INTERNATIONAL UNIVERSITY STUDENTS' ONLINE SHOPPING BEHAVIOUR
IN HALIFAX, NS

by

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ABSTRACT

This study examines the online shopping behaviour of 142 international university students (IUSs) within the context of a modified version of the Technology Acceptance Model (TAM). Results indicate that perceived entertainment outweighs the impact of perceived usefulness (PU) and perceived self-efficacy (PSE) on attitude towards online shopping (ATT). Perceived risk (PR) was not related to ATT and ATT and behavioural intentions (BI) did not influence actual behaviour. Experience was strongly related to ATT, but demographics have little influence on TAM measures. Entertainment and usefulness were the primary motives for IUSs to shop online. The findings of this study could help universities and e-retailers develop guidelines to ensure a safe and attractive e-shopping experience for IUSs.

LIST OF ABBREVIATIONS USED

ATT   Attitude

B   Behaviour

B2C   Business To Consumer

BI   Behavioural Intentions

CIC   Citizenship and Immigration Canada

DV   Dependent Variable

ID   Independent Variable

IT   Information Technology

ITS   Information Technology Systems

IUS   International University Student

MR   Multiple Regression

NS   Nova Scotia

PE   Perceived Entertainment

PEOU Perceived Ease Of Use

PR   Perceived Risk

PSE   Perceived Self-efficacy

PU   Perceived Usefulness

RF   relative frequency

SPSS   Statistical Package for the Social Sciences (software)

TAM   Technology Acceptance Model

TRA   Theory of Reasoned Action

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CHAPTER 1   INTRODUCTION

1.1. PRELIMINARY AND RESEARCH PURPOSE

Online shopping usage has been increasing in popularity every year since its inception in 1994 (Francica, 1999), and is now a widespread phenomenon. Demographic variance plays an important role in analyzing virtual consumers' behaviour. Each demographic has its own characteristics ("profile") for online shopping, including number, type and cost of items purchased, and modes of online shopping. The literature (e.g., Burke, 2002; Comegys *et al*., 2006; Garbarino & Strahilevitz, 2004; Kahttab *et al*., 2012; Monsuwe *et al*., 2004; Naseri & Elliot, 2011; Osman *et al*., 2010; Seok & Bailey, 2009; Sin *et al*., 2012; Venkatesh & Davis, 2000; Wan *et al*, 2012; Wynn, 2009; Zhou *et al*., 2007) tends to split online shoppers into various groups (e.g., males, females, students, employees, etc.) for better understanding of consumer behaviour and for building strong and effective marketing strategies.

The relationship between international university students (IUSs) and online shopping has not been addressed yet even though IUSs are an important demographic segment in the online shopping context for two reasons: first, they are capable online shoppers, and second, they help to provide insights about the comparisons between new and experienced online shoppers. On the other hand, online shopping is important for IUSs in two ways: it enhances their positive feelings, and it helps them overcome financial problems. These issues are explained below.

IUSs form a significant portion of the university population (Delafrooz *et al*., 2009; Osman *et al*., 2010).They share some valuable attributes with other students regarding online shopping; for example, they have wide vision, a readiness to learn and adapt, curiosity, intelligence, insight or introspection, a variety of cultural backgrounds, and rich information sources (Wenjie, 2010). IUSs are more exposed to different learning environments, have a wide range of social and cultural understandings and high adaptation skills, which enable them to function effectively in and outside their home countries compared to domestic students (Gu *et al*., 2010). Such attributes are significant for an efficient, active, and capable online shopper (Cheung & Lee, 2012).

In addition, many IUSs may have a sudden need to shop online to adapt to their new environments. Whether they are experienced e-shoppers or not, many IUSs may find it necessary to shop online for products they need as part of everyday life which are not available in the host country. For example, in some cultures, the students are obliged to dress in a specific way (e.g., *Hijab* for Muslim women), have a specific diet (e.g., *Kosher* for Jews), or they are used to a specific brand or style in their home country (e.g., PC keyboards with *Mandarin* characters for *Chinese*). Even though those products might be sought by residents of the host country (in such a multi-cultural country like Canada, for instance), for an IUS, the need is greater.

As some of them might not be experienced online shoppers, IUSs might regard the risks and benefits of online shopping differently than experienced e-shoppers, which could result in different attitude towards online shopping. Therefore, IUSs provide a useful microcosm for exploring the issues of online shopping from the perspectives of both new and experienced shoppers. As a result, IUSs are ideal subjects to study the difference between the online shopping behaviours of new and experienced users.

From IUSs prospective, exposure to a new environment often makes them feel lonely and homesick for their familiar surroundings, including food, clothes, cultural habits, etc. (Gu *et al*., 2010). Online shopping is shown to be a helpful way to overcome some negative feelings (Bridges & Florsheim, 2008). An IUS might order products unique to his or her country or culture. Further, he or she might engage in online activities that require actual purchase such as Rebtles (an online phone call service for lower international rates compared to what traditional long distance suppliers offer) to keep in touch with family and friends.

IUSs often have unsettled feelings about off campus life to the degree of feeling rejected and unwelcome (Gu *et al*., 2010). This anxiety often comes as a result of communication differences, such as verbal language, body language, bargaining conventions, etc., between an IUS and local residents (Adams, 2012; Gu *et al*., 2010). The majority of retailers have online stores as well. In this case, an IUS can order what he or she needs, from furniture to clothes, without really losing his or her self-esteem by confronting

difficulties in communications, which they can overcome over time and by experience (Yang & Noels, 2012).

The majority of IUSs face financial problems, especially in the first three months of their life in the host country (Sherry *et al*., 2010; Gu *et al*., 2010), which adds to their concerns. Online shopping might reduce some expenses, as it might offer cheaper products and services compared to traditional stores, where rental fees and other expenses are added to the product price (Ma & Ma, 2012); for example, an IUS can buy e-books instead of hard copies for his or her study purposes. The Amazon website, for instance, offers a variety of academic books in digital format (Kindle edition) at lower prices than hard copy format and without tax, shipping and handling fees (amazon.ca). Even though students in general have limited finances, as the majority of them do not have permanent jobs and supportive families (Ma & Ma, 2012), the need becomes greater for IUSs.

This study will examine the motivations, perceptions and behaviour of IUSs (while they reside in Canada) that result from the needs described above. The study will address these questions:

Question 1: what is the impact of the demographic characteristics of IUSs on their online shopping behaviour?

Question 2: how does prior online shopping experience affect IUSs' online shopping behaviour?

The research questions will be examined through the Technology Acceptance Model (TAM) introduced by Davis (1985). TAM has been successfully applied to study online shopping behaviour and demographic-related technology acceptance (Al-maghrabi & Dennis, 2012; Yang, 2003). In addition to the two main factors of TAM (perceived usefulness (PU) and perceived ease of use (PEOU)), this study will include the often associated concepts of perceived entertainment (PE), perceived self-efficacy (PSE), and perceived risk (PR) to create a better understanding of behaviour and attitude towards online shopping. Please refer to section 2.3 in this paper for further details about TAM and its associated factors.

1.2. RESEARCH STRUCTURE

This paper consists of five chapters. Chapter two will provide a general introduction to online shopping, demographics and attitudes of online shoppers, the theoretical structure for this work, and an overview of the conceptual framework of this research. Chapter three will discuss the methodology used. Chapter four will provide an analysis of the questionnaire along with the results. Chapter five will provide the general conclusion along with limitations and suggestions for future work.

CHAPTER 2   LITERATURE REVIEW

The purpose of this study is to determine 1) the impact of demographic variance on IUSs'
online shopping behaviour, and 2) the impact of prior experience of online shopping on
their current behaviour. In this chapter, I will provide an overview of online shopping
including the benefits and the risks. Next, I will discuss demographic factors and their
influence on online shopping. Later, the Technology Acceptance Model (i.e., the
theoretical frame work of this study) will be presented along with the associated
measures.

2.1. ONLINE SHOPPING

2.1.1. Importance

The demand for online shopping comes from the variety of products and services, which
can be easily viewed, accessed, reviewed, compared, and bought. The user can browse
the entire online store in a matter of minutes with minimal effort and more convenience
than is possible in a traditional store. Online shopping can be conducted anytime and
anywhere, using any internet-enabled device such as PCs, laptops, tablets, or smart
phones. It is the potential for such ubiquity that has contributed to the convenience, and
the rapid growth of online shopping in recent years (Ozok & Wei, 2010).

Globally, online shopping contributes greatly to the economy. Business to Consumer
(B2C) websites in North America generated $300 billion in revenue in 2010 (Laudon &
Traver, 2011). Nearly 51% of Canadian internet users have ordered personal goods or
services online with an estimated value of $15.3 billion in 2010; in addition, 89% of these
buyers used their credit cards to make their purchases (Statistics Canada, 2010). Another
benefit of online shopping is its facilitation of direct communication between consumers
and suppliers, particularly when the suppliers maintain online stores.

2.1.2. Motives and Benefits

From a user's perspective, online shopping fulfills consumers' needs in a way brick-and-
mortar stores cannot. Online shopping meets three important consumer needs:
convenience, variety of options, and monetary value (i.e., cost-effectiveness).
Convenience is one of the most important motivations for shopping online (Bhatnagar &

Ghose, 2004; Zhou *et al.*, 2007). A study conducted on online shopping motivations shows that convenience is a more important motive than money saving or hedonic purposes (Rohm & Swaminathan, 2004). An internet user can browse, compare, select, review, and buy products or services online without the physical effort of visiting multiple stores (Szymanski & Hise, 2000), which reduces the user's time, pressure, traffic frustration and cost (Childers *et al.*, 2001). Online shopping also gives the sense of privacy (Monsuwe *et al.*, 2004), as consumers make a paid private consultation, for example, without consulting family or friends.

Because online stores have lower costs for infrastructure when compared to brick and mortar stores (e.g., a physical store in a high traffic area, additional personnel for sales, additional personnel for security), the online shopper can obtain a high quality product, or service, for a very reasonable price (nielsen.com, 2012). Costs can be reduced because suppliers can sell directly to the consumer without the need for retailers.

Many online stores send early promotions and previews of certain products associated with certain events (Mother's Day gifts for example) with options such as gift wrapping, personalized messages, specific delivery times, and so on. These strategies are both beneficial and convenient to an online shopper.

2.1.3. Risks

Risk refers to any breaches in the security and privacy of an online shopper (Forsythe *et al.*, 2006; Hu *et al.*, 2009; Roman, 2007). Almost all online activity involves a minimum risk element, and customers cannot foresee the risks most times (Dash & Saji, 2007). Risks also refer to the unwanted and unexpected negative consequences of performing an online shopping task (Dash & Saji, 2007). These consequences can be categorized into two types: product risks and security risks. Product risk means any inconveniences associated with the sought products or services such as: the inability to view the product to determine its features (e.g., size, look and feel); product performance failure; hidden or inaccurate shipping and handling fees; delivery problems; time risks (e.g., unreasonably long shipping process); and convenience risks (e.g., pick up from the

courier centre rather than at-your-door-delivery)(Bhatnagar & Ghose, 2004; Forsythe *et al.*, 2006; Garbarino & Strahilevitz, 2004; Osman *et al.*, 2010).

 Security risk refers to the lack of security and privacy measures associated with online shopping. It includes stealing or misusing personal or financial information (Bhatnagar & Ghose, 2004; Dash & Saji, 2007; Forsythe *et al.*, 2006; Garbarino & Strahilevitz, 2004; Hu *et al.*, 2009; Osman *et al.*, 2010). It includes also the absence of information about the e-retailer, such as reputation, address, or contact information, as well as the lack of a physical presence (Forsythe *et al.*, 2006; Osman *et al.*, 2010; Roman, 2007).

Online shoppers can reduce these risks by becoming more informed about online shopping challenges (Bhatnagar & Ghose, 2004). Even though more frequent online shopping may increase risk factors, users develop a lower perception of risk over time (Comegys *et al.*, 2006). In another words, customers who frequently shop online are more inclined to be satisfied because they have high scores of perceived benefits and fewer scores of perceived risks (Forsythe *et al.*, 2006). Perceived risk is one of the factors that affect online shopping behaviour and will be discussed in section 2.3.2.

2.2. DEMOGRAPHIC CHARACTERISTICS OF ONLINE SHOPPERS

Demographic characteristics refer to the social and economic status of online shoppers, including age, gender, education level, and income (Osman *et al.*, 2010). In the context of online shopping, the difference among e-shoppers attributes (e.g., male vs. females, young vs. mature users, new vs. experienced e-shoppers etc.) helps researchers to understand consumer behaviour (Monsuwe *et al.*, 2004; Seok & Bailey, 2009; Wynn, 2009). Naseri & Elliot (2011) used an Australian national survey (+15,000 obtained respondents) as the data set for their demographically oriented study and found that demographics alone (without other factors such as *perceived usefulness* of online shopping) explain 22.6% of users' online shopping behaviour, which was considered significant in behavioural research. The next section provides a brief description of the influence of demographics on online shopping.

2.2.1. Age

Age has considerable influence on online shopping behaviour. Young online shoppers (i.e., university age consumers who are between 18 to 25 years old) are more likely to perceive the benefits of shopping online (Khare *et al.*, 2012). They tend to challenge themselves with acceptance of new technologies and are more adaptive to information technology (IT) changes (Wan *et al.*, 2012). On the other hand, older e-shoppers are less active online (Laudon & Traver, 2011) because they tend to have less self-efficacy and fewer chances to shop online (Naseri & Elliot, 2011). IUSs are considered among the young population, which leads to the first research hypothesis:

H₁: Age of IUSs has a positive impact on their attitude towards online shopping.

2.2.2. Gender

Gender differences play a significant role in online shopping (Jansen *et al.*, 2012; Al-maghrabi & Dennis, 2012). In general, males prefer the overall use of e-commerce practices more than females (Kahttab *et al.*, 2012). Men perform more online transactions (Naseri & Elliot, 2011) and are more willing to engage in e-commerce (Khare *et al.*, 2012; Wynn, 2009). Also, men have higher motivation to shop online because 1) they are impulsive shoppers (Kahttab *et al.*, 2012); 2) they have a higher sense of enjoyment and satisfaction in online shopping (Khattab *et al.*, 2012); and 3) they have fewer concerns about privacy and security while shopping online (Garbarino & Strahilevitz, 2004; Zhou *et al.*, 2007). Therefore, men tend to shop online more than women (Schwanen *et al.*, 2013).

On the other hand, women spend more money on online shopping (Jansen *et al.*, 2012; Seok & Bailey, 2008). In addition, if the website was recommended by a friend, a female online shopper is more likely to buy from that site, while recommendations make no difference to a male shopper's decision to buy a product online (Garbarino & Strahilevitz, 2004; Liu, 2012). As a result, social connections increase the scores of behavioural intentions of online shopping among women, while men are less affected by social pressure (Kahttab *et al.*, 2012).

In addition, gender influence gets into the item purchased, where women tend to purchase food, toys, apparel, and entertainment services while men tend to buy DVDs, computer hardware, and financial services (Naseri & Elliot, 2011; Wynn, 2009). Further, gender differences have a significant influence on attitude and behavioural intentions (Venkatish & Davis, 2002; Wynn, 2009), so this research postulates that:

H_2: A male IUS has a more positive attitude towards online shopping than a female IUS.

