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BARRIERS TO ONLINE SHOPPING AMONG GENERATION X: A MALAYSIAN PERSPECTIVE

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DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 8865 .

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DEDICATION

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LIST OF ABBREVIATIONS

3D	Three-dimensional
ANOVA	Analysis of Variance
DR	Delivery Risk
DV	Dependent Variable
FR	Financial Risk
Gen X	Generation X
H	Hypothesis
IV	Independent Variable
MLR	Multiple Linear Regression
OSI	Online Shopping Intention
PR	Product Risk
PSR	Privacy and Security Risk
SAS	Statistical Analysis Software
TR	Time Risk
VIF	Variation Inflation Factors

PREFACE

The development of e-commerce and popularization of Internet have increased the popularity of online shopping worldwide. Nevertheless, Malaysian consumers are often more skeptical towards online shopping. Consumer typically perceives various risks associated with online shopping. Consumers' perceived risks towards online shopping have to be examined to determine the extent to which they influence consumers' intention to adopt online shopping. Therefore, a study to investigate the influence of consumers' perceived risk on their online shopping intention is imperative. This study is intended to focus on Malaysia context and Generation X who have higher spending power as compared to other generations.

ABSTRACT

Although online shopping is a growing trend in Malaysia, there are still a substantial number of Malaysian consumers who are sceptical towards online shopping and refuse to shop online. This research intends to empirically examine the perceived barriers to online shopping by Generation X in Malaysia. The five factors examined are product risk, privacy and security risk, financial risk, time risk and delivery risk. The data was collected through questionnaire surveys. The results indicate that Generation X's intention to adopt online shopping is significantly and negatively affected by all perceived risk factors investigated in this study. This study is intended to help e-marketers to pinpoint the risks concerned by Generation X and hence risk-reduction strategies can be customized to reduce their concern more specifically. Besides, this study intends to provide another theoretical contribution in understanding factors impeding Generation X in Malaysia from adopting online shopping, fill up the research gap and serve as reference for future researchers.

CHAPTER 1: INTRODUCTION

1.0 Introduction

This chapter presents an introduction of our study which comprises of research background, problem statement, research objectives and research questions. Lastly, significance of the study is discussed as well.

1.1 Background of Study

Online shopping is a form of electronic commerce. It is also known as electronic shopping or internet shopping. Online shopping can be defined as a shopping process whereby consumers buy goods or services directly from the vendors over the Internet (Sohail, 2014).

According to Internet World Stats (2015), the internet penetration in Malaysia as at 30 November 2015 is 67.5%. Due to popularization of internet, online shopping is becoming an increasingly popular mode of shopping in Malaysia. Malaysia had successfully climbed the rank to become top 30th countries in the 2013 Global Retail E-Commerce Index with online attractiveness market score of 36.8% (Nilforoushan, Ben-Shabat, & Moriarty, 2013). Ariff, Sylvester, Zakuan, Ismail, and Mat Ali (2014) also highlighted that Malaysia's online shopping market is expected to grow from RM1.8 million in 2011 to RM5 million by 2015.

Masoud (2013) outlined the reasons for adoption of online shopping as convenience, time-saving, shopping availability for 24 hours, increased choices and avoidance of crowds. In spite of its benefits, perceived risk has always been the barrier to online shopping (Putro & Haryanto, 2015). Perceived risks can be

defined as psychological sensation of uncertainties undergone by a person when a decision is made in a less than certain state (Pi & Sangruang, 2011).

Generation X (or Gen X) is the generation born between 1960 and 1980 (Lynn-Nelson, 2007). Leonsky (2014) stated that Gen X should be marked as marketing target for any business because they are in the peak spending and earning age. According to Wallace (2015), Gen X has higher spending power as compared to other generations. Given this background, it is important to understand the effect of perceived risks on Gen X's intention to shop online.

1.2 Problem Statement

According to Internet World Stats (2015), Malaysia's internet usage has grown sharply from 3,700,000 users in 2000 to 30,513,848 users in 2015. Despite the growing population of internet users and technological advancement, there are a substantial number of Malaysia's consumers who are sceptical towards online shopping and refuse to shop online due to unfamiliarity with unaccustomed internet shopping environment (Vegiayan, Chee, & Harun, 2013). As shown in Forrester report (2010), the sales through online shopping performed by customers represent only a small percentage of 7% of total customer sales (as cited in Almousa, 2014). Horrigan (2008) claimed that 58% of Internet users do not in fact have pleasant online shopping experience (as cited in Dai, Forsythe, & Kwon, 2014). Hence, it indicates that it is necessary to further investigate the perceived risk factors since perceived risk is regarded as one of the factors affecting online purchase intention in Malaysia (Mansori, Cheng, & Lee, 2012).

Various past empirical studies were conducted to investigate barriers to online shopping. In India, the reasons of not buying online are mainly due to touch and feel related factors, financial considerations and service related factors (Pinto, 2013). Pi and Sangruang (2011) stated that perceived risk factors including convenience, physical, performance and social risk, have negative influence on online shopping in Taiwan. Another study conducted in Saudi Arabia by Almousa

(2014) indicated that six types of perceived risk (financial, social, time, privacy, psychological and performance) are significant factors affecting online shopping negatively.

Majority of the past researches were conducted in other Asian countries such as India, China and Taiwan. The findings of the researches done in other countries may not fully applicable in Malaysia context. Furthermore, perceived risk is also often treated as one-dimensional construct instead of multidimensional construct for most of the past empirical studies conducted in Malaysia. The way of how different dimensions of perceived risk operate separately to influence online shopping intention has not been thoroughly investigated. Hence there is a lack of understanding on how different types of perceived risk affect individuals' intention to adopt online shopping in Malaysia. Besides, most of the past studies did not specifically focus on Gen X, either in Malaysia or other countries' context. Thus, the factors affecting Gen X's intention to adopt online shopping are somehow uncertain. Therefore, this study intends to focus on perceived risks which constitute barriers to online shopping among Gen X in Malaysia.

1.3 Research Objectives and Questions

Research Objectives	Research Questions
General:- To find out the dimensions of perceived risk that affect online shopping intention of Generation X in Malaysia.	General:- Which dimensions of perceived risk affect online shopping intention of Generation X in Malaysia?
Specific:- 1) To determine what is the relationship between product risk and Generation X's online shopping intention in Malaysia.	Specific:- 1) What is the relationship between product risk and Generation X's online shopping intention in Malaysia?
2) To determine what is the relationship between privacy and security risk and Generation X's online shopping intention in Malaysia.	2) What is the relationship between privacy and security risk and Generation X's online shopping intention in Malaysia?
3) To determine what is the relationship between financial risk and Generation X's online shopping intention in Malaysia.	3) What is the relationship between financial risk and Generation X's online shopping intention in Malaysia?
4) To determine what is the relationship between time risk and Generation X's online shopping intention in Malaysia.	4) What is the relationship between time risk and Generation X's online shopping intention in Malaysia?
5) To determine what is the relationship between delivery risk and Generation X's online shopping intention in Malaysia.	5) What is the relationship between delivery risk and Generation X's online shopping intention in Malaysia?

Source: Developed for the research

Table 1.1 –Research Objectives and Research Questions

Table 1.1 shows research objectives and research questions in both general and specific term. This research aims to study on how perceived risks influence online shopping intention among Gen X.

1.4 Significance of Study

This study aims to provide theoretical contribution in understanding the present context of online shopping in Malaysia and exploring the factors impeding Gen X from adopting online shopping which has not been thoroughly investigated before. Moreover, this study provides insight into whether perceived risks are able to influence Gen X's online shopping intention. This study, serves as one of the few studies that focus on the direct relationship between various dimensions of perceived risk and Gen X's online shopping intention in Malaysia. It can be used by future researchers who intend to study on the similar studies as reference. This study also intends to fill up the research gap by treating perceived risk as multidimensional construct to provide better understanding on which dimension of risks play a significant role in influencing intention of Gen X in Malaysia to shop online.

This study alerts e-marketers about Gen X's risk perceptions towards online shopping. E-marketers are able to know which dimensions of risk are concerned by Gen X and hence can customize risk-reduction strategies to reduce their concern more specifically. With a better understanding of barriers that influence Gen X's online shopping intention, e-marketers can provide better services to attract more customers. Furthermore, this study allows future e-marketers who intend to set up e-commerce business to get a clearer picture to formulate their business plan.

1.5 Outline of Study

Chapter 1 reveals the background of the study, problem statement, objectives and significance of this study. Chapter 2 illustrates theoretical framework, literature review, research model and also hypotheses developed for this study. Following that, Chapter 3 will discuss on how this research is carried out through research design, sampling design, variables and measurements as well as data analysis techniques used. Next, Chapter 4 presents the interpretation of results of data analysis. Lastly, Chapter 5 explains the key findings, implications and limitations of this study together with recommendation to overcome the limitations of this study.

1.6 Conclusion

Research background, research problem as well as objectives and significances of this research have been illustrated in this chapter. The following chapter will provide a comprehensive literature review and explanation on theoretical foundation of the study.

CHAPTER 2: LITERATURE REVIEW

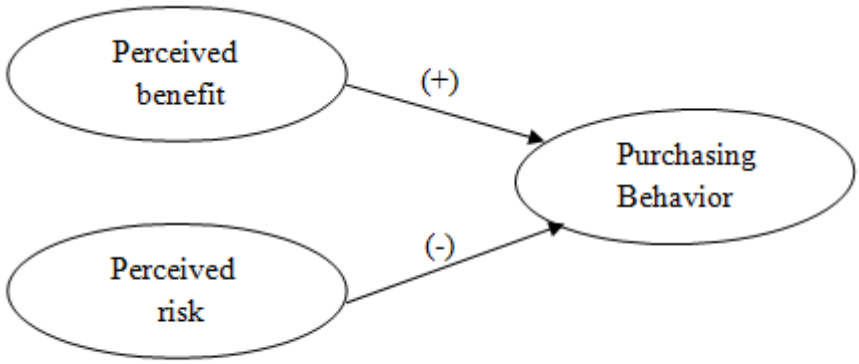
2.0 Introduction

Chapter 2 begins with explanation on the theoretical framework employed and review of past empirical studies for each variable. A proposed conceptual framework and five hypotheses for this study are constructed after the literature review.

2.1 Theoretical Foundation

The theoretical framework used in this study is valance framework. Tarpey and Peter (1975) originated valence framework which has been consistent with Lewin's (1943) and Bilkey's (1953) theories (Kim, Ferrin, & Rao, 2008). Both components of valence framework are the fundamental aspects on purchasing behavior of consumers. Goodwin (1996) stated that the concept of valence framework is primarily derived from literature on economic and psychology (as cited in Kim, Ferrin, & Rao, 2009). It takes both perceived risk and perceived benefit into consideration (Lu, Cao, Wang, & Yang, 2011). Figure 2.1 shows model of valence framework.

