk Scale (PR)

Questions	Measurement				
Online shopping, my phone number can be abused others	1	2	3	4	5
Online shopping, my email address may be abusing others	1	2	3	4	5
My credit card can be stolen by others	1	2	3	4	5
My personal information may be disclosed to other companies	1	2	3	4	5

Q4: Financial Risk Scale (FR)

Questions	Measurement				
Use online payment service will be charged extra	1	2	3	4	5
Service delivery will be charged extra	1	2	3	4	5
The price of product is higher than market prices.	1	2	3	4	5
I feared might lose money when paid but did not receive the product	1	2	3	4	5

Q5: Time Risk Scale (TR)

Questions	Measurement				
If the product has a problem, the exchange with the seller and the service requires time-consuming	1	2	3	4	5
I will take a long time if the seller does not deliver as promised	1	2	3	4	5

Quality poor service delivery, delivery will take more time	1	2	3	4	5
The return of products through many stages, It will take more time	1	2	3	4	5

Q6: Social Risk Scale (SR)

Questions	Measurement				
Online shopping will affect my family or friends (fake, outstanding…)	1	2	3	4	5
Online products may not be accepted by my family or friends	1	2	3	4	5
Online shopping can reduce my assessment by the impact of others	1	2	3	4	5

Q7: Delivery Risk Scale (DR)

Questions	Measurement				
Service delivery can make the product easy to lose	1	2	3	4	5
Service delivery can make perishable products	1	2	3	4	5
Service delivery can lead to the wrong delivery address	1	2	3	4	5

Q8: After-sale Risk (ASR)

Questions	Measurement				
If the product has a problem, it is difficult get immediately the intervention of the seller	1	2	3	4	5
Difficult to resolve disputes about product/ services in online shopping when they have a problem (fake, knockoff…)	1	2	3	4	5
Buying products online have no the assurance of after-sales service	1	2	3	4	5

Q9: Perception Risk Scale (PR)

Questions	Measurement				
Online shopping involves a high level of risk	1	2	3	4	5
There is a high risk that the expected benefits of online shopping will not come true	1	2	3	4	5
In general, I always consider buying online is risky	1	2	3	4	5

Q10: Attitude toward Online Shopping (ATT)

Questions	Measurement				
In general, the attitude towards my online shopping is positive	1	2	3	4	5
Online shopping is an attractive alternative to traditional buying	1	2	3	4	5
I believe the benefits of online shopping outweigh the risks involved	1	2	3	4	5

Q11: Purchase Intentions Online Shopping (PI)

Questions	Measurement				
I will support the online shopping more	1	2	3	4	5
I will be shopping online instead of traditional buying	1	2	3	4	5
I will use the web to buy a product / service	1	2	3	4	5
Purchasing a product / service online is what I will do when I have demands.	1	2	3	4	5