2.2.3. Education Level

Higher levels of education increase the likelihood of online shopping because a more educated person is more capable of shopping online and is more aware of the consequences (Burroughs & Sabherwal, 2002). Osman *et al*. (2010) conducted a quantitative research into the online shopping behaviour of university students and found that there is a significant positive relationship between level of education and attitude towards online shopping. Moreover, with regard to online shopping, more educated customers are more self-sufficient, have higher online activity, and spend more money (Naseri & Elliot, 2011). In this case, the research postulates:

H_3: IUSs with higher education have a positive attitude towards online shopping.

2.2.4. Income

Higher income increases the frequency of online shopping (Wu *et al*., 2012; Yousefi & Tang, 2012). Higher income results in higher credit ratings for credit cards, as well as an increased likelihood of access to high speed internet, which might result in more frequent online purchases (Naseri & Elliot, 2011). Hence, the research hypothesizes that:

H_4: IUSs with higher income have a positive attitude towards online shopping.

2.2.5. Prior Experience

Online experience refers to the state of emotions a customer is exposed to while shopping online (Wynn, 2009). Online shoppers want to have more interesting, interactive, and personalized shopping experiences. To achieve this goal, they tend to make frequent purchases; the more they buy, the more experienced they become (Naseri & Elliot, 2011). Prior experience makes an online shopper more efficient in making purchases. In

addition, prior experience leads to more confidence in online shopping and fewer risks (Miyazaki & Fernandez, 2001; Monsuwe *et al*., 2004).

There is a difference between a new and expert online shopper. New users tend to seek help and opinions from their relatives and friends (Weisberg *et al*., 2011), while expert shoppers will first evaluate shopping sessions based upon their prior experience in the first place, then they might ask for recommendations (Abdul-Muhmin, 2010; Monsuwe *et al*., 2004). Experts or higher users of the internet tend to buy more online (Comegys *et al*., 2006; Weisberg *et al*., 2011), so:

H_5: IUSs who are experienced in online shopping tend to have a positive attitude towards online shopping.

2.3. THE TECHNOLOGY ACCEPTANCE MODEL (TAM) AND ASSOCIATED MEASURES

2.3.1. The Technology Acceptance Model in the Context of E-Commerce

The Technology Acceptance Model (TAM) was introduced by Davis (1985) (see Figure 2.1) as an expansion of the Theory of Reasoned Action (TRA). In psychology, TRA tries to explain someone's behaviour based on his or her attitude and behavioural intentions (Ajzen & Fishbien, 1980). Davis adopted TRA to explain how a user behaves toward a technology system (e.g., internet, software etc.) and how the perceived ease of use and perceived usefulness of that system influence the users' attitude towards accepting that system (Monsuwe *et al*., 2004; Venkatesh & Bala, 2008). TAM measures consist of perceived usefulness (PU), perceived ease of use (PEOU), attitude towards system use (ATT), behavioural intention to use (BI), and actual system use (i.e., behaviour).
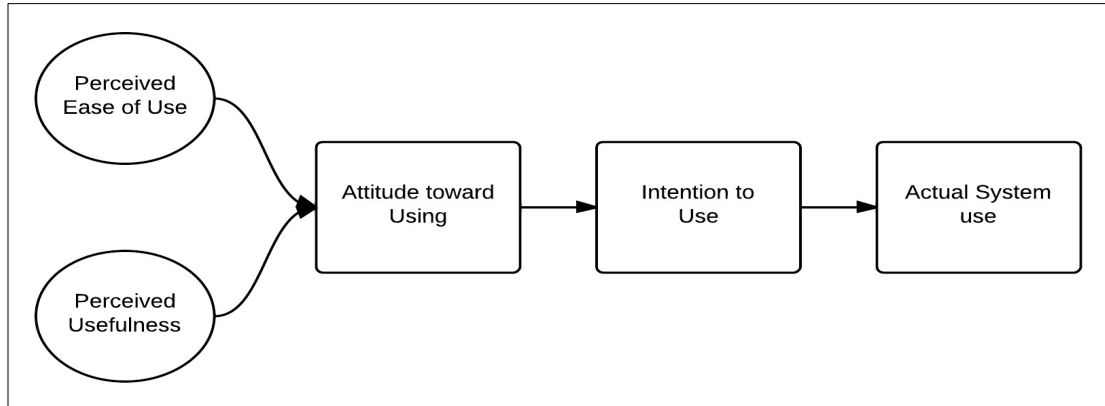
Figure 2.1   The Technology Acceptance Model (TAM) by Davis (1985)

Online shopping sites are examples of information technology systems (ITS) and involve interaction and communication with users (Kim, 2012). Therefore, TAM has been adopted into the online e-commerce context to explain intentions and attitude towards online shopping as follows:

Perceived Ease of Use (PEOU): Perceived ease of use (PEOU) is the degree to which a user feels that his or her use of technology is effortless (Davis, 1985); it is a basic requirement for a technology system (Kim, 2012). In the e-commerce context, PEOU refers to the effortless performance associated with online shopping, or the minimum level of effort involved (Monsuwe *et al*., 2004; Sin *et al*., 2012). The easier an online store is to use, the more likely it is that users will make a purchase (Monsuwe *et al*., 2004). When users are familiar with the website, their perceived ease of use increases, thus they exert less mental effort to navigate the site (Gefen & Straub, 2003). PEOU positively influences the user's behavioural intentions and attitude towards online shopping (Heijden *et al*., 2003; Liu, 2012; Monsuwe *et al*., 2004) and leads to a useful and efficient purchase (Childers *et al*., 2001). Therefore, the research hypothesizes:

H₆: When an IUS perceives online shopping is easy to use, his or her attitude towards online shopping will be positively influenced.

Perceived Usefulness (PU): Perceived usefulness (PU) is the degree to which a consumer believes that his or her use of technology will enhance and accelerate his or her task performance (Davis, 1985; Hsieh & Liao, 2011; Kim, 2012; Sin *et al*., 2012). In the e-

commerce context, PU also refers to the users' perception that using a website enhances their online shopping experience (Monsuwe *et al*., 2004) and would result in a useful and faster online shopping compared to traditional stores (Dash & Saji, 2007). In addition, usefulness refers to the benefits of performing online shopping (Kim *et al*., 2010). Studies that use TAM as a theoretical framework found that PU positively and directly influences attitude towards online shopping and enhances the probability of repeated purchases (Dash & Saji, 2007; Kim, 2012; Sin *et al*., 2012; Zhou *et al*., 2007).

H_7: Perceived usefulness of online shopping will have a positive impact on IUSs' attitude towards online shopping.

Attitude (ATT): Davis (1985) define attitude towards using a system as "the degree of evaluative effect […] that an individual associates with using the target system in his or her job". Attitude (ATT) was used in TAM as a mediating factor between perceptions (i.e., PEOU and PU) and behavioural intentions (BI) (Kim, 2012). Attitude is also determined by internal motivations, such as entertainment, as well as external motives such as usefulness (Heijden *et al*., 2003).

Attitude is a hypothetical structure or collection of beliefs that combines attributes of objects with their role in the world, and particularly their role relative to personal goals (Lee *et al*., 2007). In the context of e-commerce, online shopping is the object and the attributes are the benefits and risks associated with online shopping (Abdul-Muhmin, 2010; Hsu *et al*., 2006).

Attitude is difficult to change because it reflects the attributes, feelings, perceptions, and experience that come from personal beliefs of an online shopper (Wu, 2003). In this regard, demographics and cultural differences have a strong impact on attitude towards online shopping (Balnca *et al*., 2011; Heijden *et al*., 2003; Wu, 2003). In addition, Attitude has a positive influence on behavioural intentions (Abdul-Muhmin, 2010; Hassanein & Head, 2006; Wu, 2003). Hence this study presumes that:

H_8: IUSs' attitude towards online shopping positively influences their online shopping behavioural intentions.

Behavioural Intentions (BI): Behavioural intentions (BI) refer to the users' likelihood of using an information technology system (Yang, 2003). In the e-commerce context, behavioural intentions refer to the likelihood that an internet user will make a decision to actually buy online (Close & Kukar-Kinney, 2010; Dash & Saji, 2007).

The BI measure is a dependent variable determined by ATT (Hsu *et al*., 2006) and is indirectly affected by PU and PEOU (Kim, 2012; Wynn, 2009; Weisberg *et al*., 2011). Moreover, studies found that there are several additional factors that indirectly influence behavioural intentions (via attitude) such as online shopping history, prior experience, and level of security (Hsu *et al*., 2006; Kahttab *et al*., 2012), along with other factors (see section 2.3.2).

H_9: IUSs' attitude and behavioural intentions positively influence their online shopping behaviour.

Actual Behaviour (B): Behaviour, in general, is driven by two main factors: rational intentions (strengthen by perceptions) and social influence (social awareness, pressure, and necessity) (Lee *et al.*, 2007). Actual behaviour is the state an online shopper undergoes while interacting with online websites for the purpose of making a purchase (Liao & Keng, 2013). The measures of online shopping behaviour are obtained from the actual use of online shopping not the intentions to use. These measures include frequency of shopping online, motivations, total spending, items purchased, and shopping method. Section 3.1 explains in further detail the research design and how these measures were obtained from IUSs by using a self-administered questionnaire.

2.3.2. Associated Measures of TAM

Many studies added additional measures to TAM to make it more suitable for determining online shopping behaviour. Some of these measures are: perceived risk (PR), perceived entertainment (PE), and perceived self-efficacy (PSE). The following sections will discuss the importance of these measures and how they are related to this study.

Perceived risk (PR): In the online shopping context, PR is defined as the degree of uncertainty felt by a user during an online shopping process (Forsythe *et al*., 2006;

Roman, 2007). Online shopping involves a degree of potential loss and negative consequences (as mentioned in section 2.1.3). Perceived risk works as a barrier to shopping online as it reduces the chances to shop online especially for new users (Allred et al., 2006). Therefore, researchers (Blanca et al., 2011; Dash & Saji, 2007; Yi & Gong, 2008; Zhou et al., 2007) considered adding perceived risk (PR) to TAM to see whether users' concerns about security and financial loss will affect their behaviour toward online shopping. These studies found that perceived risk negatively affected attitude towards online shopping.

Perceived risk has a stronger correlation with online shopping than perceived usefulness (Zhou et al., 2007). The level of uncertainty negatively affects attitude and behavioural intentions of online shopping (Dash & Saji, 2007; Zhou et al., 2007). Moreover, perceived risk can be affected by demographics and online shopping experience levels (Forsythe et al., 2006; Zhou et al., 2007). The more expert a user becomes, the less perceived risks he or she will have (Bhatnagar & Ghose, 2002; Blanca et al., 2011). Therefore, this study assumes that:

H_{10}: IUSs' risk perceptions negatively affect their attitude towards online shopping.

Perceived Entertainment (PE): Despite the risks involved, online shopping can be fun. In the e-commerce context, perceived entertainment refers to online shoppers' level of enjoyment associated with using an online store (Hu et al., 2009). A user might enjoy the features provided by an online store such as the virtual *try-on* technology where the user can obtain as much information online about an apparel product (e.g., colours, size, dimensions etc.) as they would examining it in a physical store (Kim & Forsythe, 2008).

Entertainment is what a website offers to please its customers (e.g., fun, pleasure, escapism, arousal etc.), and how the online store engages the customers in activities that are absorbing, and makes them feel good during an online shopping session (Al-maghrabi & Dennis, 2011; Monsuwe et al., 2004). In addition, online shopping can be a solitary experience that provides the user with a sense of relaxation (Overby & Lee, 2006). Therefore, perceived entertainment was added to TAM as one of the measures to determine a user's online shopping behaviour (Hu et al., 2009; Kim et al., 2010; Monsuwe et al., 2004; Padilla-Meléndez et al., 2013; Zhou et al., 2007).

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The studies found that PE positively influences BI and affects ATT positively and directly. PE also prompts the online shopper to stay longer and browse more, which increases the likelihood of more purchases (Hu *et al.*, 2009; Kim *et al.*, 2010).

H$_{11}$: Perceived entertainment has a positive impact on IUSs' attitude towards online shopping.

Perceived Self-Efficacy (PSE): In the online shopping context, perceived self-efficacy (PSE) refers to the extent to which a user thinks he or she is capable of performing a certain task to achieve the desired results (Dash & Saji, 2007; Venkatesh & Bala, 2008; Yao & Li, 2008). There are several factors that influence the user's self-efficacy, such as the user's level of experience (Venkatesh & Bala, 2008); emotions and feelings (Zhou *et al.*, 2007); and self-confidence (Dash & Saji, 2007; Yi & Gong, 2008).

PSE is strongly related to the outcomes of using an IT medium, so the higher the individual's PSE, the more desired outcomes he or she will achieve (Yi & Gong, 2008). Thus, studies have included PSE in TAM to examine the influence of PSE on attitude towards online shopping (Blanca *et al.*, 2011; Dash & Saji, 2007; Yi & Gong, 2008; Zhou *et al.*, 2007). PSE positively influences ATT (Blanca *et al.*, 2011; Dash & Saji, 2007). Therefore, this research postulates that:

H$_{12}$: Perceived self-efficacy positively influences IUSs' attitude towards online shopping.

2.4. THEORETICAL MODEL

This study uses TAM as the main framework to analyze IUSs' online shopping behaviour with respect to the other associated measures discussed above. Figure (2.2) shows the relationship between these measures.
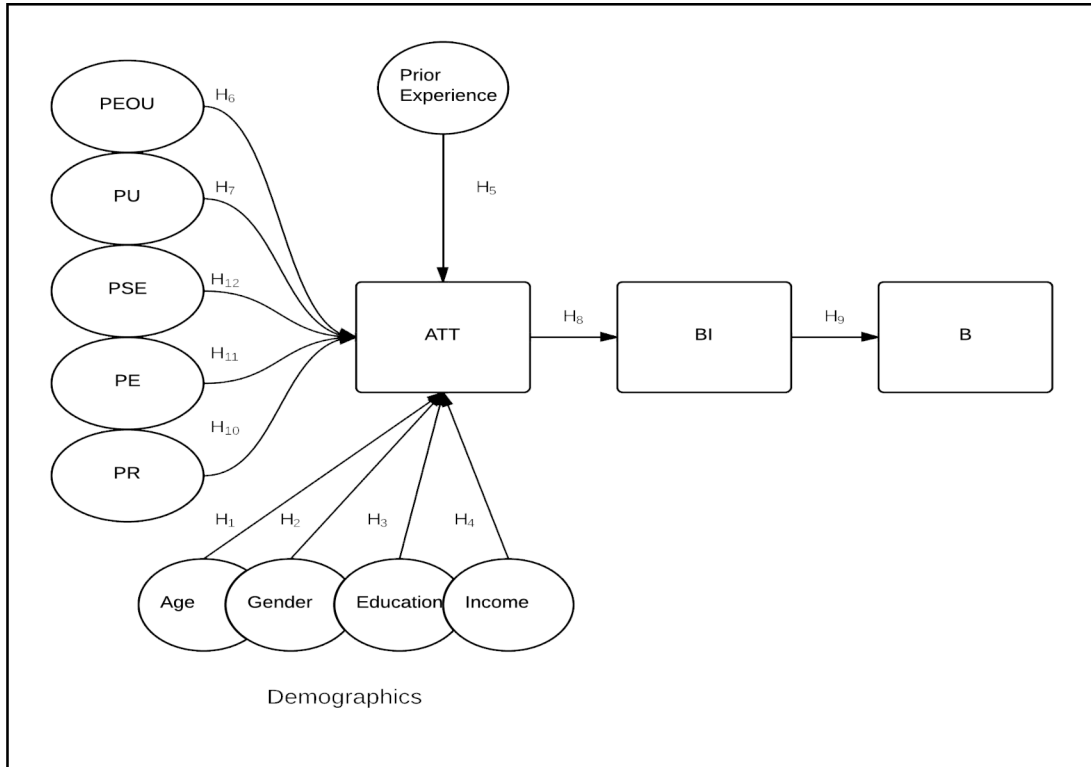
Figure 2.2   Effects of IUSs' Demographic Factors and Perceptions on Online Shopping Behaviour.