Figure 2.1: Valence Framework



Adopted from: Kim, Rao, and Cho (2000)

Table 2.1 Definitions of Perceived Risk and Perceived Benefit

Perceived risk	Perceived benefit
- Perceived risk refers to uncertainty faced by consumers when the consequences of their purchasing behavior cannot be foreseen (Kim et al., 2000). - Perceived risk is described as consumer's belief about the potential uncertainty or possible negative consequences from online transaction. (Kim et al., 2008). - Consumers regard perceived risk as hindrance factor for purchasing behavior (Kim et al., 2000).	- Perceived benefit refers to consumers' perceptions of positive outcome realized through a purchasing behavior (Kim et al., 2000). - Perceived benefit is defined as the extent to which consumers believe that they will become better off through online transaction (Kim et al., 2008). - Perceived benefit acts as impetus factor for purchasing behavior (Kim et al., 2000).

Adapted from: Kim et al. (2000); Kim et al. (2008)

Table 2.1 shows the definitions of perceived risk and perceived benefit in valence framework.

The application of valence framework into field of E-business has been verified by Huang, Li, and Li (2014). Game researchers, Harrington and Hess (1996) and marketing theorists, Tarpey and Peter (1975) have also utilised this theory to obtain understanding of behaviours by integrating simultaneous perception of risk

and benefit (as cited in Kim et al., 2009). Examination of the importance of perceived risk's influence on information systems adoption has been included in empirical research (Bhimani, 1996; Pavlou, 2003; Garbarino & Strahilevitz, 2004) (as cited in Lu et al., 2011). Some previous marketing management studies (Jacoby & Kaplan, 1972; Petter & Ryan, 1976; Zikmund & Scott, 1973) have also signified the importance of the role of risk in customers' online behaviour (as cited in Kim et al., 2000).

According to Tarpey and Peter (1975), valence framework is made up of three basic framework comprising perceived risk framework (negative utility), perceived benefit framework (positive utility) as well as net valence resulting from the combination of both the perceived risk and perceived benefit framework (as cited in Kim et al., 2000). This model proposed that consumers aim to maximize benefit and reduce risk to maximize net valence (Kim et al., 2000). The model is based on the principle that consumers tend to make purchasing decisions based on the perceptions of relevant benefit and risk (Kim et al., 2000).

Although perceived benefits associated with online shopping are significant to a thorough understanding of online shopping behaviour, yet the negative aspects are crucial as well (Masoud, 2013). Despite of multiple perceived benefits to adopt online shopping, consumers perceive a certain level of risk when shopping online as compared with traditional shopping (Masoud, 2013). According to Rajeshwary and Sayed (2012), potential risk factors associated with online shopping that may impede the success of online shopping. The focus on perceived risk constituted an attempt to recognize and examine the perceived risk factors to provide perception on whether these factors are influential to the consumers' willingness to alter purchasing behaviour from the traditional physical store to pure-play online store (Rajeshwary & Sayed, 2012). Hence, this study concentrates mainly on perceived risk instead of perceived benefit. Moreover, the primary concern of the study is on how perceived risks can influence Gen X's online shopping intention in Malaysia. Therefore, perceived benefit will be disregarded in this research.

There is no any agreed set of dimensions of perceived risk in literature on online shopping (Al-Rawad, Al Khattab, Al-Shqairat, Krishan, & Jarrar, 2015). The

empirical study conducted in Malaysia by Ariff et al. (2014) investigated the relationship between four dimensions of perceived risk (product risk, financial risk, delivery risk, time risk) and online shopping behaviour. This study intends to further explore the barriers to online shopping among Generation X in Malaysia by adapting all these four dimensions of perceived risk and one additional factor which is privacy and security risk. This is because privacy and security risk has always been reported as significant barrier to online shopping (Masoud, 2013; Almousa, 2014; Sohail, 2014).

2.2 Review of Prior Empirical Studies

2.2.1 Online Shopping Intention

Online shopping intention is the dependent variable in this study. According to Ajzen and Fishbein (1975), behavioural intention and actual behaviour are strongly correlated, whereby behavioural intention can be used as substitute for actual behaviour (as cited in Talal & Charles, 2011). Besides, it is difficult to objectively measure the extent to which a person engage in certain behaviour (Vijayasarathy, 2004). Furthermore, a number of theorists (Ajzen & Fishbein, 1975; Fisher & Fisher, 1992; Gollwitzer, 1993; Triandis, 1977) have proposed the concept that intention to perform certain behaviour, rather than attitude, is the actual behavioural performance's closest cognitive antecedent (as cited in Ajzen & Fishbein, 2005). Therefore, online shopping intention is chosen as surrogate for online shopping behaviour and consumers' attitude towards online shopping.

Mansori et al. (2012) attested that online shopping intention is actually derived from purchasing intention. Purchase intention is an individual's cognitive state that reflects his or her intention to buy (Close & Kurka-Kinney, 2010). Online shopping intention refers to consumers' intention and desire to purchase products or services from the virtual stores via the

Internet (Putro & Haryanto, 2015). It also reveals consumers' readiness to involve in and complete online purchase transaction (Mansori et al., 2012). An individual with online shopping intention is said to have intention to use virtual shopping cart to buy things during online shopping session (Close & Kurka-Kinney, 2010). An individual's intention to purchase or not to purchase online is the immediate determinant of that person's actual online shopping behaviour (Ariff et al., 2014).

2.2.2 Product Risk

Product risk is also known as performance risk, whereby the purchased product's performance falls below the intended performance level (Dai et al., 2014). It also refers the potential of buying the item that does not meet consumers' expectation. According to Masoud (2013), product risk arises because consumers are unable to examine the physical goods, just relying upon the limited information and picture provided over the websites.

Chen and Lu (2015) investigated factors influencing the intention of online group-buying, consisting social, individual and psychological. To collect data, web-based survey was adopted and a sample of 650 online group buyers in Taiwan was attained. Using Structural Equation Modelling, the findings indicated that psychological factors (financial risk, performance risk, and social risk) negatively affect online group-buying intention.

The study conducted by Cemberci, Civelek, and Sözer (2013) showed perceived product risk affects intention to online shopping negatively. Investigated factors include risk perceptions (product risk, financial risk), technology acceptance factors (usefulness and ease of use) and benefit perceptions (product selection, shopping flexibility and shopping convenience). Data was collected from 406 undergraduate students in Istanbul's private university using survey questionnaires and were analyzed using multiple regression analysis.

Dai et al. (2014) examined the effect of online shopping experience on perception of risks and intention to purchase online. The variables investigated were product risk, financial risk and privacy risk. Online survey was employed and 336 responses from college students were obtained. The result from structural equation modelling highlighted that product risk negatively affects consumers' intention to purchase online.

2.2.3 Privacy and Security Risk

Privacy and security risk refers to the potential loss or misuse of personal information by others for other purposes (Zhang, Tan, Xu, & Tan, 2012). Uncertainty is perceived by consumers whereby they are uncertain on how their personal information is handled and have no idea on the accessibility of their information by others (Masoud, 2013).

Zhang et al. (2012) examined the impact of 8 dimensions of consumer perceived risk (social, economic, privacy, time, quality, health, delivery and after-sale) on their online purchasing behaviour. 388 usable responses were collected in the form of questionnaire survey and were analyzed using structural equation model. Respondents were randomly chosen from white-collar, blue-collar and college students with most of them are from ShenZhen, China. The findings indicated that perceived privacy risk has negative but insignificant relationship on online purchasing behaviour.

The study conducted by Obeidat (2015) explored factors influencing online shopping intention of undergraduate students in Jordan. Four investigated factors include online privacy, web design, perceived ease of use and perceived usefulness. Data was collected from 520 undergraduate students by using online questionnaires. Employing regression analysis,

the result showed the relationship between privacy concern and online shopping intention is negative but insignificant.

Liao, Liu, and Chen (2011) studied the impact of trust, privacy and risk perception on online transaction. The variables examined were internet literacy, privacy concern, trust, perceived risk, social awareness and disposition to trust. 459 valid questionnaires were collected from individuals in Taiwan using survey questionnaires. Using partial least square regression, the finding showed that privacy concern is negative associated with intention to transact online.

2.2.4 Financial Risk

Financial risk is also known as monetary risk. It refers to the potential of suffering financial loss due to credit card fraud and also difficulty in getting refund from e-marketers (Suresh & Shashikala, 2011). Zhang et al. (2012) took into account the likelihood of subsequent cost to maintain the product as part of financial risk.

The study of Khan, Liang, and Shahzad (2015) aimed to examine how perceived risks (product, financial and delivery) and perceived benefits (price, product information, return policy and convenience) affect consumers' satisfaction on intention to repurchase in online stores. 302 surveys were collected from university students and office workers using questionnaire survey, mail survey and email survey. The hypotheses were tested by multiple regression analysis. Results indicated perceived financial risk affects customer satisfaction on online repurchase intention significantly and negatively.

Javadi, Dolatabadi, Nourbakhsh, Poursaeedi, and Asadollahi (2012) had analysed factors influencing consumers' attitude towards online shopping in Iran, namely, non-delivery risk, convenience risk, financial risk, product

risk, infrastructural variables and return policy. The researchers had applied regression analysis for 107 usable questionnaires collected from consumers of 5 online stores of Iran. The study revealed financial risk affects consumers' attitude toward online shopping negatively.

In addition, Cemberci et al. (2013) had proved perceived financial risk affects intention to online shopping negatively and significantly. Investigated factors include perceived risks (product risk, financial risk), technology acceptance factors (usefulness and ease of use) and perceived benefits (product selection, shopping flexibility and shopping convenience). Data was collected from 406 undergraduate students in Istanbul's private university through questionnaire survey and were analysed using multiple regression analysis.

2.2.5 Time Risk

According to Masoud (2013), time risk refers to inconvenience resulting from difficulty in submission of order or delay in receiving the product. Furthermore, it relates to time wasted for finding favourable online shopping website, information searching and transaction processing (Pi & Sangruang, 2011).

Claudia (2012) studied about perceived risks involved when buying over internet. A semi-structured interview was employed in this study. The researcher had interviewed a total of 30 internet users who have bought any products or services online within the past three months. The result proved that consumer fear of time losing for searching, ordering and waiting for product to be delivered in the case of buying online.

Moreover, Almousa (2014) studied the effect of perceived risks (financial, social, time, privacy, psychological and performance risk) by Saudi Arabian on their online purchasing intention. A total of 320 usable data

was collected from 1200 students in Saudi Arabia through online surveys. The survey's results, analysed using structural equation model, revealed time risk affects consumers' intention to purchase online negatively.

In contrast, Masoud (2013) proved that time risk has negative but insignificant effect on online shopping in Jordan using structural equation model. The influence of perceived risks (product, delivery, time, financial, social and information security risk) on online shopping in Jordan was explored in this study. From 600 questionnaires distributed to online shoppers in Jordan, 395 usable questionnaires were attained, with response rate of 65.83%.

2.2.6 Delivery Risk

Delivery risk refers to potential for the product ordered to be lost during shipment or being delivered to wrong person or wrong place and product damage (Zhang et al., 2012). In addition, consumer fear that delivery will be delayed and the goods may be damaged during handling and transportation (Claudia, 2012).