2.5. SUMMARY

TAM is one of the most commonly used theories to predict the user's behaviour over various times and cultures. Pervious studies have indicated the initial relationships among TAM measures. The following chapters will discuss the methodology of this research and how TAM measures are applied in the research design.

CHAPTER 3   METHODOLOGY

Chapter 3 discusses the methods used to obtain the data for this study. A self-administered questionnaire was designed based on items presented in previous studies. A pilot study was applied to test the validity and reliability of the items. The questionnaire, along with a consent form, was distributed online to IUSs in Halifax, Nova Scotia. One hundred and forty-two participants responded.

3.1. RESEARCH DESIGN

This study examined the hypotheses via a survey based on measures established in the previous chapter. Aside from the demographics status questions, Table 3.1 shows the measures that were categorized into seven major scales, each of which has several items. The rating for each item was measured via a Likert scale. Likert is an acceptable measurement of attitude in self-administered questionnaires (Delafrooz *et al*., 2009). Therefore, this study used a five point Likert scale to measure the performance of the participants with a rating range from "strongly disagree" to "strongly agree" and to give an assessment of confidence in that rating (Maurer & Pierce, 1998).

Table 3.1   Variables and Indicators of Online Shopping Behaviour's Measures

Scale	Items	References
Perceived usefulness	Online shopping enables me to make purchases more quickly than traditional stores. Online shopping improves my ability to make the right decisions about products. Online shopping is more useful than traditional shopping. I find precisely what I want in an online store.	Davis, 1985
	Online shopping improves my academic performance. I find online shopping is useful for my studies.	Venkatesh & Bala, 2008
	Shopping websites provide useful content. Shopping websites provide sufficient information about the product/ service. Online shopping websites make it easy to find what I want.	Hsieh & Liao, 2011
	Online shopping helps me to shop more efficiently. Online shopping saves me time. Online shopping saves me money.	Blanca *et al.*, 2011
	Shopping online reduces the monetary cost of traditional shopping (e.g., parking fee)	Osman *et al.,* 2010
Perceived ease of use	From my experience, online shopping is understandable.	Venkatesh & Bala, 2008

Scale	Items	References
	It is easy to pay for items online.	Hsieh & Liao, 2011
	Online shopping does not require a lot of mental effort.	Venkatesh & Davis, 2000
Perceived Self-efficacy	I do not need to learn about online shopping. I do not need assistance in doing my online shopping. I do not need to consult about the product / service before I buy.	Venkatesh & Bala, 2008
	I feel capable of buying online. I feel comfortable looking for information about a product/ service online.	Blanca *et al.*, 2011
	I would be frustrated about what to do if I am dissatisfied with a purchase made online.	Osman *et al.*, 2010
Perceived entertainment	I enjoy shopping online. I enjoy shopping online more than traditional shopping (markets and malls). Online shopping puts me in good mood.	Seock & Bailey, 2008
	I have fun while shopping online.	Venkatesh & Bala, 2008
Perceived risk	Online shopping is risky.	Osman *et al.*, 2010
	I am afraid my personal information would be stolen during an online purchase. I feel secure making transactions.	Lin *et al.*, 2010
	I am aware of my rights as an online shopper. I read the privacy policy and terms of use before purchasing online.	Milne & Culnan, 2004
Attitude towards online shopping	My general attitude towards online shopping is positive.	Blanca *et al.*, 2011
	I prefer online shopping to traditional shopping. The thought of buying product/service online is appealing to me.	Osman *et al.*, 2010
	I recommend online shopping to my friends.	Garbarino & Strahilevitz, 2004
Behavioural intentions	Usually, I spent more time on online shopping than I had planned to. I am willing to spend more time on online shopping. I recommend online shopping to my friends.	Hsieh & Liao, 2011
	I intend to continue doing online shopping.	Chen *et al.*, 2010
	I will buy more products online.	Blanca *et al.*, 2011

The survey consisted of an online consent form (Appendix A), and questionnaire (Appendix B)[1]. Online surveys are the most frequently-used instruments to measure consumer behaviour in the e-commerce field. Also, unlike qualitative studies, surveys yield more reliable generalized findings (Zhou *et al*., 2007). This study used Opinio software to design the online survey. Opinio is free software provided by the cooperation between the manufacturer (Object Planet) and Dalhousie University. It provides secure and password protected cloud data storage. Only the researchers have access to the data on the secured sever. In addition, Opinio supports a variety of question options, e.g., drop lists, check box, radio buttons, multiple choice, open ended questions etc. (objectplanet.com/opinio)

3.2. FEASIBILITY TEST

To test the reliability of the questionnaire, a pilot study was conducted on a small group of IUSs volunteers (10 participants) in order to: 1) consider the time taken to respond to the questionnaire, 2) test language comprehension, 3) determine any flaws, misunderstandings, or ambiguities, and 4) test the reliability and the validity of each scale in the questionnaire. Reliability of the scales was determined using Cronbach's alpha coefficient (Blanca *et al*., 2011; Seock & Bailey, 2009). Since low scores were returned for perceived self-efficacy and perceived risk, some of the items were modified or deleted (see Table 3.2 and Table 3.3). The data collected in the pilot study was not included in the main research data.

Table 3.2   Reliability of Perceived Self-Efficacy Items Before & After Modifications

	Unmodified Perceived Self-Efficacy Questions	Modified Perceived Self-Efficacy Questions
	I do not need to learn how to make online shopping.	I feel confident in doing online shopping
	I do not need assistance with my online shopping.	
	I do not need to consult about the product / service before I buy it online (e.g., ask friends and family or read some reviews).	I feel capable of buying online

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[1] The study was approved by The Research Ethics Board, Dalhousie University.

	Unmodified Perceived Self-Efficacy Questions	Modified Perceived Self-Efficacy Questions
	I feel capable of buying online.	
	I feel comfortable looking for information about a product online.	I feel comfortable looking for information about a product/ service online.
	I would be frustrated about what to do if I am dissatisfied with a purchase made online.	I feel confident to communicate with the online shop's customer service staff.
Alpha Score	.021	.641

Table 3.3   Reliability of Perceived Risk Items Before & After Modifications

	Unmodified Perceived Risk Questions	Modified Perceived Risk Questions
	I feel secure making transactions.	Sometimes, I do not feel secure making online transactions.
	I am aware of my rights as an online shopper.	Sometimes, I am not aware of my rights as an online shopper.
	I read the privacy policy and terms of use before purchasing online.	Sometimes, I do not read the privacy policy and terms of use before purchasing online.
	Online shopping is risky.	Online shopping is risky
	I am afraid my personal information would be stolen during an online purchase.	I am afraid my personal information would be stolen during an online purchase.
Alpha Score	.21	.81

3.3. POPULATION, SAMPLE, AND PARTICIPANTS

3.3.1. Population

IUSs are an important segment of the university student population (Delafrooz *et al*., 2009). In Canada, IUSs come from all around the world and represent an important segment of society. From a Canadian perspective, an IUS is not a permanent resident of Canada and needs the authorization of the Canadian government to enter Canada with the intention of pursuing an education (statcan.gc.ca, 2010). By 2010, there were 116,890

IUSs in Canada with annual growth rate of 8% (Foreign Affairs, Trade and Development Canada, 2011).

3.3.2. Sample

Convenience and purposive sampling techniques were used to assemble the desired group of students. The criteria for participations were: the participants must be IUSs, 18 years and older, enrolled in a university program in Halifax, and have at least one online shopping experience. The participants were expected to fill the consent form (Appendix A) before answering the online survey. The sample population was obtained in different ways: through the cooperation of the international centres in Saint Mary University and Mount Saint Vincent University; through the Faculty of Computer Science in Dalhousie university email lists; and through the universities' social media pages.

3.3.3. Participants

The survey was open for two months (February 28 – April 30, 2013). A total of 142 participants completed the survey, with 93 males and 49 females. Further analysis of the participants' demographic factors will be presented in Chapter 4. The data was exported in Excel format and the measures were coded for analysis in SPSS.

3.4. SUMMARY

TAM measures were constructed into an online questionnaire with Likert assessment scale. 142 responses were obtained from IUSs. The next chapter contains a description of the participants and their shopping experience, an analysis of the TAM measures, and the relationships among the variables.

CHAPTER 4   QUESTIONNAIRE ANALYSIS

This chapter provides an analysis of the data gathered from the online survey. The survey includes a consent form (Appendix A) and 8 sets of questions (Appendix B). The first set was titled "Demographic/ Socio-economic Condition Questions". The data from this set is analyzed under section 4.1. The following sets were related to TAM measures (i.e., PU, PEOU, PSE, PR, PE, ATT, and BI). The data from these measures are analyzed separately under section 4.2. The main analysis (section 4.3) explains in further detail the relationships among TAM components. The analysis was done using SPSS software version 2.0.

4.1. DEMOGRAPHIC CONDITIONS QUESTIONS ANALYSIS

A total of 142 participants completed the survey: 93 males and 49 females (see Table 4.1). Age data was collected within four age groups: 18 - 24 (n = 73), 25 - 34 (n = 59), 35 - 44 (n = 6), and over 40 (n = 0). There was one individual who declined to answer, and another three missing values. Country of origin data was collected through a drop list of the world's countries. The respondents indicated these main categories: Saudi Arabia (n = 45), China (n= 23), India (n = 11), Brazil (n = 8), Iran (n= 6), Pakistan (n= 6), and Other (n= 38). Three participants preferred not to answer and there was one missing value. Level of education was measured within three groups: Undergraduate (n = 67), Graduate (n = 61), and Other (n = 12), with two missing values. Personal income was reported within seven groups: Less than \$12,000 (n=51), \$12,001 to \$24,000 (n = 23), \$24,001 to \$36,000 (n = 14), \$36,001 to \$48,000 (n = 20), \$48,001 to \$60,000 (n = 11), and \$60,001 to \$72,000 (n = 2). Twelve individuals declined to answer, and there was one missing value. Years of residence in Canada was recorded with four groups: Less than one year (n=34), 1 - 3 years (n = 69), 4 - 6 years (n = 31), and over 6 years (n = 7), but there was one missing value.

Table 4.1   Demographic Attributes of Respondents

Categories	Frequency	Relative frequency
Age		
18-23	73	51.41%
24-34	59	41.55%
35-44	6	4.23%
Over 44	1	0.7%

Categories	Frequency	Relative frequency
Prefer not to answer	1	0.7%
Not answered:	3	2.11%
Gender:		
Male	93	65.49%
Female	49	34.51%
Country of origin		
Brazil	8	5.63%
China	23	16.2%
India	11	5.63%
Iran	6	4.23%
Pakistan	6	4.23%
Saudi Arabia	45	31.69%
Other	39	26.03%
Prefer not to answer	3	2.11%
Not answered:	1	0.7%
Education level:		
Undergraduate	67	47.18%
Graduate	61	42.96%
Other	12	8.45%
Not answered	2	1.41%
Residence in Canada::		
Less than one year	34	23.94%
1 - 3 years	69	48.59%
4 - 6 years	31	21.83%
Over 6 years	7	4.93%
Not answered:	1	0.7%
Income:		
Less than $12.000	51	35.92%
$12.001 to $24.000	23	16.2%
$24,001 to $36,000	14	9.86%
$36.001 to $48.000	20	14.08%
$48.001 to $60.000	11	7.75%
$60.001 to $72.000	2	1.41%
Prefer not to answer	20	14.08%
Not answered	1	0.7%

The relative frequencies (Rf) of the responses regarding motivations for online shopping are as follows:

- I shop online because items are on sale ($Rf = 18.42\%$)

- I shop online because of free shipping ($Rf = 10\%$)

- I shop online because it is convenient ($Rf = 20.53\%$)

- I shop online because it is faster ($Rf = 5.53\%$)

- I shop online because the product/service is available only online ($Rf = 13.68\%$)

- I shop online because of good deals and complementary promotions (*Rf* = 10%)
- I shop online because I can read product reviews (*Rf* = 6.58%)
- I shop online because I can compare prices (*Rf* = 13.68%)
- The option "Others" (*Rf* = 1.58%) was chosen 6 times without any specifications, and there was 1 missing value.

Online shopping experience is shown in Table 4.2. When asked how often they purchased online *before* coming to Canada, 23.94% of the participants replied "Never", 22.54% replied "Rarely", 11.97% replied "Occasionally", 19.72% replied "Sometimes", 14.79% replied "Often" and 7.04% replied "Very often". However, when asked how often they purchased online *after* coming to Canada, 16.2% replied "Rarely", 16.2% replied "Occasionally", 33.1% replied "Sometimes", 21.13% replied "Often" and 13.38% replied "Very often". When asked if spending had increased or decreased, 64.08% replied "Has decreased", 19.72% replied "Is the same", and 15.49% replied "Has increased", but there was one missing value. When asked how much was spent in online shopping per month, 85.92% replied "Less than $500", 11.97% replied "$500- $1000", and 0.7% replied "Over $1000" (there were 2 missing values).

Of the142 participants, 80.99% reported using "Credit Cards", 7.75% reported using "Debit Cards", 10.56% reported using "Payment services (e.g., PayPal, Google Wallet etc.)", and 0.7% reported "Other" without a specification. Most of the participants (89.44%) used a laptop or desktop computer, 8.45% used a "Smart Phone" while 1.41% reported the use of a "Tablet" (there was one missing value). When asked to identify the single category of goods purchased most often, 8.51% reported "Books, Articles, Magazines, etc. ", 15.49% reported "Apparel", 3.52% reported "Food", 16.2% reported "Electronic Appliances", 18.31% reported "Computer gadgets", 7.75% reported "Software (e.g., songs, games, movies, etc.) ", 1.41% reported "Online services", 4.93% reported "Hotel reservations", 1.41% reported "Movie/ theater/ concerts tickets", 2.11% reported "Cosmetics/Jewelry", 14.08% reported "Airline tickets", and 5.63% reported "Other". The categories of "Toys" and "Household Furnishings" had no selections. Within the "other" category, two of the six clearly wanted to select multiple categories, as

one stated "accessories", and one stated "bags" (a further two had reported "clothes" but these were recorded as "Apparel").