Khan et al. (2015) studied about how risk perceptions (product, financial and delivery) and benefit perceptions (price, product information, return policy and convenience) affect consumers' satisfaction on re-purchase intention in online stores. The data collection methods used were questionnaire survey, mail survey and email survey. 302 surveys were collected from university students and office workers. The hypotheses were tested using multiple regression analysis. Results indicated perceived delivery risk affects customer satisfaction on online repurchase intention significantly and negatively.

Ariff et al. (2014) had investigated whether consumers' perceived risk (product, financial, convenience and delivery risk) directly influences

users' attitude towards online purchasing. To collect data, the researchers employed wed-based survey. 300 questionnaires filled by the online shoppers of Malaysia's largest online marketplace were collected. Employing multiple linear regression, the result showed non-delivery risk affects consumers' attitude towards online shopping negatively.

The study conducted by Javadi et al. (2012) aimed to analyze how perceived risks (financial, product, convenience and non-delivery risk) affect attitude of consumers in Iran towards online shopping. The researchers had applied regression analysis for 107 usable electronic questionnaires collected from consumers of 5 online stores of Iran. The study revealed non-delivery risk affects consumers' attitude towards online shopping negatively.

2.3 Proposed Conceptual Framework

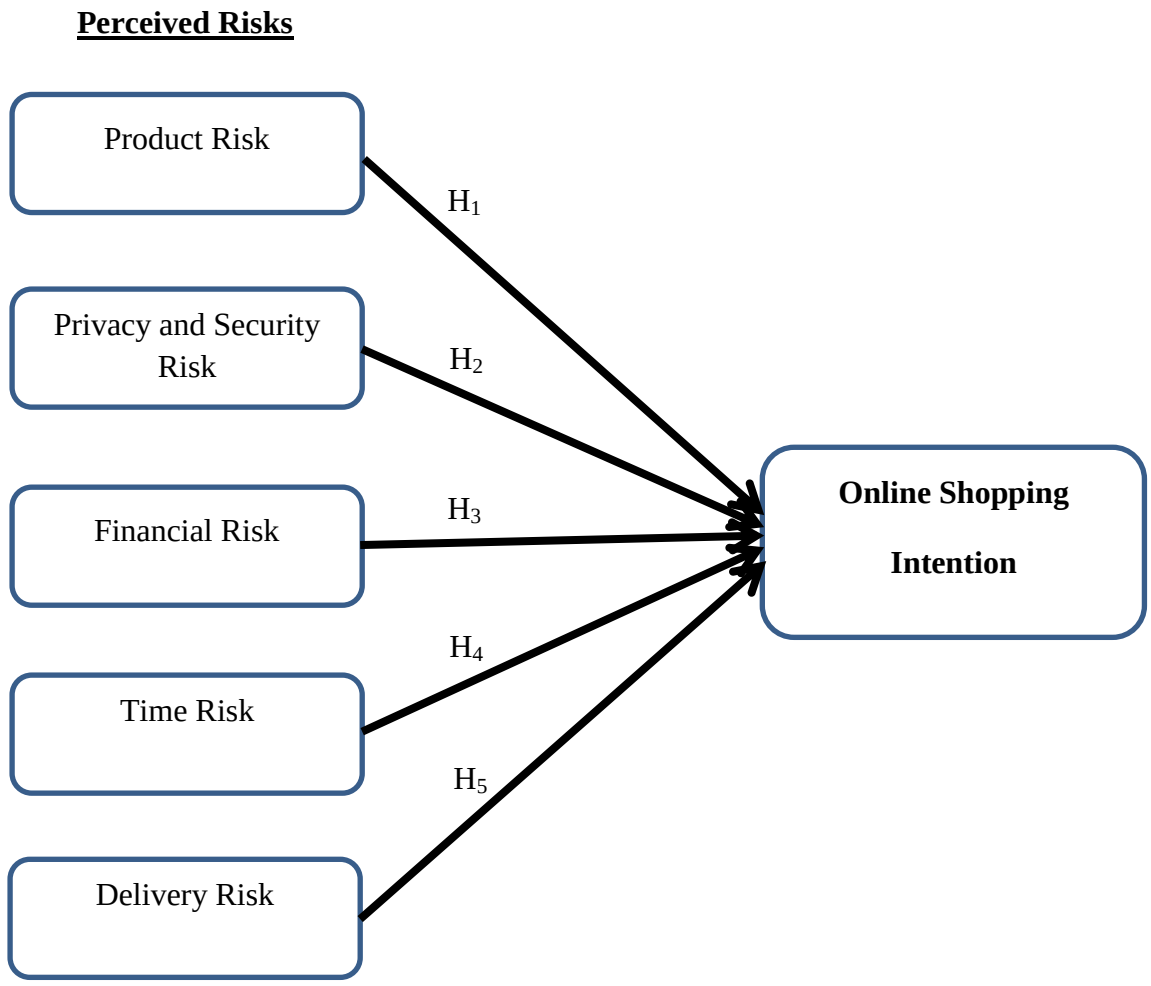


Figure 2.2: Relationship between Perceived Risks and Online Shopping Intention

Adapted from: Ariff et al. (2014).

Figure 2.2 shows the relationship between perceived risks and online shopping intention. The independent variables of this study comprise of five types of perceived risk namely product risk, privacy and security risk, financial risk, time risk and delivery risk. The dependent variable of this study is online shopping intention.

2.4 Hypotheses Development

Based on the review on past empirical studies, five (5) hypotheses have been developed for this study as shown:

H_1: There is a negative relationship between product risk and consumers' online shopping intention.

H_2: There is a negative relationship between privacy and security risk and consumers' online shopping intention.

H_3: There is a negative relationship between financial risk and consumers' online shopping intention.

H_4: There is a negative relationship between time risk and consumers' online shopping intention.

H_5: There is a negative relationship between delivery risk and consumers' online shopping intention.

2.5 Conclusion

In conclusion, a proposed research model and five hypotheses have been developed for this study after a comprehensive review of prior empirical studies. Next, research methodology will be discussed in chapter 3.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

Chapter 3 describes how this research is conducted. Research design, sampling design, data collection method, variables and measurements as well as data analysis techniques used are described comprehensively in this chapter.

3.1 Research Design

Quantitative research is used in this study to examine the relationship between the numerically measured variables comprising of perceived risk factors and the online shopping intention among Gen X in Malaysia by utilising statistical description, hypotheses testing and facts establishment (Castellan, 2010). Cross sectional research approach is adopted to study a phenomenon at a given point of time, for which the data is collected for only once. This method benefits the researcher in terms of its efficiency since there is no follow up and the cost is low by virtue of less resource consumption (Mann, 2003).

Survey research strategy is used for its inexpensive cost and efficient as recommended by Kelley, Clark, Brown, and Sitzia (2003). The target population for this study is Gen X residing in Malaysia. Self-administered questionnaire have been distributed to and collected back from the target respondents. This method incurs low cost, enables large amount of data to be collected within short period of time and provides the benefit of personal contact (Akbayrak, 2000).

3.2 Population, Sample and Sampling Procedures

The target population for this research is Gen X in Malaysia, who was born in year 1960-1980 (Lynn-Nelson, 2007). According to a survey conducted by A.C. Nielsen on online shopping habits in Malaysia in 2010, 87 percent of Gen X has used Internet to perform various online activities. It also reveals that those in their thirties constitute the highest percentage (37.1%) of online shoppers as compared to other age groups. Apparently, Gen X, with higher income earning ability, represents the dominant users for online purchasing (Arasu & Annamalai, 2011). Hence the study of main barriers influencing Gen X's online shopping intention and decisions is probably useful in improving the commercial element of online shopping in Malaysia. Table 3.1 below shows the number of Gen X in five respective chosen States.

Table 3.1 Top Five States in West Malaysia with Highest Population of Gen X

States	**Number of Gen X**
Selangor	1,327,984
Johor	813,762
Perak	568,075
Kedah	467,604
Kuala Lumpur	435,575
Total	3,613,000

Adapted from: Department of Statistics Malaysia (2010)

This study targets at Gen X in Selangor, Johor, Perak, Kedah and Kuala Lumpur. These States are chosen because they are the five States in West Malaysia with highest population of Gen X (Refer to Table 3.1). Adoption of sampling method is feasible in this study since surveying on the entire population is constrained by practicality, budget and time resources. Hinkin (1998) suggested that an ideal sample size should possess item-to-response ratios, as low as 1:4 and as high as 1:10. A total of 30 items, using the ratio of 1:4 and 1:10, sample size of 120 to 300 is preferable. The desired sample size for this study is 250.

Since sampling frame is not available, non-probability sampling is utilized. This research employs convenience sampling technique and the sampling process is carried on till the desired sample size is obtained. With convenience sampling, the drawn samples are those who are conveniently accessible and willing to participate in this research (Teddlie & Fen, 2007). Convenience sampling is employed due to its convenience, cost effectiveness and less time consuming (Schonlau, Fricker, & Elliot, 2001).

3.3 Data Collection Method

Target respondents of this study are Gen Xers aged between 35 to 55 years old (as at 2015) from top five States in West Malaysia with highest population of Gen X as shown in Table 3.1. Distribution of the questionnaire is based on self-delivery and self-collection approach to ensure quick respond to respondents' enquiries and easy recognition of Gen Xers to minimize respond error. 350 sets of questionnaires were distributed from 30 September 2015 to 4 October 2015 in public areas of respective States such as shopping malls and food courts. 250 sets of questionnaire were expected to be collected back from the surveyed respondents, with a response rate of around 71%.

According to Fink (2003), at least 10 sets of questionnaires are required for a pilot test. Before the primary data was collected, 50 sets of questionnaires were distributed to target respondents in Perak State for pilot testing. Pilot test is required to be conducted before the actual data collection to examine the reliability and validity of the questionnaire.

After the actual data collection, 270 sets of questionnaire were distributed to and collected from the target respondents. Of these responses, 11 sets of questionnaire were not usable due to their incompleteness. This gives rise to a response rate of 77%.

3.4 Variables and Measurement

Independent variables of this study are made up by five types of perceived risk, namely product risk, privacy and security risk, financial risk, time risk and delivery risk, whereas dependent variable is online shopping intention.

Table 3.2: Definitions and Sources for Independent Variables and Dependent Variable

Variables	Definition	Sources
Product Risk	The possibility of product malfunctioning or the product performance is not as expected or as advertised.	Almousa (2014)
Privacy and Security Risk	The possibility that the personal information is used without permission.	Zhang et al. (2012)
Financial Risk	Potential loss of money arising from difficulty in getting money return, as well as in the form of initial purchase price and hidden costs.	Suresh & Shashikala, (2011); Almousa (2014)
Time Risk	Time spent on purchasing the product, waiting the product to arrive or potential loss of time in the case of poor product choice.	Pi & Sangruang (2011) ; Claudia (2012)
Delivery Risk	The possibility that the delivery will not be performed on time or the product is lost, damaged or sent to the wrong place.	Zhang et al. (2012)
Online Shopping Intention	Consumers' willingness and intention to adopt online shopping.	Putro & Haryanto (2015)

Source: Developed for the research

Table 3.2 above shows the definitions of independent variables and dependent variable of this study.