Table 4.2   Prior and Post Online Shopping Experience of International University Students in Halifax, NS

Categories	Frequency	Relative frequency
Prior arriving to Canada experience:		
Never	34	23.94%
Rarely	32	22.54%
Occasionally	17	11.97%
Sometimes	28	19.72%
Often	21	14.79%
Very often	10	7.04%
OS in Canada compared to prior experience		
Has increased	91	64.08%
Has decreased	22	15.49%
Is the same	28	19.72%
Not answered	1	0.7%
Frequency of OS in Canada		
Very often	19	13.38%
Often	30	21.13%
Sometimes	47	33.1%
Occasionally	23	16.2%
Rarely	23	16.2%
Monthly Spending:		
Less than $500	122	85.92%
$500- $1000	17	11.97%
Over $1000	1	0.7%
Not answered	2	1.41%
Device:		
PC/ Laptop	127	89.44%
Smart phone	12	8.45%
Tablet	2	1.41%
Not answered	1	0.7%
Payment method:		
Credit card	115	80.99%
Debit card (e.g. Interac)	11	7.75%
Payment services (e.g. PayPal, Google Wallet etc.)	15	10.56%
Other	1	0.7%
Items purchased online:		
Books, articles, magazines, etc.	12	8.51%
Apparel	22	15.49%
Food	5	3.52%
Electronic Appliances	23	16.2%

Categories	Frequency	Relative frequency
Computer gadgets	26	18.31%
Software (e.g., songs, games, movies etc.)	11	7.75%
Online services	2	1.41%
Hotel reservations	7	4.93%
Movie/ theater/ concerts tickets	2	1.41%
Cosmetics/Jewelry	3	2.11%
Airline tickets	20	14.08%
Others	8	5.63%
Not answered	1	0.7%

4.2. THE TECHNOLOGY ACCEPTANCE MODEL (TAM) MEASURES AND ASSOCIATED MEASURES ANALYSIS

As was discussed in Chapter 2, the classic TAM, which consists of four behaviour measures: PU, PEOU, ATT, and BI, was enhanced with another three measures: PSE, PE, and PR. All the measures were assessed by a total of 38 items. Responses for each item were scaled from -2 (strongly disagree) to +2 (strongly agree) with 0 representing neutral. The following section provides simple descriptive statistics and a reliability analysis. For this reliability analysis, only those participants who had responded to all items of a scale (e.g., all the questions under the PE set) were included. Hence, the sample sizes per scale were slightly different.

4.2.1 Perceived Usefulness Analysis

The PU scale consisted of 13 items: 133 participants provided responses for all items. Responses use the entire range of the scale (i.e., the minimum is -2 and the maximum is +2). The descriptive statistics for this measure are provided in Table 4.3. Note that, with one exception, the means tend to lie between 0 and 1, implying a slight positive bias in the responses. One explanation is that because this scale measures the perceived benefits, the participants mostly agree that online shopping is beneficial and useful. As a result, the responses are piled towards one end, which gives a unimodel distribution in a visual check. In other words, there were no concerns with having two different groups of opinions, as the responses have close mean scores.

Interestingly, the two items with negative means focused on the impact of online shopping on academic studies. It may mean that IUSs perceived online shopping as not useful for their studies, either because it is distracting or simply because it is not related.

Chronbach alpha coefficient measures the internal consistency of an item in a scale. It normally ranges between 0 and 1. George and Mallery (2003) established a brief indicator as follows:

- ≥ 0.9 Excellent
- ≥ 0.8 Good
- ≥ 0.7 Acceptable
- ≥ 0.6 Questionable
- ≥ 0.5 Poor
- < 0.5 Unacceptable

Chronbach alpha coefficient is widely used in social behaviour studies and it is the only reliability measure in SPSS. It determines to what extent a set of items would measure the same concept. However, it is notable that Chronbach alpha coefficient does not reflect precisely the true reliability of the measures for statistical reasons beyond the scope of this study (Sun *et al.,* 2007).

The analysis of reliability indicates that the Chronbach alpha coefficient for the entire scale was .794 (standardized alpha = .793). The Alpha column in Table 4.3 is very important because it assesses the increase or decrease in the alpha score if that single item were to be deleted from the scale (i.e., it is the alpha for the scale that would consist of all items except the specified one). All of the items seem to be useful because deleting one of them would result in a reduction in the reliability scores.

Table 4.3   Perceived Usefulness (PU) of Online Shopping

Items	Descriptives				Reliabilities	
	Mean	Sd	Min	Max	R^2	Alpha[1]
OS is faster than traditional stores	0.550	0.892	-2	2	0.193	0.791
OS improves decisions	0.650	0.963	-2	2	0.403	0.770

about products						
OS is more useful than traditional stores	0.320	0.891	-1	2	0.386	0.765
I find precisely what I want in an online store	0.600	0.758	-1	2	0.310	0.778
OS improves academic performance	-0.160	0.895	-2	2	0.498	0.771
OS is useful for my studies	-0.020	0.965	-2	2	0.484	0.775
Shopping websites provide useful content	0.510	0.724	-2	2	0.351	0.771
Shopping websites provide sufficient product information	0.600	0.748	-1	2	0.393	0.776
Shopping websites make it easy to find what I want	0.920	0.724	-1	2	0.306	0.783
Shopping websites help me to shop more efficiently	0.800	0.830	-2	2	0.303	0.772
OS saves me time	1.090	0.900	-2	2	0.279	0.775
OS saves me money	0.460	0.950	-2	2	0.227	0.786
OS reduces the associated cost of traditional stores	0.590	0.922	-2	2	0.233	0.779

Notes: [1]Alpha is "Alpha If Item Is Deleted"

The final statistic in Table 4.2 is the *coefficient of determination* (also called multiple regression) R^2. It is a form of correlation measurement that indicates the degree to which a single variable is related to the combination of two or more other variables (Garner, 2010). In other words, it is used to measure the strength of the relationship between a group of variables, while the linear correlation coefficient (e.g., Pearson's) determines the relationship between two variables in most cases. In addition, Garner (2010) states that R^2 helps to determine "what proportion of all the variation about the dependent variable can be predicted from the regression analysis, i.e., from knowing about the distribution of the IV (predictor variable)?" (p. 228). In the case of determining PU measures, R^2 was used to help find out what percentage of a single item can be predicted from the sum of the variation of the other items. Garner's indicators (2010) of the strength of predictors were used as follows:

- 0.8 - 1   Perfect relationship

- 0.6 - 0.8   Strong relationship
- 0.4 - 0.6   Strong moderate relationship
- 0.2 - 0.4   Moderate relationship
- 0.1 - 0.2   Weak relationship
- 0   No relationship

In questionnaires, and in particular those that use a Likert scale, the higher R^2 score means a higher possibility that an item might be redundant, repeated, or overlapped with other items. R^2 scores in Table 4.2 range between $0.19 – 0.49$ (i.e., between weak to strong moderate). In this case the items seemed reasonable, because although every item seems distinguishable from the others they did not lose the relationship altogether. This explains why deleting one of the items will result in reduction of overall reliability (Gliem & Gliem, 2003).

Hence, one can conclude that for this scale, all the items work together. As such, it is reasonable to average all the items to create a single score representing PU. Note that this allows one to estimate a missing value for particular participants. The average of the remaining values is a good representation of the missing data.

4.2.2. Perceived Ease of Use Analysis

The PEOU scale consisted of 4 items. Table 4.4 provides the descriptive statistics for these items based on responses from 140 participants. The means lie between 0 and 1, implying a slight positive bias in responding. Responses did not cover the entire range of the scale (i.e., the minimum is only -1, though the maximum is +2). As such, the full theoretical range of the scale is not being used. For Items 1 and 3, no one endorses "strongly disagree". A visual check of all distributions indicated that there were no issues of bimodality.

The analysis of reliability indicates that the Chronbach alpha coefficient for the entire scale was .681 (standardized alpha = .688), which is considered questionable (George & Mallery, 2003). This happens because the number of items is low, and a higher number of items would raise the likelihood of higher Chronbach alpha coefficient average scores. Another reason is that the items are not highly correlated, which explains the low scores

in the R^2 column. Item 3 seems to be the most important, because it would cause a reduction in the reliability scores if deleted. The other items do not have as much influence on alpha as Item 3, but they are needed to create a single score representing PEOU. Nonetheless, these items might be reconsidered for future use.

Table 4.4   Perceived Ease of Use (PEOU) of Online Shopping

Items	Reliabilities				Descriptives	
	Mean	Sd	Min	Max	R^2	Alpha[1]
OS is clear and understandable	0.890	0.700	-1	2	0.226	0.626
OS does not require mental effort	0.350	1.045	-2	2	0.280	0.603
It is easy to pay online	0.940	0.803	-1	2	0.293	0.573
It is easy to become skillful in OS	0.860	0.824	-2	2	0.197	0.653

Notes: [1]Alpha is "Alpha If Item Is Deleted"

4.2.3. Perceived Self-Efficacy Analysis

The PSE scale consisted of four items: 140 participants provided responses for all items. The descriptive statistics for the 140 participants are provided in Table 4.5. The means lie between 0 and 1, implying a slight positive bias in responding. In fact, Item 3 exceeds the value of 1, implying strong agreement on average. For Items One and Two, responses did not cover the entire range of the scale (i.e., the minimum is only -1, though the maximum is +2). As such, the full theoretical range of the scale is not being used (no one endorses "strongly disagree"). A visual check of all distributions indicated that there were no issues of bimodality.

The analysis of reliability indicates that the Chronbach alpha coefficient for the entire scale was .726 (standardized alpha = .741), which is considered "acceptable" in social science studies (George & Mallery, 2003). The "alpha if item deleted" shows that all the items are useful because deleting one of them would result in reducing the overall alpha score. However, note that the deletion of Item 4 would actually increase the alpha from .73 to .79. Item 4 seems distinguished because it gives the respondent a pause to think about whether one can be capable to communicate with others or not, which reflects on one's perception about one's self-efficacy. The other items consider one's perception about his or her capability of shop online without difficulties; hence their R^2 scores are much higher than Item 4's. Nonetheless, Item 4 was not deleted for two reasons. First, it

would reduce the scale to just three items, which would result in low overall reliability score (Gliem & Gliem, 2003). Second, Item 4 is positively correlated with the rest of the items, hence it can still be predicted by the combination of other items (i.e., R^2 score). This means that Item 4 is related to the PSE concept. It has been suggested that Chronbach alpha coefficient does not represent the true reliability of a scale if that scale contains even a small amount of divergent items (Sun *et al.,* 2007). For future studies, these differences might be considered.

Hence, one can conclude that, for this subscale, all the items work together. As such, it is reasonable to average all the items to create a single score representing PSE.

<div align="center">

Table 4.5   Perceived Self-Efficacy (PSE) of Online Shopping

</div>

Items	Descriptives				Reliabilities	
	Mean	**Sd**	**Min**	**Max**	**R^2**	**Alpha[1]**
I feel confident about my OS	0.810	0.886	-2	2	0.507	0.606
I feel capable of shopping online	0.970	0.709	-1	2	0.513	0.606
I feel comfortable looking for information	1.090	0.758	-1	2	0.300	0.658
I feel confident about my ability to communicate with staff	0.560	1.006	-2	2	0.126	0.785

Notes: [1]Alpha is "Alpha If Item Is Deleted"

4.2.4. Perceived Entertainment Analysis

The PE scale consisted of four items: 139 participants provided responses for all items. The descriptive statistics for the 139 participants are provided in Table 4.6. The means lie between 0 and 1, implying a slight positive bias in responding. For Item 1, responses did not cover the entire range of the scale (i.e., the minimum is only -1, though the maximum is +2). As such, the full theoretical range of the scale is not being used (no one endorses "strongly disagree"). A visual check of all distributions indicated that there were no issues of bimodality.

The analysis of reliability indicates that the Chronbach alpha coefficient for the entire scale was .788 (standardized alpha = .799) which is considered almost "good" (George & Mallery, 2003). Reliability statistics for each item are included in Table 4.6. The "alpha if item deleted" shows that all the items are useful. All values are similar and all are less

than the cited alpha of .788. The R^2 value for each item, or the degree to which each single item can be predicted from the rest, are all acceptable.

Hence, one can conclude that, for this scale, all the items work together. As such, it is reasonable to average all the items to create a single score representing PE.

Table 4.6   Entertainment (PE) of Online Shopping

Items	Descriptives				Reliabilities	
	Mean	Sd	Min	Max	R^2	Alpha[1]
I enjoy OS	0.970	0.742	-1	2	0.311	0.763
I enjoy OS more that tradition shopping	0.340	1.114	-2	2	0.307	0.779
OS puts me in a good mood	0.440	0.877	-2	2	0.479	0.700
I have fun while OS	0.530	0.871	-2	2	0.483	0.702

Notes: [1]Alpha is "Alpha If Item Is Deleted"

4.2.5. Perceived Risk Analysis

The PR scale consisted of five items: 139 participants provided responses for all items. The descriptive statistics for the 139 participants are provided in Table 4.7. The means lie between 0 and 1, implying a slight positive bias in responding. Responses for all items covered the entire range of the scale (i.e., the minimums are -2, and the maximums are +2). As such, the full theoretical range of the scale is being used. A visual check of all distributions indicated that there were no issues of bimodality.

The analysis of reliability indicates that the Chronbach alpha coefficient for the entire scale was .717 (standardized alpha = .716) which is "acceptable" (George & Mallery, 2003). Reliability statistics for each item are included in Table 4.7. The "alpha if item deleted" shows that all the items are reasonably useful, but one should also note that Item 5 (privacy policy) is the least consistent with the rest. Deleting it would increase the alpha from .72 to .75; this is not so significant that one should be concerned. Again, as noted previously, in the PSE analysis, deleting the item would reduce the scale from five to four items, which could have an impact on breadth and overall reliability score. In addition, Item 5 was positively correlated with the rest. The R^2 score for each item, or the degree to which each single item can be predicted from the rest is reasonable in the context of a questionnaire.

Hence, one can conclude that, for this scale, all the items work together. As such, it is reasonable to average all the items to create a single score representing PR.

Table 4.7   Perceived Risk (PR) of Online Shopping

Items	Descriptives				Reliabilities	
	Mean	Sd	Min	Max	R^2	Alpha[1]
OS is risky	0.660	0.952	-2	2	0.318	0.666
I am afraid that my personal information will get stolen	0.640	0.985	-2	2	0.427	0.636
I do not feel secure making online transactions	0.650	0.946	-2	2	0.476	0.620
I am not aware of my rights	0.570	1.043	-2	2	0.339	0.658
I do not read the privacy policy and terms of use	1.060	0.934	-2	2	0.200	0.750

Notes: [1]Alpha is "Alpha If Item Is Deleted"

4.2.6. General Attitude Analysis

The Attitude scale consisted of four items: 141 participants provided responses for all items. The descriptive statistics for the 141 participants are provided in Table 4.8. The means lie between 0 and 1, implying a positive bias in responding. For Items 1, 3, and 4, responses did not cover the entire range of the scale (i.e., the minimum is only -1, though the maximum is +2). As such, the full theoretical range of the scale is not being used (no one endorses "strongly disagree") for these items. A visual check of all distributions indicated no issues with bimodality. The analysis of reliability indicates that the Chronbach alpha coefficient for the entire scale was .798 (standardized alpha = .808) which is considered "good" (George & Mallery, 2003). Reliability statistics for each item are included in Table 4.8. The "alpha if item is deleted" shows that all the items are useful. The alpha would decrease if any item were to be dropped. The R^2 scores for each item are all reasonable.

Hence, one can conclude that, for this scale, all of the items work together. As such, it is reasonable to average all the items to create a single score representing ATT.

Table 4.8   Attitude (ATT) of Online Shopping

Items	Descriptives				Reliabilities	
	Mean	Sd	Min	Max	R^2	Alpha[1]

Items	Descriptives				Reliabilities	
	Mean	Sd	Min	Max	R^2	Alpha[1]
My general attitude is positive	0.930	0.640	-1	2	0.362	0.760
I prefer online shopping to traditional shopping	0.330	0.961	-2	2	0.375	0.764
I recommend online shopping to friends	0.880	0.722	-1	2	0.453	0.724
Buying online is appealing to me	0.770	0.769	-1	2	0.400	0.744

Notes: [1]Alpha is actually "Alpha If Item Is Deleted"

4.2.7. Analysis of Behavioural Intentions

The BI scale consisted of four items: participants provided responses for all items. The descriptive statistics for the 138 participants are provided in Table 4.9. The means lie between 0 and 1, implying a slight positive bias in responding. For Item 3, responses did not cover the entire range of the scale (i.e., the minimum is only -1, though the maximum is +2). As such, the full theoretical range of the scale is not being used (no one endorsed "strongly disagree"). A visual check of all distributions indicated no problems with bimodality.