The questionnaire for this study comprises of 30 items, with 25 items for 5 independent variables and 5 items for dependent variable. All perceived risks items were either adopted or adapted from Suresh and Shashikala (2011), Javadi et al. (2012), Zhang et al. (2012), Masoud (2013) and Dai et al. (2014), On the other hand, 5 items for online shopping intention were adapted from Lee and Bich Ngoc (2010) Wen, Prybutok, and Xu (2011) and Chen (2012).The reason of why these items were adopted and adapted from these past empirical studies is due to their high reliability in the Cronbach's Alpha test performed by respective authors.

Interval scale of measurement, which is 5-point Likert Scale are used to measure all of the question items of independent variables and dependent variable. The target respondents were requested to circle the appropriate Likert scale, ranging from (1) strongly disagree to (5) strongly agree to denote their degree of agreement to the question items in relation to the independent variables and dependent variable. 5-point Likert scale is used in this study instead of 7-point Likert scale. This is because 7-point Likert scale has more options than 5-point Likert scale. Respondents tend to take longer time to make choice among the scales and hence it would take a longer time for respondents to complete the questionnaire if 7-point Likert scale is employed (Pearse, 2011).

3.5 Data Analysis Technique

3.5.1 Descriptive Analysis

Descriptive analysis is used to examine demographic profile of respondents and to measure central tendencies of measurement of each construct. **Frequency and percentage analysis** has been applied to analyse target respondents' demographic profile and the results are presented using tables (Saunders, Lewis, & Thornhill, 2012). **Mean and**

standard deviation for every question item in the survey questionnaire are interpreted.

3.5.2 Scale Measurement

Normality test is conducted to determine whether the data collected is normal distributed. **Skewness and Kurtosis test** has been applied to test normality. The data is considered as normally distributed if skewness is within ± 3 and kurtosis is within ± 10, as proposed by Kline (2005). Reliability test is conducted by using **Cronbach's alpha test** to test the degree of consistency and reliability of the constructs. The Cronbach's alpha value must exceed 0.7 which is the threshold proposed by Nunnally (1978) to ensure the reliability and consistency of the constructs.

3.5.3 Inferential Analysis

Pearson Correlation Analysis is used to examine the strength of correlation between the variables (Toh, Marthandan, Chong, Ooi, Arumugam, & Wei, 2009). Table 3.3 below shows the level of correlation. When p-value is less than 0.05, the relationship between the variables is said to be significant (Carver, 1978). Multicollinearity problem exists when the correlation coefficient is more than 0.9 (Hair, Black, Babin, Anderson, & Tatham, 2005). Hair et al. (2005) suggested there is no multicollinearity problem when tolerance value and Variation Inflation Factors value (VIF) is more than 0.1 and less than 10 respectively.

Table 3.3: Scale on Correlation Strength

Coefficient (*r*)	**Correlation**
-0.29 to -0.10 or 0.10 to 0.29	Weak
-0.49 to -0.30 or 0.30 to 0.49	Moderate
-1.00 to -0.50 or 0.50 to 1.00	Strong

Source: Garcia (2010)

Multiple Linear Regression (MLR) is used to examine the relationship between several independent variables and one dependent variable (Jacob, Patricia, Stephen, & Leona, 2013). There are five independent variables and one dependent variable in this study, therefore MLR is appropriate for this study (Nathans, Oswald, & Nimon, 2012). The relationship between independent variables and dependent variable is said to be significant when p-value is less than 0.05 (Weinberg & Abramowitz, 2002).

3.6 Conclusion

In overall, Chapter 3 illustrates the research methodology adopted in this study. The interpretation of the results of data analysis will be presented and explained in the subsequent chapter.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

The usable data collected from 259 respondents was interpreted using SAS Enterprise 5.1. This chapter presents outcome of pilot testing and results of analysis of actual data.

4.1 Pilot Test

Reliability test was conducted for pilot testing.

Table 4.1: Cronbach's Alpha (Pilot Test)

Variable	Construct	Cronbach's Alpha	Number of items
DV	Online Shopping Intention	0.8778	5
IV1	Product Risk	0.9253	5
IV2	Privacy and Security Risk	0.8262	5
IV3	Financial Risk	0.7570	5
IV4	Time Risk	0.8365	5
IV5	Delivery Risk	0.8678	5

Source: Developed for the research

As shown in Table 4.1, the Cronbach's alpha value falls within the range of 0.7570 and 0.9253. It can be concluded that all the constructs are reliable and consistent as each value of Cronbach's alpha is more than the minimum level of 0.7 (Nunnally, 1978).

4.2 Descriptive Analysis

4.2.1 Demographic Profile of Respondents

The demographic profile of the respondents is presented in this section, including gender, age, ethnicity, current state, educational level, monthly income level and online shopping experience. 259 sets of questionnaires are usable.

Table 4.2: Gender of Respondents

Gender	Frequency	Percent (%)
Male	118	45.56
Female	141	54.44
Total	259	100.00

Source: Developed for the research

According to Table 4.2, out of 259 respondents, there are 118 males respondents (45.56%) and 141 females respondents (54.44%).

Table 4.3: Age of Respondents

Age Group	Frequency	Percent (%)
35 to 39 years old	93	35.91
40 to 44 years old	51	19.69
45 to 49 years old	66	25.48
50 to 54 years old	49	18.92
Total	259	100.00

Source: Developed for the research

Table 4.3 demonstrates the frequency and percentage of five age groups of the respondents. As shown in Table 4.3, the most represented age group is 35 to 39 years old with 93 respondents (35.91%), second, 45 to 49 years old with 66 respondents (25.48%) and then 40 to 44 years old with 51

respondents (19.69%). The least represented age group is 50 to 54 years old (18.92%).

Table 4.4: Ethnicity of Respondents

Ethnicity	Frequency	Percent (%)
Malay	55	21.24
Chinese	151	58.30
Indian	52	20.08
Others	1	0.39
Total	259	100.00

Source: Developed for the research

Table 4.4 presents the frequency and percentage of four ethnicity groups of the respondents. Referring to Table 4.4, among 259 respondents, there are 151 Chinese (58.30%), 55 Malay (21.24%), 52 Indian (20.08%) and only 1 respondent (0.39%) is from other ethnicity. The result indicates that majority of the respondents are Chinese.

Table 4.5: Respondents' Current State

States	Frequency	Percent (%)
Selangor	91	35.14
Johor	51	19.69
Perak	55	21.24
Kuala Lumpur	37	14.29
Kedah	25	9.65
Total	259	100.00

Source: Developed for the research

Table 4.5 shows the frequency and percentage of respondents' current states. Among five states, Selangor scores the highest frequency of 91 respondents (35.14%), followed by Perak with 55 respondents (19.69%) and Johor with 51 respondents (19.69%). The remaining 72 respondents are from Kuala Lumpur and Kedah, of which 37 of them (14.29%) from Kuala Lumpur and 25 of them (9.65%) from Kedah.

Table 4.6: Education Level of Respondents

Education Level	Frequency	Percent (%)
Primary School	16	6.18
High School	83	32.05
Diploma	52	20.08
Degree	94	36.29
Master and above	14	5.41
Total	259	100.00

Source: Developed for the research

Table 4.6 illustrates the frequency and percentage of 5 different educational levels of respondents. As shown in Table 4.6, 94 respondents (36.29%) possess bachelor degree, 83 respondents (32.05%) achieved high school education level and 52 respondents (20.08%) are diploma holders. Meanwhile, 16 respondents (6.18%) possess primary school education. The least represented education level is Master and above, with only 14 respondents (5.41%).

Table 4.7: Monthly Income Level of Respondents

Monthly Income Level	Frequency	Percent (%)
Less than RM1000	25	9.65
RM 1,001 – RM 3,000	91	35.14
RM 3,001 – RM 5,000	97	37.45
Above RM 5,001	46	17.76
Total	259	100.00

Source: Developed for the research

Table 4.7 exhibits the frequency and percentage of respondents' monthly income levels. Table 4.7 indicates that 37.45% (97 respondents) of the respondents earn monthly income of RM3,001-RM5,000, following that, the category of RM1,001-RM3,000 which comprises 35.14% (91 respondents). 17.76% (46 respondents) of the respondents earn above RM 5,001 per month and 9.65% (25 respondents) have monthly income of less than RM 1,000.

Table 4.8: Respondents' Online Shopping Experience

Online Shopping Experience	Frequency	Percent (%)
Yes	172	66.41
No	87	33.59
Total	259	100.00

Source: Developed for the research

Table 4.8 demonstrates the frequency and percentage of online shopping experience of the respondents. Table 4.8 depicts that 172 (66.41%) of the respondents had experienced online shopping before whereas the remaining 87 (33.59%) respondents do not have experience of online shopping. It indicates more than quarter of the respondents does not have any experience of online shopping.

4.2.2 Central Tendencies Measurement of Construct

Table 4.9: Central Tendencies Measurements of Construct

Variables	Items	Mean	Std. Deviation
Product Risk	PR1	4.2741	0.6976
	PR2	4.2355	0.7590
	PR3	3.9884	0.7700
	PR4	3.9691	0.9313
	PR5	4.0502	0.8986
Privacy and Security Risk	PSR1	4.0348	0.8597
	PSR2	4.0039	0.8957
	PSR3	3.9884	0.8282
	PSR4	3.9344	0.9315
	PSR5	3.9846	0.9358

Financial Risk	FR1	3.6602	0.9924
	FR2	3.5907	1.1008
	FR3	4.1081	0.8693
	FR4	3.8958	0.9527
	FR5	4.2510	0.7693
Time Risk	TR1	3.4170	1.1049
	TR2	3.4209	1.2250
	TR3	3.4054	1.2207
	TR4	3.7915	1.0832
	TR5	4.0309	1.0034
Delivery Risk	DR1	3.8378	0.9425
	DR2	3.8378	0.9425
	DR3	4.0193	0.9127
	DR4	4.0463	0.8340
	DR5	3.9768	0.9062
Online Shopping Intention	OSI1	2.3784	1.0655
	OSI2	2.3861	1.0627
	OSI3	2.0811	0.9261
	OSI4	1.9961	0.8376
	OSI5	1.8571	0.8665

Source: Developed for the research

Table 4.9 shows the means and standard deviations of each of the constructs. The mean values for PR range from 3.9884 to 4.2741, PSR range from 3.9344 to 4.0348, FR range from 3.5907 to 4.2510, TR range from 3.4054 to 4.0309 and DR range from 3.8378 to 4.0463. The mean values of all five independent variables are in the range between 3.4054 and 4.2741, reflected that majority of the respondents are more towards agreed with the items of independent variables. On the other hand, means of dependent variable (OSI), which range from 1.8571 to 2.3861, indicating that majority disagreed with the items of dependent variable.

The values of standard deviation range from 0.6976 to 1.2250. The highest standard deviation falls to the second statement of TR (TR2) with value of 1.2250 whereas the second statement of PR (PR2) scores the lowest standard deviation, which is 0.6976.