The reliabilities analysis indicated that the Chronbach alpha coefficient for the entire scale was .678 (standardized alpha = .690) which is considered almost "acceptable" (George & Mallery, 2003). Given the sensitivity of Chronbach alpha coefficient in measuring internal consistency, it is presumed that Item 1 is responsible for the low score of the overall alpha, but not dramatically ($\Delta\alpha$= .04). This, again, might be influenced by the nature of Item 1, where the question focuses on the current, rather than the future, behaviour. Also, this item might give the respondent a negative sense (spending more time), compared to the other items, which give a positive sense about performing online shopping. This case is explained by the low score of Item 1's R^2. However, as previously explained in section 4.2.3, Item 1 is still positively correlated with the other items, so deleting it would result in overall reduction in both the reliability and the breadth of the scale.

Reliability statistics for the rest of the items seem reasonable within the context of a questionnaire. Hence, one can conclude that, for this scale, all the items work together. As such, it is reasonable to average all the items to create a single score representing BI.

Table 4.9   Behavioural Intentions (BI) for Online Shopping

Items	Descriptives				Reliabilities	
	Mean	Sd	Min	Max	R^2	Alpha[1]
I spend more time in OS than I had planned to	0.720	0.972	-2	2	0.112	0.718
I am willing to spend more time on OS	0.320	0.904	-2	2	0.215	0.612
I intend to continue OS	0.960	0.772	-1	2	0.447	0.555
I will buy more products online	0.820	0.882	-2	2	0.456	0.557

Notes: [1]Alpha is "Alpha If Item Is Deleted"

4.3. MAIN ANALYSIS

Each of the scales was reduced to a single score for that scale (PU, PEOU, PSE, PR, ATT and BI) consisting of the mean of all items for that scale. Using the mean allowed all scales to use the same range (-2 to +2). In addition, missing values were excluded; that is, in previous analysis, any participant who failed to reply to all items of a subscale was not included. However, the previous analyses indicated that the different scales were reliable. Hence, it is possible to estimate a missing value on one item from the mean of the remaining items. Using missing value estimation allows one to retain as much of the data as possible.

For this missing value replacement, it was required that a participant responded to at least one-half of the items. That is, a participant was retained if he or she failed to respond to two of the four items on PEOU, but a participant would be discarded if he or she failed to respond to three of the four items on the PEOU.

The summary statistics for the PU, PEOU, PSE, PE, PR, ATT and BI scales are shown in Table 4.10.

Table 4.10   Descriptive Statistic for Scales.

Scale	Mean	sd	Min	Max
Perceived Usefulness (PU)	0.536	0.464	-0.923	1.538
Perceived Ease of Use (PEOU)	0.760	0.610	-1.000	2.000
Perceived Self-Efficacy (PSE)	0.867	0.636	-0.500	2.000
Perceived Entertainment (PE)	0.563	0.699	-1.000	2.000
Perceived Risk (PR)	0.718	0.661	-1.400	2.000
Attitude (ATT)	0.721	0.613	-0.750	2.000

Scale	Mean	sd	Min	Max
Behavioural Intentions (BI)	0.713	0.631	-1.000	2.000

Note that all scales have a mean between 0 and 1 (out of the range of -2 to +2), with minimums that do not reach the lower end of the scale, but with maximums that do reach the top end of the scale. Further discussion about the significant of fulfilling the whole range of a scale will be presented in Chapter 5. The distributions for all scales were unimodal (i.e., the distribution has one peak). As such there is a slight positive bias in the responding. This implies that most of the respondents agree on most of the items.

4.3.1. Simple Tests of the Model (Correlation)

Table 4.11 provides the Pearson correlations between all the scales. The cells marked with asterisks indicate how strong the correlation is between one scale and another (3 asterisks = very strong). Note that all were significant (p < .05) except PR with ATT, and PR with BI. The mean of PR shows that the majority of respondents perceive the risks of online shopping which negatively influenced the other scales. The negative correlation indicates that the more risk perception an individual has, the less he or she will perceive the other concepts (scales) of online shopping. That is, as expected, PR detracts from acceptance. As before, the higher level of significance, the stronger the connection (correlation) between the scales. However, PR was not strong enough to impact the respondents' attitude and intentions toward online shopping. Further observations will be discussed in Chapter 5.

Table 4.11   Pearson Correlations between Scales.

	PU	PEOU	PSE	PE	PR	ATT	BI
PU	1.000	0.628***	0.542***	0.526***	-0.205*	0.545***	0.407***
PEOU		1.000	0.523***	0.383**	-0.216**	0.389***	0.309***
PSE			1.000	0.364	-0.221**	0.551***	0.460***
PE				1.000	-0.180*	0.639***	0.459***
PR					1.000	-0.162	-0.098
ATT						1.000	0.633***
BI							1.000

Notes: *** significant with p <.001, ** significant with p<.01, *significant with p < .05

For interpretation of the strength of the relationship between each of the TAM's variables and ATT or BI, the *correlation-squared* is more useful than the correlation. The correlation-squared explains the proportion of variance. For example, note that the mean of ATT is 0.721, but that the standard deviation of ATT is 0.613. The standard deviation is the "spread" of the individual around the mean, the dispersion of individual scores around the mean – crudely, it is the "range" of scores. If one were to try to predict the score for some *unknown* individual, the best guess would be the mean. The error in that guess would be the standard deviation. The correlation-squared is the reduction in error, given other information. For example, if one knows that individual's score on PU, then one could use an equation to provide a better (more accurate) prediction of that individual's score on ATT. Furthermore, the squared correlation says that one could reduce the error of prediction by $.545^2$ or .297 (by 29.7%). For this reason, Table 4.12 provides the correlations-squared.

Table 4.12   Correlations-Squared Between Scales.

	PU	PEOU	PSE	PE	PR	ATT	BI
PU	1.000	0.287	0.294	0.277	0.042	0.297	0.166
PEOU		1.000	0.274	0.147	0.047	0.151	0.095
PSE			1.000	0.132	0.049	0.304	0.212
PE				1.000	0.032	0.408	0.211
PR					1.000	0.026	0.010
ATT						1.000	0.401
BI							1.000

The important observation is that the maximum correlation-squared is only $r^2 \approx .41$. That implies that, at most, one single variable can explain only 41% of another. The two most closely related variables are ATT and PE, though ATT and BI are a close second.

In the TAM model, ATT is considered the dependant variable (DV), which is influenced by the change in other independent variables (IVs) (i.e., PU, PEOU, PSE, PE, and PR). The simple bivariate regression (one IV, one DV) was used to generate the standardized and unstandardized equations (Table 4.13) automatically in SPSS. These equations determine how much of a change in the DV would occur by any difference in one of the

IVs separately (Garner, 2010, p.173). The unstandardized equation is a representation of the linear equation ($Y = a + bX$), where a is the intercept and b is the slope.

The standardized equation uses the correlation scores to compare which of the IVs has the most influence on the DV. These equations define the relationships after each of the variables has been converted to z-scores (i.e., a linear transform to create a scale with a mean of 0 and a standard deviation of 1). The standardized equations are more indicative of importance because they are directly related to the correlations (in this case the squared correlation were used for better understanding with percentages) (Flower, 2013). The IVs with "larger absolute values are better predictors of the DV" (Garner, 2010, p. 173). In this case, PE seems to have more influence on ATT. Further explanations are discussed in the following sections.

Table 4.13   The Equations Predicting ATT from Each of PU, PEOU, SE, PE and PR in Isolation.

Unstandardized Equations	Standardized Equations
ATT = 0.340 + 0.720 * PU	$Z_{ATT} = .545 * Z_{PU}$
ATT = 0.431 + 0.395 * PEOU	$Z_{ATT} = .389 * Z_{PEOU}$
ATT = 0.264 + 0.535 * PSE	$Z_{ATT} = .551 * Z_{PSE}$
ATT = 0.412 + 0.558 * PE	$Z_{ATT} = .639 * Z_{PE}$
ATT = 0.837 - 0.150 * PR	$Z_{ATT} = -.162 * Z_{PR}$

4.3.2. A More Complex Test of the Model

The goal of this analysis is to test the relationships shown in Figure 4.1. Note that it is the combination of all variables in the TAM that predicts ATT. By looking at Table 4.12, ATT was over explained; that is, if the numbers in the ATT column were summed, the score would be 2.286, which means that the perception scales predicted 229% of ATT. The different components of the model overlap; they are not pure (unrelated) measures. In statistical terms, the components of the TAM are not orthogonal to each other. To illustrate this point, Figure 4.2 shows an example of how three scales overlap with each other. In that case, PU explains about 30% of ATT and PEOU explains 15% of ATT. However, PU and PEOU also explain a proportion of each other by about 29%; this created the overlapping area. This area would be more ambiguous if the other scales were added.
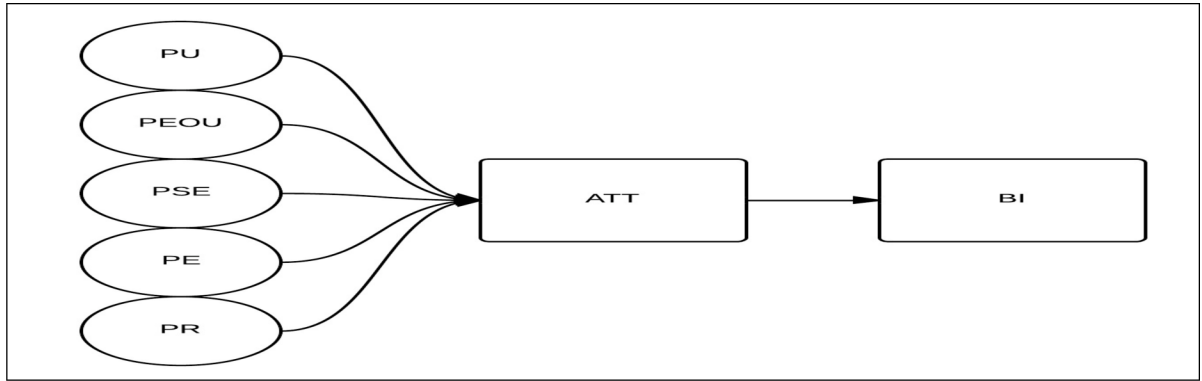
Figure 4.1   TAM Measures
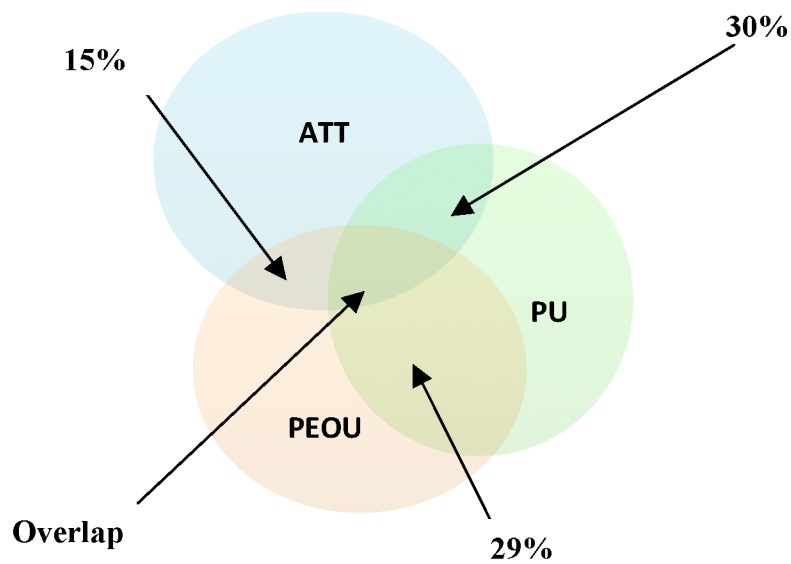
Figure 4.2   An Example Of How The Scales Overlap

Therefore, to assess the pure contribution of each variable, the semi-partial correlation is used (Cohen *et al.*, 2013). This is the correlation between each predictor (PU, PEOU, PSE, PE, and PR) and ATT *after* the effects of the others have been controlled for (i.e., eliminated). For this model, Table 4.14 provides the semi-partial correlations. For ease of comparison, Table 4.14 provides also the simple correlations (presented previously in Table 4.11). Note that there has been a significant reduction in the correlation score between the perceptions scales and ATT; for instance, PEOU's correlation with ATT dropped to zero after eliminating the effect of other scales. Given the strong relationship between PEOU and PU (Table 4.11), it can be said that PU dominates PEOU. In other

words, PU does the job of predicting ATT with a very minor contribution from PEOU (i.e., most of the PUEO contribution to explain ATT was affected by PU, see Figure 4.2).

Table 4.14   The Analysis of Each Term of the Model in Context.

	Simple Corr.	Semi-Partial	Semi-Partial Squared	t-obs	P(t-obs)
PU	.545	.115	.013	1.981	.050
PEOU	.389	-.044	.002	-.764	.446
PSE	.551	.263	.069	4.508	.001
PE	.639	.385	.148	6.602	.001
PR	-.162	.014	.000	.244	.808

Table 4.14 also includes the t values of the perception scales. $T-test$ was used to estimate the population mean based on the sample mean. If the sample mean is very different from the population mean, the probability that the null hypothesis would be rejected is high (Garner, 2010). For example, the sample mean of PU is 1.98 standard errors distance from the population mean. This variance in distribution helps to determine to what extent the null hypothesis would be rejected or accepted (i.e., the $p-value$). P score is the probability that the sample mean would be greater or equal to the true mean value each time the experiment is repeated under the same conditions (Garner, 2010). For instance, five out of one hundred times the mean of PU would be the same (i.e., 0.536) if the questionnaire were to be distributed again under the same conditions applied to the sample of this study. In most cases assessed in social science literature, the level of significance is 0.05. If $p > 0.05$, the null hypotheses would be accepted and something unusual emerged from the sample. If $p \leq 0.05$, the null hypothesis would be rejected and the sample is normal (Garner, 2010). Applying this role to the scales in Table 4.14, the null hypotheses of PU, PSE, and PE were rejected. That means that the sample followed the expected assumptions driven from the population studied by other researchers (refer to Chapter 2), as follows:

- *H7:* Perceived usefulness of online shopping will have a positive impact on IUSs' attitude towards online shopping.
- *H11:* Perceived entertainment has a positive impact on IUSs' attitude towards online shopping.

- H_{12}: Perceived self-efficacy positively influences IUSs' attitude towards online shopping.

On the other hand, the sample yielded unexpected results regarding PEOU and PR; hence the null hypotheses was accepted ($p > 0.05$) and the assumptions below were rejected:

- H_6: When an IUS perceives online shopping is easy to use, his or her attitude towards online shopping will be positively influenced.
- H_{10}: IUSs' risk perceptions negatively affect their attitude towards online shopping.

It seems that ATT is influenced mostly by PE, PU, and PSE whereas PR has no influence on ATT and PEOU does not explain much of ATT. Chapter 5 will discuss the significance of these results in detail.