4.3 Scale Measurement

4.3.1 Reliability Test

Table 4.10: Reliability Test

Variable	Construct	Cronbach's Alpha	Number of items
DV	Online Shopping Intention	0.8771	5
IV1	Product Risk	0.7828	5
IV2	Privacy and Security Risk	0.8292	5
IV3	Financial Risk	0.7674	5
IV4	Time Risk	0.8671	5
IV5	Delivery Risk	0.8370	5

Source: Developed for the research

Table 4.10 presents the result of reliability test. The Cronbach's alpha for all the variables which ranges between 0.7674 and 0.8771, depicts all the variables are reliable as their Cronbach's alpha coefficients exceed the threshold level of 0.70 as proposed by Nunnally (1978). Among five independent variables investigated, time risk scores the highest Cronbach's alpha value of 0.8671. In contrast, financial risk scores the lowest Conbrach's alpha value of 0.7674.

4.3.2 Normality Test

Table 4.11: Normality Test

Constructs	Items	Skewness	Kurtosis
PR	PR1	-0.9849	1.6025
	PR2	-0.9058	0.7452
	PR3	-0.5962	0.5497
	PR4	-0.5478	-0.6051
	PR5	-0.7773	0.0724
PSR	PSR1	-0.7309	0.2048
	PSR2	-0.7251	0.1760
	PSR3	-0.6385	0.2412
	PSR4	-0.6806	-0.0521
	PSR5	-0.7699	0.1912
FR	FR1	-0.5469	-0.2763
	FR2	-0.5401	-0.5151
	FR3	-0.9963	1.0824
	FR4	-0.6029	-0.3867
	FR5	-1.0300	1.3459
TR	TR1	-0.1703	-0.9546
	TR2	-0.4146	-0.9104
	TR3	-0.2487	-1.0399
	TR4	-0.6462	-0.4445
	TR5	-1.0830	0.7421
DR	DR1	-0.7063	0.0689
	DR2	-0.7623	0.3917
	DR3	-0.8090	0.2507
	DR4	-0.6934	0.2514
	DR5	-0.7416	0.3196
OSI	OSI1	0.4374	-0.7084
	OSI2	0.3891	-0.7246
	OSI3	0.6935	0.1382
	OSI4	0.7651	0.6628
	OSI5	1.0013	1.0637

Source: Developed for the research

Table 4.11 illustrates the skewness and kurtosis value of the constructs. Among those IVs, the greatest skewness value is -0.1703 for TR 1 and the lowest skewness value is -1.0830 for TR 5. On the other hand, the greatest kurtosis value is 1.6025 for PR 1 and lowest kurtosis value is -1.0399 for TR 3. Since the skewness statistics falls within range from -3 and +3 and

kurtosis statics falls within range from -10 to +10 as recommended by Kline (2005), all the constructs are normally distributed.

4.4 Inferential Analysis

4.4.1 Pearson Correlation Analysis

Table 4.12 : Pearson Correlation Analysis

	PS	PSR	FR	TR	DR	OSI
PR	1					
PSR	0.40049	1				
	<.0001					
FR	0.37983	0.57534	1			
	<.0001	<.0001				
TR	0.31758	0.46419	0.52060	1		
	<.0001	<.0001	<.0001			
DR	0.46250	0.54000	0.70344	0.45371	1	
	<.0001	<.0001	<.0001	<.0001		
OSI	-0.41736	-0.55021	-0.60237	-0.51348	-0.58644	1
	<.0001	<.0001	<.0001	<.0001	<.0001	

Source: Developed for the research

The analysis result implies that PR (r = -0.41736, p <.0001), PSR (r = -0.55021, p<.0001), FR (r = -0.60237, p<.0001), TR (r = -0.51348, p<.0001) and DR (r = -0.58644, p<.0001) are all having significant and negative correlation with OSI.

Among all independent variable, FR has the strongest correlation with OSI (r = -0.60237, p<.0001), followed by DR (r = -0.58644, p<.0001), PSR (r = -0.55021, p<.0001) and TR (r = -0.51348, p<.0001). Among five IVs, PR has the weakest correlation with OSI (r = -0.41736, p <.0001).

To avoid multicollinearity problem, the correlation coefficient should not exceed 0.9 (Hair et al., 2005). Based on Table 4.12, correlation coefficients for all the IVs are in the range between 0.31758 and 0.70344. In this study, the highest correlation coefficient (0.70344) is found between DR and FR, which is still below the threshold level of 0.9. Therefore, multicollinearity problem was not discovered in this study as none of the correlation coefficient is more than 0.9.

4.4.2 Multiple Regression Analysis

Table 4.13 Summary of Model

Root MSE	0.56387	**R-Square**	0.4917
Dependent Mean	2.13977	**Adjusted R-Square**	0.4817
Coefficient Variance	26.35191		

Source: Developed for the research

As presented in Table 4.13, the R^2 of 0.4917 indicated that 49.17% of the changes in Gen X's online shopping intention can be explained by all the 5 IVs in this study (PR, PSR, FR, TR, and DR). On the other hand, the remaining 50.83% of the changes can be explained by other variables which are not examined in this study.

Table 4.14: Multiple Linear Regression Analysis: ANOVA

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	77.81925	15.56385	48.95	<.0001
Error	253	80.44114	0.31795		
Corrected Total	258	158.26039			

Source: Developed for the research

The F-value as indicated in Table 4.14 was 48.95 with the significant level of less than 0.0001, thus the fitness of model can be proved. This indicates that at least one of the five IVs can be used to explain the DV. In short, the relationship between all the IVs (PR, PSR, FR, TR, and DR) and DV (OSI) is significant.

Table 4.15 : Multiple Linear Regression: Parameter Estimates

Variable	Parameter Estimate	Standardized Estimate	t-Value	Pr > |t|	Tolerance	Variance Inflation
Intercept	5.99925	0	21.45	<.0001	-	0
PR	-0.14274	-0.10880	-2.10	0.0367	0.74887	1.33534
PSR	-0.21462	-0.18823	-3.22	0.0014	0.58833	1.69973
FR	-0.24841	-0.21539	-3.13	0.0020	0.42387	2.35919
TR	-0.16304	-0.19019	-3.49	0.0006	0.67798	1.47497
DR	-0.21793	-0.19667	-2.92	0.0038	0.44436	2.25041

Source: Developed for the research

Based on Table 4.15, all the IVs (PR, PSR, FR, TR, and DR) have negative relationship with DV (OSI) as all the value of parameter estimate is negative (-0.14274, -0.21462, -0.24841, -0.16304, and -0.21793 respectively) and all IVs are found to be significance as p-value is less than 0.05. Therefore all the hypotheses (H_1, H_2, H_3, H_4, and H_5) can be supported.

As a result, the equation for the model is formulated as shown:

OSI = 5.99925 - 0.14274 (PR) - 0.21462 (PSR) - 0.24841 (FR) - 0.16304 (TR) - 0.21793 (DR)

As shown in the equation above, FR (-0.24841) have the greatest influence on OSI. For every increase in FR, the OSI will decrease by 0.24841, provided all other factors remain constant.

Referring to Table 4.16 above, the tolerance value of each IV falls within the range of 0.44436 and 0.74878 whereas the value of Variance Inflation Factor falls within the range of 1.33543 and 2.35919. According to Hair et al. (2005), tolerance value and Variation Inflation Factors value (VIF) should not be less than 0.1 and more than 10 respectively to avoid multicollinearity problem. Hence, the results indicate no multicollinearity problem was found.

4.5 Conclusion

Chapter 4 discusses the results generated from 259 usable questionnaires. With regard to the results, the key findings, implications, limitations of this study as well as recommendations for future researches will be discussed in Chapter 5.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

Chapter 5 summarizes the whole study by starting off with a summary of statistical analysis based on the results presented in Chapter 4, followed by discussion of major findings, implications, limitations and recommendations for future study.

5.1 Summary of Statistical Analysis

5.1.1 Summary of Descriptive Analysis

Out of 350 sets of survey questionnaire, 270 sets were collected and 259 sets were usable questionnaire, indicating a response rate of around 77%. There are more female respondents (54.44%) as compared to male respondents (45.56%). Majority of the respondents are Chinese, being 58% in total. 36% of the respondents are Bachelor degree holder. Besides, 37% of the respondents earn RM3001 to RM5000 per month. In addition, more than half (66%) of the respondents have experienced online shopping before.

Based on the result of data analysis, the lowest and highest mean of PR, PSR, FR, TR and DR are 3.4054 and 4.2741 respectively, implying that the respondents are more towards agreed with the question items of independent variables. On the other hand, the dependent variable, OSI, has

mean values ranging between 1.8571 and 2.3861, showing that the respondents are more towards disagreed with the statements of dependent variable in the survey questionnaire. For standard deviation, the lowest value is 0.6976 while the highest value is 1.2250.

5.1.2 Summary of Scale Measurement

In overall, all variables are deemed to be reliable and consistent as the Cronbach's alpha value of each variable exceeds 0.7 (Nunnally, 1978). Moreover, all the constructs have passed the normality test. The data is considered to be normally distributed as value of skewness and kurtosis for each item is within ±3 and ±10 respectively.

5.1.3 Summary of Inferential Analysis

Table 5.1: Summary of Inferential Analysis

Hypotheses	**Pearson Correlation**	**Multiple Linear Regression (R-Square = 0.4917)**		
	r	**Standardized Estimate**	**p-value**	**Remarks**
H_1: There is a negative relationship between product risk and consumers' online shopping intention.	-0.41736	-0.10880	0.0367	Supported
H_2: There is a negative relationship between privacy and security risk and consumers' online shopping intention.	-0.55021	-0.18823	0.0014	Supported
H_3: There is a negative relationship between financial risk and consumers' online shopping intention.	-0.60237	-0.21539	0.0020	Supported

H_4: There is a negative relationship between time risk and consumers' online shopping intention.	-0.51348	-0.19019	0.0006	Supported
H_5: There is a negative relationship between delivery risk and consumers' online shopping intention.	-0.58644	-0.19667	0.0038	Supported

Source: Developed for the research

According to Table 5.1, the correlation coefficient between DV (OSI) and each IV (PR, PSR, FR, TR and DR) are -0.41736, -0.5502, -0.60237, -0.51348 and -0.58644 respectively. The results indicate that PR with correlation value of -0.41736 is negatively and moderately correlated with OSI. Meanwhile, the other four IVs (PSR, FR, TR and DR) are proved to be negatively and strongly correlated with OSI since their absolute correlation coefficients exceed 0.5. Additionally, no multicollinearity problem was found as every correlation coefficient is below the level of 0.90 (Hair et al., 2005).

According to MLR analysis, 49.17% of the variation in online shopping intention can be explained by all the five perceived risk factors namely PR, PSR, FR, TR and DR. With p-value of less than 0.05, indicating that all IVs are significantly influence the DV. Thus, all developed hypotheses are supported. The standardized estimates also indicate that FR has the strongest negative effect on online shopping intention, followed by DR, TR, PSR and PR.

5.2 Discussions of Major Findings

5.2.1 Product Risk

Product risk is proved to influence intention of respondents to adopt online shopping significantly as the p-value of 0.0367 is less than 0.05. Hence, it proves that H_1 is supported. Furthermore, r-value of -0.41736 represents product risk is moderately and negatively associated with Gen X's online shopping intention.