4.3.3. TAM and Prior Experience

The previous analysis of the model indicates that ATT is related to the five variables (i.e., PU, PEOU, PSE, PE, and PR), but that ATT was determined primarily from PE, PSE and PU. Note that PR was not a major predictor. It is possible that the sample inclusion criteria eliminated those who felt that online shopping is too risky. That is, all participants did engage in online shopping, however some were more experienced and presumably more adept at it. To assess this, the analysis was expanded to include prior experience.

There were three measures of online shopping that were related to prior experience. The first was *Frequency of Online Shopping before* Coming to *Canada* coded as "Never" (0), "Rarely" (1), "Occasionally" (2), "Sometimes" (3), "Often" (4) and "Very Often" (5). The second measure was the self-reporting of the change in online shopping *since* coming to Canada, coded as "Has Decreased" (-1), "Is the same"(0), and "Has Increased" (1). In addition, participants were asked about their *Online Shopping Frequency after Coming to Canada*. This third measure was coded as "Rarely" (1), "Occasionally" (2), "Sometimes" (3), "Often" (4), and "Very Often" (5).

One problem with the assessment of prior experience is the time that participants had resided in Canada. Some IUSs had been in Canada only a short time (less than one year), while others had been in Canada for six years or more. Hence, "before" coming to

Canada could have been three months ago or seven years ago. A true novice to online shopping would be one who had never shopped online before coming to Canada *and* had only recently come to Canada. An experienced online shopper would be one who had shopped online "regularly" for several years, either in Canada or before coming to Canada. The complication is that an individual who had never shopped online before coming to Canada could still be experienced if they had been in Canada six years or more and had shopped online frequently.

Table 4.15 presents the numbers of participants within each combination of frequency before coming to Canada and years in Canada. For example, in the upper left, there only two participants who had been in Canada for less than a year, and had *never* used online shopping before coming to Canada. An additional six had *rarely* used online shopping before coming to Canada. These are the true novices.

Table 4.15   Distribution Of Participants For Online Shopping Before Coming To Canada

Years in Canada	Frequency of OS Before Canada					
	Never	Rarely	Occasionally	Sometimes	Often	Very often
Less than 1 year	2	6	4	8	10	4
1 - 3 years	20	19	9	12	7	2
4 - 6 years	9	7	4	6	2	3
Over 6 years	6	0	0	2	4	2

Table 4.16 expands Table 4.15 to include the frequency of *Online Shopping Since Coming to Canada*. It shows that some participants have increased online shopping since coming to Canada. However, a change from Rarely to Often that has occurred over four to six years means that *at the time of this survey*, the participant has had considerable experience with online shopping. Table 4.16 clearly shows that there are no obvious breakpoints in the data which could be used to create clearly delineated groups (e.g., novices vs. experienced).

Table 4.16 **Distribution Of Participants According to Residency in Canada and Online Shopping Frequency**

Years in Canada	Frequency of OS After Canada	Frequency of OS Before Canada					
		Never	**Rarely**	**Occasionally**	**Sometimes**	**Often**	**Very often**
Less than 1 year	Rarely	2	2	1	0	2	2
	Occasionally	0	2	1	1	2	1
	Sometimes	0	1	2	5	1	0
	Often	0	1	0	1	4	0
	Very often	0	0	0	1	1	1
1 - 3 years	Rarely	4	5	2	0	0	0
	Occasionally	3	3	3	3	0	0
	Sometimes	9	5	2	6	2	0
	Often	2	5	1	1	5	0
	Very often	2	1	1	2	0	2
4 - 6 years	Rarely	1	0	1	1	0	0
	Occasionally	2	0	0	1	0	0
	Sometimes	2	5	0	2	1	0
	Often	4	0	1	2	1	1
	Very often	0	2	2	0	0	2
Over 6 years	Rarely	0	0	0	0	0	0
	Occasionally	1	0	0	0	0	0
	Sometimes	0	0	0	1	2	0
	Often	1	0	0	0	0	0
	Very often	1	0	0	0	0	1

Hence, one cannot use *Online Shopping Prior to Canada* as a measure of experience with online shopping. A number of alternatives were considered. The best was average experience ("frequency-years") *since* coming to Canada. It was computed as:

Experience = 0.5 * (Freq*After*Can + Freq*Before*Can)

This equation was generated based on area under the curve illustrated in Figure 4.3. It is an estimation of experience for an individual who has been in Canada for 4-6 years (average residency), having rarely shopped online before coming to Canada, and often shopped online after coming to Canada.
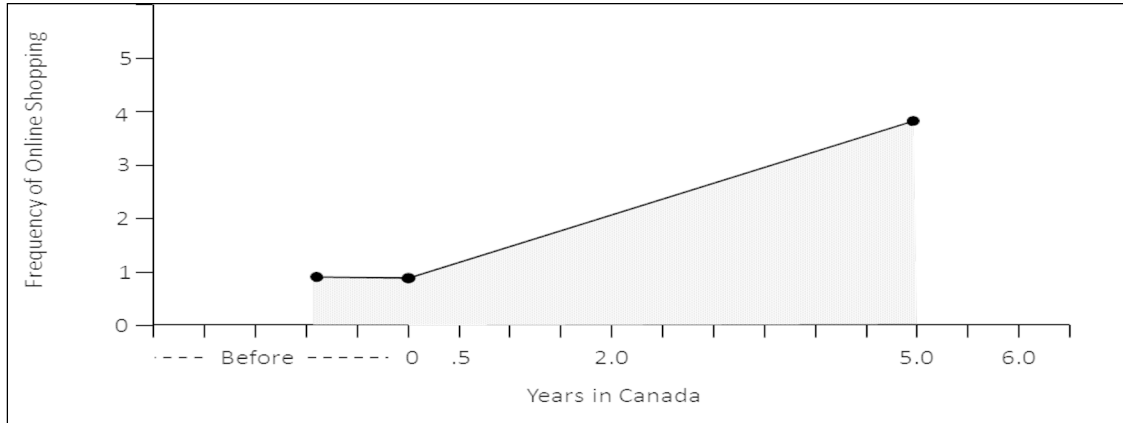
Figure 4.3   Estimation of Average Experience of Online Shopping

This measure captures the absolute level of experience prior to the survey, and the change. That is, a person who changed from "never" to "often" would be coded as a 2. A person who had consistently used online shopping "very often" would be coded as a 5. The measure is not perfect, because it does not properly include consideration of time in Canada. However, the more complex measures that did include such considerations did not perform any better.

Given this measure of experience, the analysis considered the descriptive statistics for both *Years in Canada* and *Frequency Before/ After Canada* (Table 4.17). For this analysis, there was one missing data (for *Years in Canada*), so the sample size was reduced by 1 (i.e., N = 141).

Table 4.17   Descriptive Statistics and Correlations

	Years	Frequency		Experience
		Before	After	
Mean	2.496	2.000	2.990	2.496
Sd	1.758	1.620	1.252	1.123
Min	0.500	0.000	1.000	0.500
Max	6.000	5.000	5.000	5.000

Experience had a mean of 2.50 with a range from 0.50 to 5.00. This implies that some had no prior experience (a value of .5 represents a move from "never" to "rarely"), while others had a lot of prior experience (a value of 5.0 represents a consistent "very often" before and after coming to Canada). Table 4.18 provides the correlations between *Years*

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In Canada, *Frequency Before Canada*, *Frequency After Canada*, *Experience*, as well as ATT and BI.

Table 4.18   Correlations Between *Years In Canada, Frequency Before Canada, Frequency After Canada, Experience,* ATT and BI.

	Years	Frequency		Experience	ATT	BI
		Before	After			
Years In Can	1.000	-0.136	.233**	.032	.056	.118
Freq Before		1.000	.210*	.838***	.119	.032
Freq After			1.000	.709***	.370***	.304***
Experience				1.000	.292***	.191*
ATT					1.000	.633***
BI						1.000

Notes: *** significant with $p < .001$, ** significant with $p < .01$, *significant with $p < .05$

Note that Experience is significantly correlated with ATT and BI. Also, ATT and BI are strongly correlated with *Frequency After Canada* but not with *Frequency Before Canada*. One can conclude that ATT and BI are influenced by the experience that was obtained after coming to Canada.

If prior experience were to have an effect, logically, that effect would be mediated by one of the variables in the model. For example, those with little prior experience would be expected to be low on PU, PEOU, PSE and PE but high on PR. This can be assessed by the simple and squared correlations between Experience and each of these measures, as provided in Table 4.19. Note that Experience is related to PU and PEUO, but it is strongly (negatively) related to PR. Experience reduces PR. PSE and PE do not seem to be affected by Experience.

Table 4.19   Correlations Between Experience and TAM Measures

	r	r^2
	Experience	
PU	.183*	0.033
PEOU	.188*	0.035
PSE	.153	0.023
PE	.145	0.021
PR	-.301***	0.091
ATT	.292***	0.085

	r	r^2
	Experience	
BI	.191*	0.036

Notes: *** significant with p <.001, ** significant with p<.01, *significant with p < .05

It is possible that Experience has direct effects on ATT above and beyond that which it has through perceptions. To estimate this effect, a hierarchical regression was used in which PU, PEOU, PSE, PE and PR were entered first (as a group) and Experience was added second (as a group). This enables Experience to explain anything that PU, PEOU, PSE, PE and PR did *not* explain and helps to figure out how each new variable adds to the scores of the previous variables (Howitt & Cramer, 2008, p. 180). The combination of PU, PEOU, PSE, PE, and PR produced an R^2= .564 (i.e., the combination of perceptions explained about 56% of ATT). By adding Experience, the R^2 value increased to .589 which is an improvement of (ΔR^2 = .033) (i.e., Experience explained about 3.3% of ATT in isolation). This improvement was significant with $F(1,135)^2$ = 9.122 (p < .003), hence the null hypothesis was rejected and the assumption below was accepted:

H$_5$: IUSs who are experienced in online shopping tend to have a positive attitude towards online shopping.

Figure 4.4 presents the effects of prior Experience on TAM measures and ATT toward online shopping.
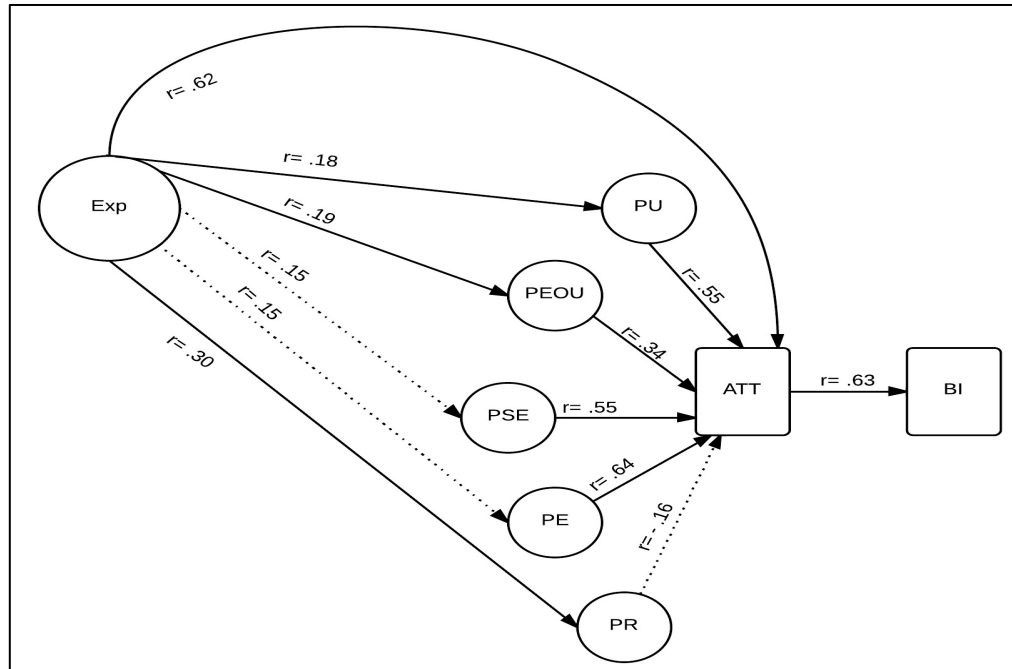
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[2] F is $t-$ squared

Overall, the perceptions and Experience have explained 59% of attitude towards online shopping. There might be other factors that affect attitude towards online shopping. Some of these factors are included in the demographic variables. The following section shows the impact of *Age, gender, Income*, and *Education* on IUSs' online shopping behaviour.

4.3.4. TAM and Demographics

Age was coded within three age groups ("18-24, "24-34", and "35-44" as 1, 2, and 3). The mean *age* was coded as 1.51 (sd: 0.582) with 79, 53 and 6 in each age group (4 missing values). For *gender*, there were 93 males (coded as 1) and 49 females (coded as 2). *Education* was coded within three levels ("undergraduate", "graduate" and "other", as 1, 2, and 3). The number of undergraduate students (67) was almost equal to the number of graduate students (61). The rest (12) were "other" (with 2 missing values). *Income* was coded into seven groups ("Less than $12,000", "$12,001 to $24,000", "$24,001 to $36,000", "$36,001 to $48,000", "$48,001 to $60,000", "$60,001 to $72,000", and "$72,001 to $84,00" as 1 to 7). The mean *income* was 2.38 (sd: 1.47) implying that most had annual incomes in the "$24,000 to $48,000" range. Only 13 participants had incomes above $48,000, but another 21 did not provide a response. Table 4.17 presents the simple

correlations between each of the demographics, between the demographics and the variables of the TAM, and between demographics and Experience.

Table 4.20   Correlations between TAM Measures and Demographics

	Age	Gender	Education	Income
Age	1.000	.009	.357***	.393***
Gender		1.000	.123	.004
Education			1.000	.211
Income				1.000
PU	.061	-.205*	-.120	-.029
PEOU	-.004	-.126	-.207*	.089
PSE	.126	-.205*	-.019	-.029
PE	.044	-.050	-.022	.103
PR	.043	.208*	.221**	.017
ATT	.099	-.195*	-.129	.095
BI	.115	-.089	-.045	.020
Experience	.053	-.183*	-.177*	.002

Notes: *** significant with p <.001, ** significant with p<.01, *significant with p < .05

Age was very highly correlated with Education and Income (i.e., the older the respondent, the higher his or her education and income), but not strongly correlated with other scales. Gender was strongly correlated with PU, PSE, PR, ATT, and Experience. Gender correlations also implied that males have higher PU, PSE, ATT and Experience, while females have higher PEOU and PR. Education also was highly correlated with PR, PEOU and Experience, which means more education would lead to more awareness of online shopping risks, as well as more experience and perception of ease of use.

In Chapter 2, it was assumed that demographics would have a strong influence on ATT. However, with further analysis, Gender seemed the stronger factor. Therefore, the assumption "H_2: A male IUS has a more positive attitude towards online shopping than a female IUS." was accepted while the following assumptions were rejected:

- H_1: Age of IUSs has a positive impact on their attitude towards online shopping.
- H_3: IUSs with higher education have a positive attitude towards online shopping.
- H_4: IUSs with higher income have a positive attitude towards online shopping.

In order to better explain how demographics, in a general context, influence TAM measures, all the demographics' variables were combined to represent one component:

Demographics. Table 4.17 helped to draw the same conclusion: Demographics do not affect ATT. The only noticeable issue is that Demographics predict PR by about 9%.

Table 4.21   Correlations Between Demographics and TAM Measures

	R	R^2
	Demographics	
PU	.190	.040
PEOU	.256	.066
PSE	.210	.044
PE	.187	.035
PR	.299*	.089*
ATT	.227	.052
BI	.180	.032
Experience	.276	.076

Notes: *** significant with p <.001, ** significant with p<.01, *significant with p < .05

As previously stated, the hierarchical regression was used to figure out how much Demographics would add to the predictability of ATT. Step 1 was to add the combination of perceptions. Step 2 was to add Experience. The last step was to add demographics. This increased the predictability slightly from .589 to .60 (ΔR^2 = .011). This change was *not* significant with F(4,106) = 0.768 (p < .548). Hence, the inclusion of demographics does *not* add predictability. Note that demographics explained 5.2% of ATT when used (as a group) in isolation (R^2 = .052), but this reduced to 1.2% (ΔR^2 = .012) when Experience was included, implying that Experience was partly explained by Demographics (8%). Figure 4.5 presents these results.
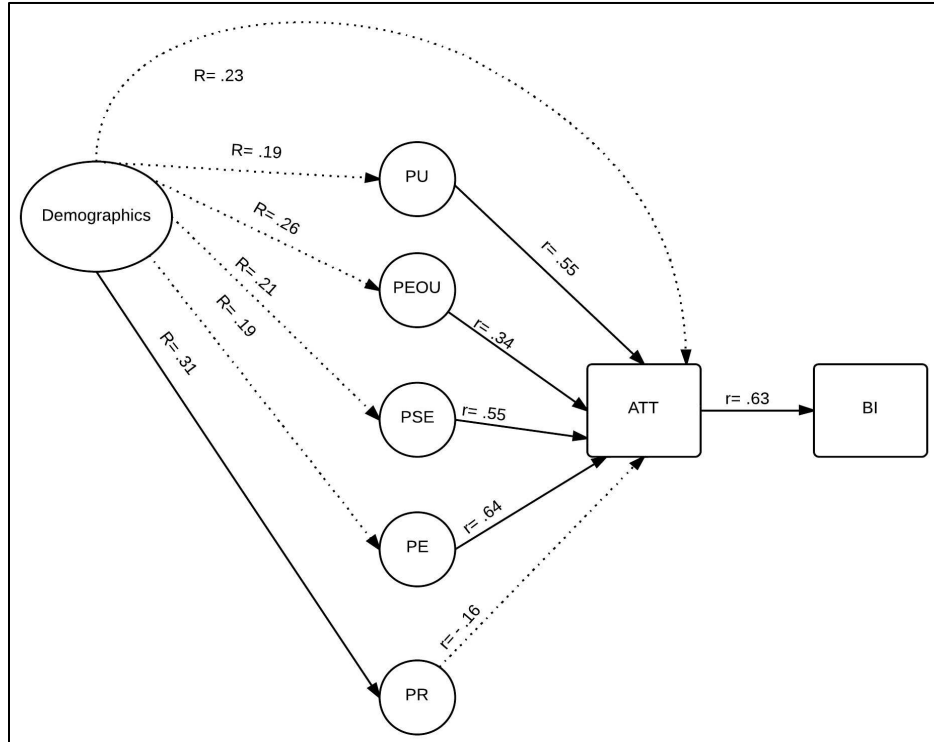
Figure 4.5   The Effects of Demographics on TAM Measures

In summary, the combination of the TAM variables, Prior Experience, and Demographics can predict about 60% of the variability in ATT. In addition, Experience explains a good part of each variable in the TAM, as well as a small part of ATT (above and beyond that which is explained through the TAM variables). Finally, Demographics play only a minor role.

4.3.5. Behavioural Intentions (BI)

Behavioural intentions (BI) are thought to flow from attitudes toward acceptance (see section 2.3.1). Indeed, in previous analyses, the correlation between ATT and BI was r = .633, or r^2 = .401, implying that about 40% of BI can be explained by ATT. For better estimation of how much of the DV (BI) can be influenced by the IV (ATT), the same calculation technique with the perception scales was used to generate these equations:

Unstandardized Equation	Standardized Equation
BI = 0.243 + 0.243 * ATT	$Z_{BI} = 0.633 * Z_{ATT}$

In the analysis, ATT alone produced an $R^2 = .400$ with $F(1,138) = 92.155$ ($p < .001$). Hence, the following assumption was accepted:

H_8: IUSs' attitude towards online shopping positively influences their online shopping behavioural intentions.

On the other hand, what explains the other 60% of BI? It could be that the perceptions explain BI directly. To test this, the hierarchical regression was used again, in which BI was first predicted from ATT, and then from the combination of PU, PEOU, PSE, PE, and PR. Adding the combination of perceptions increased the prediction to an $R^2 = .426$ so that the increase in R ($\Delta R^2 = .026$). That is, the combination of perceptions did *not* add significant predictability to BI (2.6%). In other words, the perceptions effect on BI is not direct, but works thought ATT.

It could be that Experience explains some of BI. The same approach was used by adding Experience (after ATT and the combination of perceptions), which produced a minor change ($\Delta R^2 = .008$). Hence, Experience explains almost nothing of BI (0.8%).

Finally, there were Demographics. The same approach was used. Adding the combination of demographics increased the value to an $R^2 = .548$ with the change in R ($\Delta R^2 = .007$). Hence, Demographics also explain almost nothing of BI (0.7%).

In summary, BI was mainly influenced by ATT. Experience and Demographics seem to have a very minor effect on BI. Further investigation might be conducted in future studies because BI is an important determinant of the actual behaviour.

4.3.6. Behaviour (B)

The final set of analyses examined actual online shopping behaviour (B). There were two measures related to online shopping: Monthly Spending and Current Frequency of online shopping. Monthly Spending was coded into three levels ("Less than 500", "500 – 1000" and "Over 1000" coded as 1, 2, and 3). The mean spending was 1.14 (sd: 0.364) which corresponded to a value of "Less than 500". In fact, the majority of the sample (85.9%) spent less than $500, (12.1%) spent between $500 and $1000, and only one (0.7%) spent more than $1000 (that individual also had a higher income). As such, there is a very limited range in the data for monthly spending. In regression analysis, having a limited

range for a variable tends to hide the real relationships (Russell & Bobko, 1992). On the other hand, Current Frequency of online shopping was already used as a component of Experience. While the one variable can fulfill two roles, one must be careful because such use can create a *spurious* correlation (a correlation that is not real).

Hence, to obtain a greater spending range, Monthly Spending was multiplied by Current Frequency of Online Shopping to create a variable called Total Spending. Thereafter, the analysis was the same hierarchical regression as before. Total Spending was first predicted from BI, then from ATT, then from the combination of perceptions, then from Demographics, and finally from Experience. Note that Experience was placed last. This was done because Prior Experience could be expected to be highly correlated with Total Spending, because both included the variable Current Frequency of online shopping.

When predicting Total Spending, BI alone produced an $R^2 = .052$, which was significant ($F (1,112) = 6.118$, $p < .015$), although small. Adding ATT alone increased this value to an $R^2 = .099$ with the change in R^2 ($\Delta R^2 = .047$). This was a significant increase with $F (1,111) = 4.043$ ($p < .047$). Hence, ATT helps to explain Total Spending above and beyond its effect on (or through) BI. Total Spending was predicted from BI and ATT, hence this assumption was accepted:

H9: IUSs' attitude and behavioural intentions positively influence their online shopping behaviour.

Adding the combination of PU, PEOU, PSE, PE, and PR increased this value to an $R^2 = .129$, with the change in R^2 ($\Delta R^2 = .030$). That increase was *not* significant ($F(5,106) = 0.093$, $p < .595$). This implies that perceptions do not add anything that is not explained by ATT and BI. That is, PU, PEOU, PSE, PE and PR work through ATT (and then BI).

Adding the combination of demographics increased this value to an $R^2 = .181$, with the change in R ($\Delta R^2 = .052$). That increase was not significant ($F(4,102) = 2.101$, $p < .174$). Hence, any effect of demographics on Total Spending works through PU, PEOU, PSE, PE and PR, then ATT, and finally BI.

Finally, adding Experience increased this value to an $R^2 = .418$ with the change in R^2 ($\Delta R^2 = .237$). This change was significant ($F(3,103) = 41.142$, $p < .0005$). However, the

problem is, as stated above, that Experience includes a component (Current Frequency of online shopping) that is directly related to the DV (Total Spending). Hence, this increase must be viewed with caution. Figure 4.6 indicates the final assessment of the relationships between TAM and the other component.
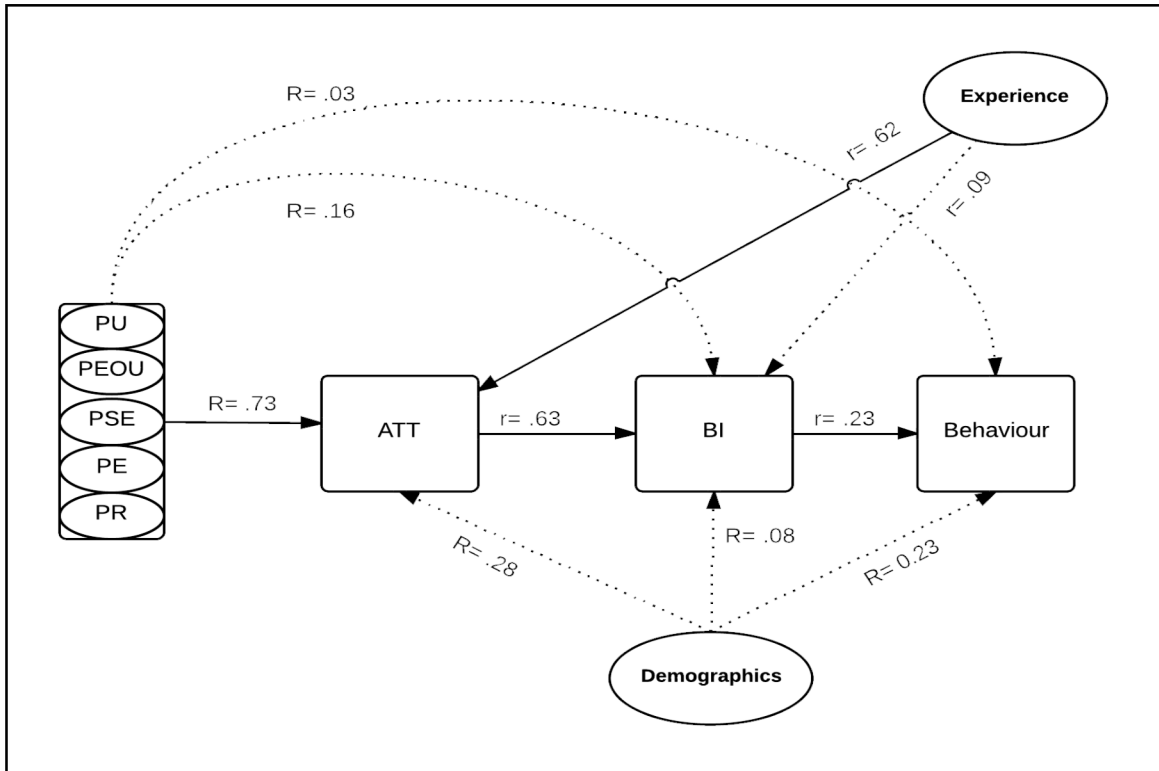

Figure 4.6   The Effects of TAM Measures, Demographics, Prior Experience, on Actual Behaviour

Overall, about 18% of Behaviour has been explained by ATT (4.7%), Perceptions (3%), BI (5.2%), and Demographics (5.2%). That percentage would increase significantly if the prior experience factor were to be added. Studies showed that prior experience have strong impact on actual online shopping behaviour (Kim *et al.*, 2011). However, an exact number cannot be determined in this study, given the problem of the relationship with B and Experience as stated earlier. At any rate, a considerable amount of Behaviour was not explained (about 60% in the worse case). Further discussions are to be addressed in Chapter 5.

4.4. SUMMARY

In this chapter, the data obtained from the sample was analyzed. Correlations and multiple regressions were used to determine the relationship between variables. The results showed that the model was adequate to explain IUSs' online shopping behaviour.

Perceptions have a great effect on attitude towards online shopping, but little effect on behavioural intention and actual behaviour. In addition, prior experience has a significant influence on attitude, while demographics have minor effects.

The following chapter draws the conclusion by discussing the results along with the implications, limitations and suggestions for future work.

CHAPTER 5   CONCLUSION

The purpose of this study was to examine the online shopping behaviour of international university students (IUSs) within the context of a modified version of the Technology Acceptance Model (TAM). TAM explains behaviour through two factors: behavioural intentions (BI) and attitude (ATT). Attitude itself is determined by five measures (scales): perceived usefulness (PU), perceived ease of use (PEOU), perceived self-efficacy (PSE), perceived entertainment (PE), and perceived risk (PR). In addition, demographics and prior experience were included to enhance the predictability of the model. A sample of 142 IUSs participated in an online survey. The analytical results obtained in Chapter 4 yielded interesting and sometimes unexpected relationships among the model's measures. These relationships may have useful academic and managerial implications, as discussed below:

Perceived entertainment had the most significant influence on ATT. This contradicts most of the studies based on TAM, which indicate that PU and PEOU are more influential. Given that the majority of the sample is under 35 years old, entertainment is generally thought to be a major motive for shopping online. Entertainment through online shopping, for IUSs, might come in many ways: the sense of shopping in a relaxed pace, away from any social pressures; enjoyment of the features of a web store, where suggested items or one's history of browsing facilitate the shopping session (as provided by Amazon.ca for example); or simply the enjoyment of purchasing items related to their culture, heritage, or personalities. Retailers might consider that online shopping is a source of entertainment in order to develop marketing strategies that consider different cultures and help to figure out the needs of IUSs for enjoyment. Local restaurants, for instance, might consider international students in their host city and offer dishes that are part of a certain culture and feature them on their websites (for online orders) associated with language preferences, symbols, or events (e.g., Chinese New Year). Furthermore, satisfying the sense of enjoyment increases the likelihood of staying longer on a website, and making more purchases (Hu *et al*., 2009; Kim *et al*., 2010), which helps IUSs to gain experience and to be more willing to shop online.

Perceived self-efficacy was also one of the major predictors of ATT. IUSs' self-perceptions about their ability to perform online shopping have a strong influence on their attitude towards online shopping. This conclusion supports the results from other studies (e.g., Blanca *et al*., 2011; Dash & Saji, 2007). Students are very adaptive to new technology and willing to learn (Wenji, 2010). IUSs often need to make a quick transition to online shopping once they begin their studies, for a number of reasons: access to products while in a foreign country; for convenience; and possibly for comfort. It is important to IUSs to become knowledgeable, capable and confident in their online shopping skills. Seok and Bailey (2008) conducted a study on university students' online shopping behaviour and suggested that:

> [...] Considering the growth and prevalence of college students' purchases on the Internet and payment with credit cards for online purchases, it may [behove] both parents and universities to provide guidance to help students become responsible Internet consumers. [...] Universities could help educate students about managing their personal finances by providing information through student affairs or other university offices, and by expanding the number of courses offered on personal financial management. Parents should communicate with their children about planning their spending and about the risks related to credit card use. By doing so, students could gain the knowledge and skills to become sound consumers.

IUSs are an important segment of on-campus society. In most universities, international student centres have a major responsibility to accommodate and educate their students (Gu *et al.*, 2009). Applying the suggestions above, these centres might devote some resources to educate IUSs about online shopping. The imparted knowledge could include an introduction to the different ways of making online payments. Even though credit cards seem to be the most popular option for IUSs, it might not be easy for a student to obtain a new card in the host country without a credit history (Manivannan, 2013). Most major online retailers in Canada, for instance, accept some credit card alternatives, such as gift cards, pre-paid credit cards, and services like PayPal or Interac. This variety of

options would make it easier for IUSs to shop online, and to gain more experience and efficiency.