The result is aligned with the past studies of Chen et al. (2014), Cemberci et al. (2013) and Dai et al.(2014). Cemberci et al. (2013) mentioned consumers' intention to shop online could be decreased by their perception of product risk. Product risk is derived from difficulty in judging the product quality over the Internet and inability to touch, examine and try the product (Cemberci et al., 2013). Furthermore, Dai et al. (2014) also cited the possibility for the actual performance of the products to fall below expectation as one of the reasons for not shopping online.

5.2.2 Privacy and Security Risk

Privacy and security risk has been proven to have negative and significant relationship with Gen X's online shopping intention. A p-value of 0.0014 shows that privacy and security risk affects online shopping intention of the respondents significantly. H_2 is supported as the p-value is less than 0.05. Its r-value of -0.55021 implies privacy and security risk is strongly and negatively correlated with Gen X's online shopping intention. The result is in line with the study of Liao et al. (2011). On the other hand, it is contradict with past studies of Zhang et al. (2012) and Obeidat (2015) which validated privacy and security risk has no significant influence on online shopping intention. According to Zhang et al. (2012), privacy risk is

insignificant factor in explaining consumers' purchasing behaviour is probably due to consumers view privacy and security risk as necessary in online shopping.

The research of Sohail (2014) implied that people do not shop online because they refuse to provide their personal information to online shopping websites. They are concerned with the safety and security of personal information. For instance, they are concerned with the issue of credit card fraud and use of personal information by others for other purposes. Furthermore, Liao et al. (2011) stated that consumers refuse to transact online due to technological uncertainty, including stealing of credit card information and transmission of personal information to strangers.

5.2.3 Financial Risk

By achieving a p-value of less than 0.05, which is 0.0014, financial risk has been proven the most significant risk factors in explaining online shopping intention of Gen X. Hence, H_3 is supported. The r-value of -0.60237 indicates financial risk is strongly and negatively related to online shopping intention. The finding is congruent with the researches conducted by Khan et al. (2015), Javadi et al. (2012) and Cemberci et al. (2013).

Cemberci et al. (2013) stated that the higher the financial risk perceived by the consumers towards online shopping, the lesser is their intention to shop online. The finding is further congruent with the research carried out by Dai et al. (2014). According to Dai et al. (2014), consumers may be reluctant to shop online due to shipping cost which additional charges. Besides, consumers may feel that they suffer monetary loss when the same product can be bought at a lower price at somewhere else. In addition, consumers concern of financial loss if they fails to get refund from the

online retailers. Perception of such financial risk explains why Gen X refuses to shop online.

5.2.4 Time Risk

Time risk has a significant p-value of 0.0006, which implies H_4 is supported. With r-value of -0.51348, time risk is negatively affecting Gen X's online shopping intention. The result is in conflict with the findings of Masoud (2013) which concluded time risk has no significant effect on online shopping. As the research of Masoud (2013) was conducted in Jordan, those target respondents may have different point of view on time risk compared to Malaysian.

On the other hand, the finding is in line with the research conducted by Claudia (2012) and Almousa (2013). Claudia (2012) reported that consumers feel time losing when they spend long time engaging in searching for suitable products before making an actual purchase, especially when the products do not perform as desired. Second, consumers perceive time losing when waiting for the delivery. The time spent for returning the product to vendors and getting back the refund from vendors are perceived as losses as well.

5.2.5 Delivery Risk

The results from data analysis proved that delivery risk is negatively and significantly related to online shopping intention (r = -0.58644, p-value = 0.0038). With a significant p-value of 0.0038, H_5 is supported.

The result agrees with the findings of past empirical studies conducted by Khan et al. (2015), Ariff et al. (2014) and Javadi et al. (2012). According to Javadi et al. (2012), consumers do not tend to adopt online shopping

because they are fear of non-delivery of the ordered merchandises. Ariff et al. (2014) justified delivery risk is consumers' biggest worries when they decide to shop online. This is because they perceived long waiting time and possible problems associated with delivery such as goods damaged, goods lost or the goods are sent to the wrong address. By online shopping, consumers are unable to consume or use the products that they bought online immediately but have to wait for the product delivery, and sometimes delay delivery would make them lose interest to shop online again (Khan et al., 2015).

5.3 Implications of the Study

5.3.1 Managerial Implications

By having a better understanding of the relationship between different types of perceived risk and online shopping intention, online retailers can adopt appropriate risk-reduction strategies to reduce consumers' concern more specifically.

Based on the results, financial risk is the strongest factor with negative effect on online shopping intention. Online retailers should charge the delivery fee at a reasonable amount. To avoid returning hassles, online retailers should implement return policy with free return shipping and assure the customers that replacement or refund will be initiated right after the returned product is received (Khan et al., 2015). Money-back guarantee is useful in reducing financial risk as well (Suresh & Shashikala, 2011).

For private and security risk, online retailers can establish and disclose their customer privacy policy to assure customers that they are committed to protect customers' privacy and personal data. Furthermore, online retailers should offer alternative payment methods other than credit card,

such as cash on delivery and internet banking whereby credit card information is not required to be disclosed (Masoud, 2013).

Furthermore, because of the perceived delivery risk, online retailers should provide assurance to customers that they will be able to receive the ordered merchandises within specific time frame (Khan & Chavan, 2015). Besides, online retailers should deal with shipping service providers which are reputed to have prompt and safe delivery with zero damage during shipment (Masoud, 2013).

For consumers who perceive online shopping as a lengthy process, time risk is great concern for them. Online retailers also have to make sure their websites are user-friendly, which are easy for consumers to explore the site and search for products (Sinha & Kim, 2012). Other than this, online retailers should simplify the ordering and payment process and explain the procedures clearly with text, images and examples (Sinha & Kim, 2012).

Since product risk is derived from inability to touch or try the products before purchasing, online retailers should consider the use of 3D product view, sizing chart, description of material components and also customer reviews (Masoud, 2013). This could enable customers to get a better idea on the product quality and product physical appearance attributes. Moreover, online retailers should provide contact details in the websites to enable those customers who require further clarification on the product to reach them easily (Vegiayan et al., 2013).

5.3.2 Theoretical Implication

The conceptual framework of this study is an expansion on "perceived risk" in valence framework while "perceived benefit" in valence framework is disregarded in this study. The extended model of perceived risk can provide a deeper understanding on how different dimensions of perceived

risk affect online shopping intention. Additionally, this study has become one of few empirical studies in Malaysia that treats perceived risk as multidimensional construct to examine the factors impeding Malaysia's Gen X from adopting online shopping. This study can be used as references for future researchers who intend to study on the similar topic.

Besides, the application of valence framework into the field of E-business has been verified by Huang et al. (2014). In a nutshell, for future researchers who conduct research topics related to E-business, they can consider utilizing and applying this theoretical framework.

5.4 Limitations of the Study and Recommendations for Future Research

This study has a few limitations to be addressed. Firstly, survey research strategy is adopted by virtue of its efficiency and low cost. However, the results could be threatened by bias since the respondents may be constrained by time or other factors and may simply fill up the options in the questionnaires with inadequate interpretation and understanding. It is recommended that self-administered questionnaire should be replaced by the conduct of face-to-face interview to enhance interaction between the respondents and researcher and to obtain better understanding of the respondents' perception. By using face to face interview researcher can get additional information from respondents through respondent's intonation and body languages (Opdenakker, 2006).

Secondly, the questions provided in the questionnaires are of closed-ended, which means that the respondents are restricted from expressing out their views thoroughly due to the limited items included in each variable. This could lead to wrong conclusion reached eventually. Reja, Manfeda, Hlebec, and Vehovar (2003) found out that open-ended question bring more diverse set of answers compare to close-ended question. It could be provided to enable the respondents to clarify the options with supportive reasons.

Moreover, the use of cross sectional study to examine a phenomenon within a single time horizon constituted a limitation in this study (Saunders et al., 2009). There is no follow up in the future period to further investigate the changes in the relationship among the variables. Hence it failed to detect the variations occurred on the barriers of online shopping among Gen X over a longer period of time. It is recommended that time horizon limitation should be overcome by using longitudinal study in future research. Longitudinal study allows the research to be conducted more thoroughly at multiple points of time to provide a more reliable picture of the final results. It allows researchers to examine the change of individual's perception over some period of time to let researchers compare with the early-later relationship on the same issues (Robinson, Schmidt, & Teti, 2005).

Lastly, target respondents are Gen Xers from Selangor, Johor, Perak, Kedah and Kuala Lumpur. The scope of respondents is not wide enough to generalize the Gen X population in Malaysia. More respondents from other states such as Sabah and Sarawak should be included in the study in an attempt to reach highly accurate results.

5.5 Conclusion

The research objectives of this study were fulfilled and all research questions were able to be answered. In this study, five independent variables including product risk, privacy and security risk, financial risk, time risk and delivery risk were tested. All independent variables were found to have negative and significant relationship with online shopping intention among Gen X in Malaysia.

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Appendix A: Summary of Past Empirical Studies

Product Risk (PR)

Study	Country	Data	Major Findings
Chen & Lu (2014)	Taiwan	Online survey of 650 online group buyers in Taiwan	Product risk has significant and negative effect on online group-buying intention.
Cemberci, Civelek, & Sözer (2013)	USA	Questionnaire survey of 406 undergraduate students of a university in Istanbul	Perceived product risk affects intention to online shopping negatively and significantly.
Dai, Forsythe, & Kwon (2014)	Taiwan	Online survey of 366 college students at a Southeastern university	Product risk is significantly and negatively linked to online purchase intentions for non-digital and marginally for digital product.

Privacy and Security Risk (PSR)

Study	Country	Data	Major Findings
Zhang, Tan, Xu, & Tan (2012)	China	Questionnaire survey of 388 white-collar, blue-workers and college students	Perceived privacy risk was found to have negative but insignificant relationship on online purchasing behaviour.
Obeidat (2015)	Jordan	Email survey of 520 undergraduate students at the University of Jordan in Amman	Privacy concern was found to have negative but insignificant influence on online shopping intention.
Liao, Liu & Chen (2011)	Taiwan	Questionnaire survey of 459 Taiwan's individuals	There is a negative and significant relationship between privacy concern and intention to transact.

Financial Risk (FR)

Study	Country	Data	Major Findings
Khan, Liang, & Shahzad (2015)	China	Questionnaire survey, mail survey, email survey of 302 university students and office workers	Perceived financial risk affects customer satisfaction on online repurchase intention significantly and negatively.
Javadi, Dolatabadi, Nourbakhsh, Poursaeedi, &Asadollahi (2012)	Iran	Mail survey of 107 consumers from 5 online stores in Iran	Financial risk impacts consumers' attitude towards online shopping significantly and negatively.
Cemberci, Civelek, &Sözer (2013)	Turkey	Questionnaire survey of 406 undergraduate students of a university in Istanbul	Perceived financial risk affects intention to online shopping negatively and significantly.