Because online shoppers tend to seek the opinion of family and friends more than the experts' (Hsu *et al.,* 2006), new IUSs should be encouraged to get involved in informal culture-oriented bodies on or off campus. These bodies (clubs or associations) would likely consist of mature students who are approachable, willing to help, and likely more informed about online shopping. It would help IUSs to be around people from the same country or same culture and, at the same time, be informed about how to get goods, products, or services by ordering them online. In this way, IUSs would perceive higher self-efficacy, entertainment, and experience.

In addition, as suggested by Zheng (2012), e- commerce instructors may benefit from diversity in their classes by exposing students to different online web store platforms. This would help to identify the different layouts that may be associated with different cultures, and to reveal the thoughts and activities of online shoppers in a multicultural setting. In exchange, IUSs could provide their online shopping experiences and insights to the local students. As a result, the self-efficacy of the IUSs would be enhanced, and better online shopping standards might emerge.

Perceived usefulness and attitude towards online shopping were strongly related to each other, which supports the findings in other studies (Dash & Saji, 2007; Kim, 2012; Sin *et al.*, 2012; Zhou *et al.*, 2007). About 30% of ATT was predicted by IUSs perception of the usefulness of online shopping. This is expected, because online shopping provides IUSs with the opportunity to shop for products they cannot find in their host city; further, online shopping reduces verbal communication and social barriers. The benefits include also low prices, free shipping, and promotions. This is supported also by the IUSs' motivations to shop online; most of the sample indicated motivations such as convenience, cheaper prices, and product availability.

Prior Experience strongly influenced attitude towards online shopping. The analytical results showed that a significant portion of that influence came from the experience that was gained after coming to Canada. In a cross-culture study related to online shopping behaviour, western e-shoppers have higher PU and PEOU and lower PR than their

eastern counterparts (Tong, 2010). Being in Canada allows IUSs to perceive the usefulness and the ease of use of online shopping to accommodate their needs, which was shown by the high correlation between Experience and PU (and PEOU), which led to higher ATT.

The study sample yielded a wide range of cultural variety, experience, perceptions, and online shopping participation. There were very few participants, however, who could be classified as online shopping novices (i.e., in Canada for less than a year, with no prior experience of online shopping). It could be that IUSs who are new to online shopping did not perceive themselves eligible to participate in this study; or the majority claimed to be experienced in online shopping. Hence, it was hard to obtain a fair comparison of the differences between new and experienced online shoppers' behaviour. In any case, e-retailers should facilitate the shopping process for new shoppers, especially for IUSs. An e-retailer, for example, might consider offering promotions or coupons to first time shoppers, provide student discounts, add translation tools to a website, create accounts where all the customer information is stored for future purchases, and use social media platforms to encourage IUSs to communicate their needs and concerns. Such consideration will help IUSs to make frequent purchases, and to be more experienced in online shopping.

Some TAM measures did not have considerable influence on ATT as had been expected. *Perceived ease of use* was not a major predictor of attitude. IUSs perceive that online shopping is easy to use; however, this does not necessarily imply that ease of use encourages them to shop online. The analysis showed that PU surpasses PEOU's influence on ATT. One explanation is that in an online shopping experience, ease of use is the process that leads to a useful and efficient purchase (Childers *et al*., 2001; Monsuwe *et al*., 2004). For future studies, it is highly recommended that PEOU is to be merged with PU as one of the benefits of online shopping, instead of being used as a stand-alone measure.

Perceived risk was not related to ATT. Very few studies based on TAM found that PR had a weak negative effect on attitude (Hu *et al.,* 2009). Using PR is not necessary, as long as there are other components that might increase the ATT score. Future studies

might limit the use of PR as a TAM measure to studies related to online shopping security or trust.

There is no apparent reason why PR does not affect ATT. Even though many IUSs felt that online shopping was risky, they continued to shop online at the same rate or level as those who did not feel that it was risky. It may be that students, in general, are not familiar with the risks associated with online shopping (Wenji, 2010). Also, it might mean that the perceived usefulness (benefits) of online shopping simply outweighs the perceived risks. One can assume that IUSs ignore the risks, or that they do not hold them in high regard. The majority of e-shoppers might not be too concerned (or are not aware) about their rights, privacy, and security policies; IUSs are no exception. It is highly recommended that the international centers in universities hold a simple orientation that describes the e-commerce law of the host country. Knowing one's rights as a customer reduced the chances of being a victim of fraud or privacy-breach activities. Studies showed that students' intentions to buy from online stores are high when they feel secure; have positive perceptions as a result of after sale service provided; and trust the e-retailer (Li & Liang, 2011; Delafrooz *et al.,* 2009). A case in a point would be that IUSs might use foreign credit cards that sometimes are not accepted by the online store. Moreover, some online stores do not ship outside a certain jurisdiction. Such barriers would limit IUSs' online shopping and reflect badly on the store's reputation, especially if the online store has something of value to certain cultures or certain needs. In this case, e-retailers might need to apply extra credit card verification and add international shipping and handling options for reasonable additional costs, in order to ensure that their customers' personal and financial information would be secure and safe.

Demographic factors (i.e., Age, Gender, Education, and Income) were expected to influence ATT. The results showed, however, that Demographics, as a single component, had little influence on attitude towards online shopping. These results support the claim by Blanca *et al*. (2011) that demographic factors have more of a moderating effect rather than a direct influence on online shopping behaviour.

It is worth noting that Gender was the only factor that seemed related to ATT. A male IUS has a more positive attitude towards online shopping than a female. This result

supports the claim that males are more willing to shop online (Kahttab *et al*., 2012; Wynn, 2009). Gender also was strongly related to PU and PR. The results showed that a female IUS has high PR scores and lower PU scores. Female IUSs had not indicated any reasons for their unwillingness to shop online. It is assumed that risks and lack of trust may play a major role. E-retailers might consider this gender gap in order to attract more females by, for instance, using one or more social media platforms (e.g., Facebook), where the online store can build its community and reputation. Also, the e-retailer might encourage the missing segment with explicit incentives given for inviting or refereeing friends, even those friends who are overseas (such as the approach applied by an e-retailer called *Groupon*), given that females IUS are willing to trust the e-retailers who have served friends and relatives.

As mentioned previously, attitude towards online shopping was the main link between perceptions and intentions (and behaviour). PE, PU, and PSE were the primary factors that influenced ATT. Demographics and prior experience, although they had positive influence, did not predict much of ATT. Over all, about 60% of ATT was explained by the model used in this study, and ATT, in turn, explained about 40% of BI. In behavioural research, theory-based models predict about 17-50% of variance in BI (Naseri & Elliot, 2011). However, even though a significant proportion of ATT and BI have been explained, *Behaviour* (B) has not been explained fully (over 50% was missed). One explanation is that IUSs might have the intention to shop online, but lack the funds. Another reason (as previously stated in Chapter 4) is that the behaviour measures should be revised. In particular, the Monthly Spending category of "Less than 500" should be refined to provide a much greater range in this low level. Most of the sample reported within this one category. This category should be split to use increments that are less than $50 or $100, or possibly even $20 per month. Finally, in a more general sense, the link between BI (and ATT) and B is not always strong, because human behaviour is constrained by far more than just the desire (e.g., resources such as time and money) (Ajzen *et al.,* 2009). In addition, the sample was recruited in Halifax, NS, Canada, which includes a sufficiently large population of IUSs. However, in order to generalize the findings, it would be beneficial to procure a wider range of IUSs, by sampling from a broader geographic scope.

In summary, human behaviour is predictable under certain conditions, but is difficult to measure. Compared to other theories in behavioural research, TAM is widely used to measure online shopping behaviour. The modified model in this study might be used in similar research under strict reconsideration of the measures used. In addition to behaviour measures, the PSE and BI measures were slightly divergent, which affected the overall measures' scores. The modified version of TAM proposed in this study was formed with consideration to the sample point of view. IUSs have special characteristics that made them willing and adaptive online shoppers. Reflecting upon the results, entertainment and usefulness were the primary motives for IUSs to shop online. This is not surprising, as online shopping might be a one way to find products or services relevant to the cultures of IUSs and helpful in their life as students. In addition, given the emotional challenge of being in a foreign country, online shopping was used by IUSs as a mean to have fun and enjoy their time. Nonetheless, further investigation of factors affect IUSs' online shopping behaviour should be considered in future work.

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APPENDIX A

CONSENT FORM

Title of the study: International University Students' Online Shopping Behaviour in Halifax, Nova Scotia.

Principal Investigators: Eman Alyami, Faculty of Computer Science

Supervisor: Dr. Louise Spiteri, School of Information Management

Contact person: alyami@cs.dal.ca

Dear participant,

You are welcome to voluntarily participate in the research study being conducted as part of Eman Alyami's master's thesis work in Dalhousie University. To be eligible to participate in the study, you must be an international student, and enrolled in a university in Halifax. By participating in this study you have a chance to enter a draw to win a Galaxy Tablet.

The purpose of the study is to examine the impact of international university students' socioeconomic characteristics on their attitude towards online shopping, and how these characteristics affect their online shopping behavioural intentions.

You will be asked to complete an online questionnaire about your experience with e-shopping. The questionnaire will take about 10-15 minutes to complete.

Participating in this study is limited to a minimal risk (i.e. no risk greater than you would encounter in everyday life). All your responses will be remaining anonymous, confidential, and securely stored in a Dalhousie database. Only the investigator will have an access to the data and there are no third parties or commercial benefits behind collecting this data. However, as this study is about online shopping, it might be a point of interest to e-retailers, advertising companies or students themselves. In this case, results and suggestions only, not data, might be shared with whom it may concern. The data will not be used in other than academic purposes. Once the study is completed, all data files will be retained in a locked cabinet in the research office for five years post-publication as per Dalhousie University's policy.

There is no monetary compensation for participating in the study and you may decline to answer some questions or withdraw at any time without penalty.

The contact person is always available by email to answer any questions you may have or address any problems that you may experience as you complete the survey. You also may contact us if you are interested in the study results.

In the event that you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Catherine Connors, Director, Office of Research Ethics Administration at Dalhousie University's Office of Human Research Ethics for assistance: phone: (902) 494-1462, email: catherine.connors@dal.ca.

"By start taking this survey, I consent that I have read the explanation about this study and will contact the researcher for clarification if I had any questions. I hereby consent to take part in the study and to give my email address to be contacted in case of winning the prize. I understand that my participation is voluntary and that I am free to withdraw from the study at any time.

SURVEY QUESTIONS

Demographic/ Socioeconomic Conditions Questions:

1. **Age:**

   - 18 - 25
   - 26 - 34
   - 35 - 40
   - Over 40
   - Prefer not to answer

2. **Gender:**

   - Male
   - Female
   - Prefer not to answer

3. **What is your country of origin?**

4. **What is your study status?**

   - Undergraduate student
   - Graduate student
   - Other, please specify:

5. **How long have you been in Canada?**

   - Less than one year
   - 1 - 3 years
   - 4 - 6 years
   - Over 7 years

6. **What is your annual personal income?**

   - Less than $12,000
   - $12,001 to $24,000
   - $24,001 to $36,000
   - $36,001 to $48,000
   - $48,001 to $60,000

- $60,001 to $72,000

- $72,001 to $84,000

- More than $84,001

- Prefer not to answer

7. **How often did you buy online prior to arriving to Canada:**

- Very often

- Often

- Sometimes

- Occasionally

- Rarely

- Never

8. **Comparing to your former experience (if any), your online shopping in Canada:**

- Has increased

- Has decreased

- Is the same

9. **While in Canada, how often do you buy online:**

- Very often

- Often

- Sometimes

- Occasionally

- Rarely

10. **On average, how much do you spend on online shopping monthly:**

- Less than $500

- $500- $1000

- Over $1000

11. **What are the most frequent items you buy online:**

- Books, articles, magazines, etc.

- Apparel

- Food

- Electronic Appliances

- Computer gadgets

- Software (e.g. songs, games, movies etc.)

- Online services

- Toys

- Hotel reservations

- Movie/ theater/ concerts tickets

- Airline tickets

- Cosmetics/Jewelry

- Household furniture

- Others, please specify:

12. **What device you usually use when you shop online**

- A PC/ laptop

- A Smart phone

- A Tablet

- Other devices

13. **How do you usually pay for an online purchasing:**

- Credit card

- Debit card (e.g. Interact)

- Payment services (e.g. PayPal, Google Wallet etc.)

- Others, please specify:

14. **What motivates you to shop online:** Please choose the three most important reasons:

- I shop online because items are on sales

- I shop online because of free shipping

- I shop online because it is convenient

- I shop online because it is faster

- I shop online because the product/service is available only online

- I shop online because of good deals and complementary promotions

- I shop online because I can read product reviews

- I shop online because I can compare prices

- Others, please specify:

Perceived Usefulness of Online Shopping Questions:

15) Online shopping enables me to make purchases more quickly than traditional stores.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

16) Online shopping improves my ability to make the right decisions about products.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

17) Online shopping is more useful than traditional shopping.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

18) I find precisely what I want in an online store.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

19) Online shopping improves my academic performance.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

20) I find online shopping is useful for my studies.

- Strongly agree
- Agree
- Neutral
- Disagree

- Strongly disagree

21) Shopping websites provides useful content

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

22) Shopping websites provide sufficient information about the product/ service

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

23) Online shopping websites make it easy to find what I want.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

24) Online shopping websites helps me to shop more efficiently.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

25) Online shopping saves my time

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

26) Online shopping saves my money

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

27) Shopping online reduces the monetary cost of traditional shopping (e.g. parking fee)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Perceived Ease of Use of Online Shopping:

28) From my experience, online shopping is understandable

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

29) Online shopping does not require a lot of mental efforts

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

30) It is easy to pay for items online

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

31) It is easy to become skillful in online shopping

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Perceived Self-Efficacy in Doing Online Shopping Questions:

32) I feel confident in doing online shopping

- Strongly agree
- Agree
- Neutral
- Disagree

- Strongly disagree

33) I feel capable of buying online

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

34) I feel comfortable looking for information about a product/ service online.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

35) I feel confident to communicate with the online shop's customer service staff

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Perceived Entertainment in Doing Online Shopping Questions:

36) I enjoy shopping online

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

37) I enjoy shopping online more than traditional shopping (markets and malls)

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

38) Online shopping puts me in a good mood

- Strongly agree
- Agree
- Neutral
- Disagree

- Strongly disagree

39) I have fun while shopping online

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Perceived Risk in Doing Online Shopping Questions:

40) Online shopping is risky

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

41) I am afraid my personal information would be stolen during an online purchase.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

42) Sometimes, I do not feel secure making online transactions

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

43) Sometimes, I am not aware of my rights as an online shopper

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

44) Sometimes, I do not read the privacy policy and terms of use before purchasing online.

- Strongly agree
- Agree
- Neutral
- Disagree

- Strongly disagree

Attitude towards Online Shopping Questions:

45) My general attitude towards online shopping is positive.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

46) The thought of buying product/service online is appealing to me

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

47) I recommend online shopping to my friends

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

48) I prefer online shopping to traditional shopping

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Behavioural Intentions toward Online Shopping Questions:

49) Usually, I spend more time on online shopping than I had planned to.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

50) I am willing to spend more time on online shopping

- Strongly agree
- Agree

- Neutral
- Disagree
- Strongly disagree

51) I intend to continue doing online shopping

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

52) I will buy more products online.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

End of the questions. Thank you.