Time Risk (TR)

Study	Country	Data	Major Findings
Claudia (2012)	Romania	Semi-structured interview of 30 internet users who had purchased any products or services online within the past three months	Respondents declared they fear of time losing for searching, ordering and waiting for delivery in the case of buying online.
Almousa (2014)	Saudi Arabia	Online questionnaire of 320 students in Saudi Arabia	Time risk is one of the significant risk factors affecting online shopping intention negatively.
Masoud (2013)	Jordan	Questionnaire survey of 395 online shoppers from main popular online stores in Jordan	Time risk has negative but insignificant effect on online shopping.

Delivery Risk (DR)

Study	Country	Data	Major Findings
Khan, Liang, & Shahzad (2015)	China	Questionnaire survey, mail survey, email survey of 302 university students and office workers	Perceived delivery risk affects customer satisfaction on online repurchase intention significantly and negatively.
Ariff, Sylvester, Zakuan, Ismail, & Ali (2014)	Malaysia	Online survey of 300 online shoppers of largest online marketplace in Malaysia	There is a negative and significant correlation between delivery risk and consumers' attitude of online shopping.
Javadi, Dolatabadi, Nourbakhs, Poursaeedi, & Asadollahi (2012)	Iran	Mail survey of 107 consumers from 5 online stores in Iran	Delivery risk affects consumers' attitude towards online shopping significantly and negatively.

Appendix B: Variables and Measurement Table

Variables	Items	Description	References	Measurement
Independent variables				
Product Risk	PR1	I can't touch and examine the actual product.	Masoud (2013)	Interval (5-Point Likert Scale) 1=strongly disagree 5= strongly agree
	PR2	It is difficult for me to judge the quality of product over internet.		
	PR3	The product purchased may not perform as expected.	Dai et al. (2014)	
	PR4	The actual quality of the product does not match its description.	Zhang et al. (2012)	
	PR5	I might receive malfunctioning product.	Javadi et al. (2012)	
Privacy and Security Risk	PSR1	I feel that my credit card details may be compromised and misused if I shop online.	Javadi et al. (2012)	Interval (5-Point Likert Scale) 1=strongly disagree 5= strongly agree
	PSR2	I feel that my personal information given for transaction to the retailer may be compromised to third party.		
	PSR3	Online retailers may track my shopping habits and history purchases.	Dai et al. (2014)	
	PSR4	I feel that my email address and phone number may be abused by others.	Zhang et al. (2012)	
	PSR5	I feel unsafe and insecure while shopping online.	Masoud (2013)	
Financial Risk	FR1	Shopping online can involve a waste of money.	Masoud (2013)	Interval (5-Point Likert Scale) 1=strongly disagree 5= strongly agree
	FR2	Online shopping may cost more than traditional shopping.	Zhang et al. (2012)	
	FR3	Delivery services will be charged with additional fee.		
	FR4	I may buy the same product at a lower price from somewhere else.	Dai et al. (2014)	
	FR5	I might face difficulty in getting refund from online retailers.	Suresh & Shashikala (2011)	

Variables	Items	Description	References	Measurement
Time Risk	TR1	Shopping online can involve a waste of time.	Masoud (2013)	Interval (5-Point Likert Scale) 1=strongly disagree 5= strongly agree
	TR2	I feel it is difficult to find the right product online.		
	TR3	I feel it is too complicated to place order.		
	TR4	I might have to wait for a long time to receive the product ordered online.		
	TR5	If the products have problem, communicating with sellers may require a lot of time.		
Delivery Risk	DR1	I might not receive the product ordered online.	Masoud (2013)	Interval (5-Point Likert Scale) 1=strongly disagree 5= strongly agree
	DR2	The product ordered online may be sent to wrong place.		
	DR3	Sellers may not be timely in their delivery.		
	DR4	The product ordered online may arrive in a damaged condition.	Zhang et al. (2012)	
	DR5	The product ordered online may be lost during shipment.		
Dependent variable				
Online Shopping Intention	OSI1	I intend to do online shopping in the future.	Lee & Bich Ngoc (2010)	Interval (5-Point Likert Scale) 1=strongly disagree 5= strongly agree
	OSI2	It is very likely that I would consider purchasing online in the near future.	Chen (2012)	
	OSI3	It is very likely that I would consider always purchasing online.		
	OSI4	I intend to do online shopping rather than traditional shopping.	Wen, Prybutok , & Xu (2011)	
	OSI5	I would like to shop online as much as possible.		

Source: Developed for the research

Appendix C: Permission Letter to Conduct Survey

UNIVERSITI TUNKU ABDUL RAHMAN
Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

4th August 2015

To Whom It May Concern

Dear Sir/Madam

Permission to Conduct Survey

This is to confirm that the following students are currently pursuing their *Bachelor of Commerce (HONS) Accounting* program at the Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR) Perak Campus.

I would be most grateful if you could assist them by allowing them to conduct their research at your institution. All information collected will be kept confidential and used only for academic purposes.

The students are as follows:

Name of Student	Student ID
Tang Ho Yee	12ABB03960
Lee Chai Ying	12ABB04046
Leow Lei Chie	13ABB01553
Ng Jun Ze	12ABB03963
Winnie Ngai Yeng Yeng	12ABB05159

If you need further verification, please do not hesitate to contact me.

Thank you.

Yours sincerely

CHING SUET LING
HEAD
DEPARTMENT OF COMMERCE & ACCOUNTANCY
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UNIVERSITI TUNKU ABDUL RAHMAN

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Address: ~~9, Jalan Bersatu 13/4, 46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia~~ **Postal Address:** P O Box 11384, 50744 Kuala Lumpur, Malaysia
Tel: (603) 7958 2628 **Fax:** (603) 7956 1923 **Homepage:** http://www.utar.edu.my

Appendix D: Survey Questionnaires

UNIVERSITI TUNKU ABDUL RAHMAN
Faculty of Business and Finance

BACHELOR OF COMMERCE (HONS) ACCOUNTING

FINAL YEAR PROJECT

Barriers to Online Shopping among Generation X:

A Malaysian Perspective

Survey Questionnaire

Dear respondent,

We are final year undergraduate students of Bachelor of Commerce (Hons) Accounting, from Universiti Tunku Abdul Rahman (UTAR). The **purpose** of this survey is to investigate the relationship between perceived risks and Generation X's online shopping intention in Malaysia.

Thank you for your participation.

Instructions:

1) There are **THREE** (3) sections in this questionnaire. Please answer **ALL** questions in **ALL** sections.

2) Completion of this form will take you approximately 5 to 10 minutes.

3) The contents of this questionnaire will be kept **strictly confidential**.

Section A: Demographic Profile

Please place a tick "√" at the most appropriate box for each of the following:

1. Gender:

☐ Male ☐ Female

2. Age:

☐ 35-39 years ☐ 45-49 years
☐ 40-44 years ☐ 50-55 years

3. Ethnicity:

☐ Malay ☐ Indian
☐ Chinese ☐ Others

4. State:

☐ Selangor ☐ Kuala Lumpur
☐ Johor ☐ Kedah
☐ Perak

5. Highest education completed:

☐ Primary school ☐ Degree
☐ High school ☐ Master and above
☐ Diploma

6. Monthly income:

☐ Less than RM 1000 ☐ RM 3001-RM 5000
☐ RM 1001-RM 3000 ☐ Above RM 5001

7. Have you shopped online before?

☐ Yes ☐ No

Section B: Types of Perceived Risk

This section is seeking your opinion regarding different types of perceived risks towards online shopping. Please circle your answer to each statement using 5 Likert scale [(1) = strongly disagree; (2) = disagree; (3) = neutral; (4) = agree and (5) = strongly agree]. Please circle one number per line to indicate the extent to which you agree or disagree with the following statement.

No.	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B1	**Product Risk**					
PR1	I can't touch and examine the actual product.	1	2	3	4	5
PR2	It is difficult for me to judge the quality of product over internet.	1	2	3	4	5
PR3	The product purchased may not perform as expected.	1	2	3	4	5
PR4	The actual quality of the product does not match its description.	1	2	3	4	5
PR5	I might receive malfunctioning product.	1	2	3	4	5
No.	**Questions**	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
B2	**Privacy and Security Risk**					
PSR1	I feel that my credit card details may be compromised and misused if I shop online.	1	2	3	4	5
PSR2	I feel that my personal information given for transaction to the retailer may be compromised to third party.	1	2	3	4	5
PSR3	Online retailers may track my shopping habits and history purchases.	1	2	3	4	5
PSR4	I feel that my email address and phone number may be abused by others.	1	2	3	4	5
PSR5	I feel unsafe and insecure while shopping online.	1	2	3	4	5

No.	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B3	**Financial Risk**					
FR1	Shopping online can involve a waste of money.	1	2	3	4	5
FR2	Online shopping may cost more than traditional shopping.	1	2	3	4	5
FR3	Delivery services will be charged with additional fee.	1	2	3	4	5
FR4	I may buy the same product at a lower price from somewhere else.	1	2	3	4	5
FR5	I might face difficulty in getting refund from online retailers.	1	2	3	4	5
No.	**Questions**	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
B4	**Time Risk**					
TR1	Shopping online can involve a waste of time.	1	2	3	4	5
TR2	I feel it is difficult to find the right product online.	1	2	3	4	5
TR3	I feel it is too complicated to place order.	1	2	3	4	5
TR4	I might have to wait for a long time to receive the product ordered online.	1	2	3	4	5
TR5	If the products have problem, communicating with sellers may require a lot of time.	1	2	3	4	5

No.	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B5	**Delivery Risk**					
DR1	I might not receive the product ordered online.	1	2	3	4	5
DR2	The product ordered online may be sent to wrong place.	1	2	3	4	5
DR3	Sellers may not be timely in their delivery.	1	2	3	4	5
DR4	The product ordered online may arrive in a damaged condition.	1	2	3	4	5
DR5	The product ordered online may be lost during shipment.	1	2	3	4	5

Section C: Online Shopping Intention

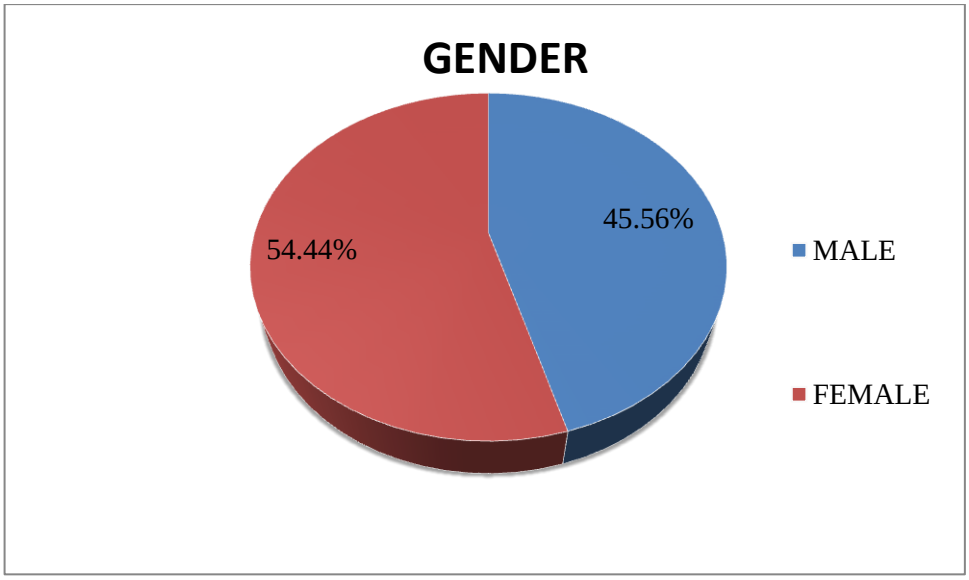
This section is seeking your opinion regarding intention to adopt online shopping. Please circle your answer to each statement using 5 Likert scale [(1) = strongly disagree; (2) = disagree; (3) = neutral; (4) = agree and (5) = strongly agree]. Please circle one number per line to indicate the extent to which you agree or disagree with the following statement.

No.	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
C1	**Online Shopping Intention**					
OSI1	I intend to do online shopping in the future.	1	2	3	4	5
OSI2	It is very likely that I would consider purchasing online in the near future.	1	2	3	4	5
OSI3	It is very likely that I would consider always purchasing online.	1	2	3	4	5
OSI4	I intend to do online shopping rather than traditional shopping.	1	2	3	4	5
OSI5	I would like to shop online as much as possible.	1	2	3	4	5

Thank you for your participation.

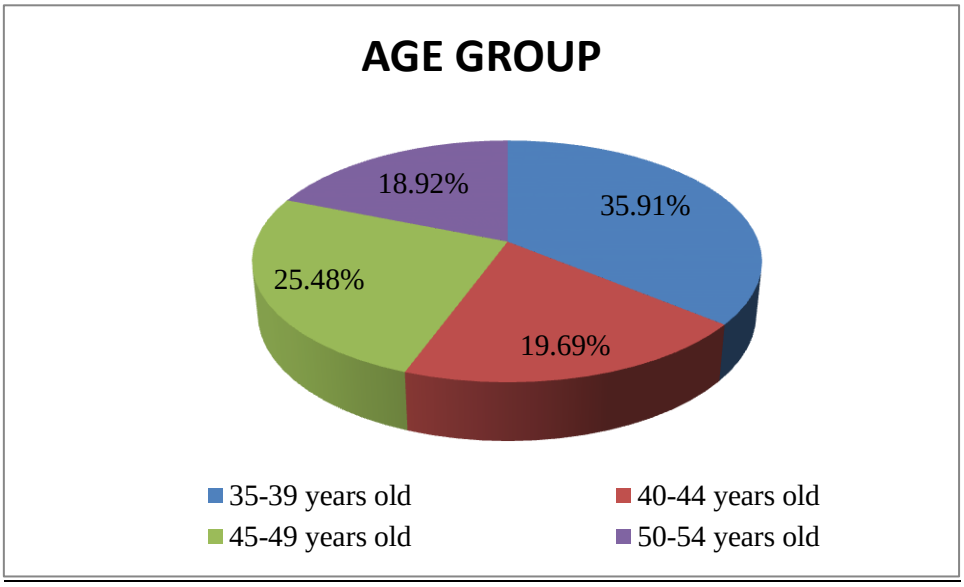
Appendix E: Pie Charts for Demographic Profile

Figure 4.1: Gender of Respondents



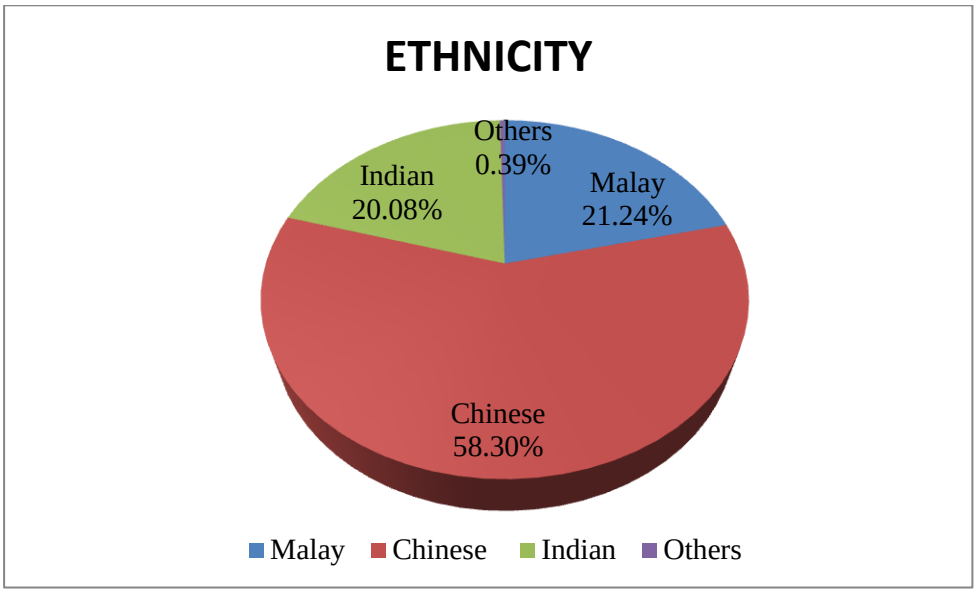
Source: Developed for the research

Figure 4.2: Age of Respondents



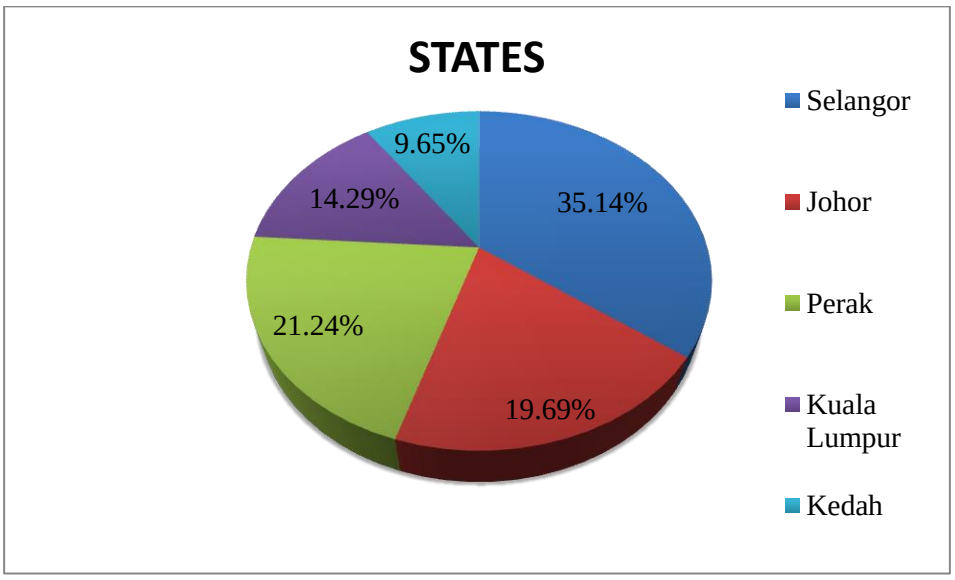
Source: Developed for the research

Figure 4.3: Ethnicity of Respondents



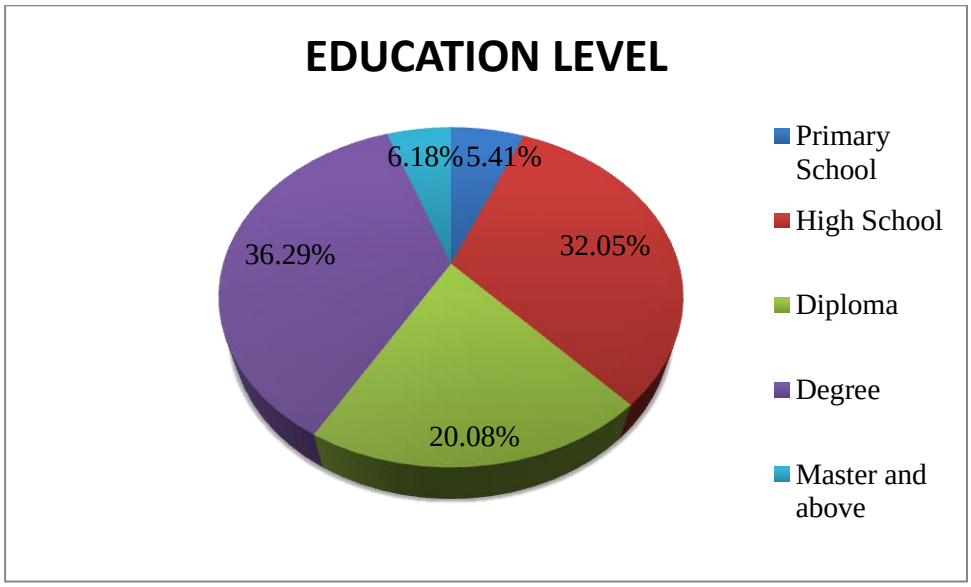
Source: Developed for the research

Figure 4.4: Respondents' Current State



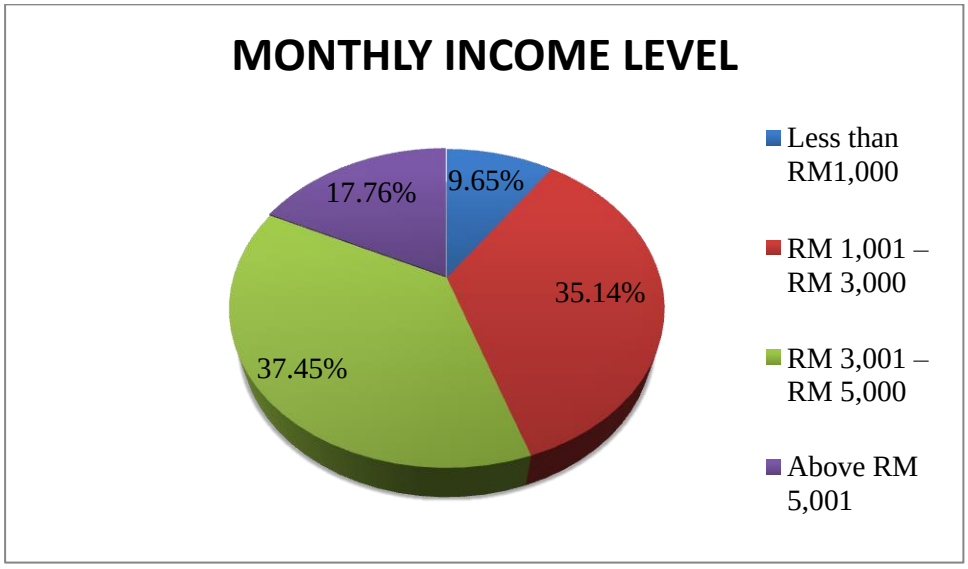
Source: Developed for the research

Figure 4.5: Education Level of Respondents



Source: Developed for the research

Figure 4.6: Monthly Income Level of Respondents



Source: Developed for the research

Figure 4.7: Respondents' Online Shopping Experience

Source: Developed for the research