

International University Students' Online Shopping Behaviour

Eman Alyami¹ and Louise Spiteri²

International university students (IUSs) shop online for psychological and practical reasons, but very few research studies have explored this matter. This study examines the motivations, perceptions and behaviour of 142 IUSs within the context of a modified version of the Technology Acceptance Model (TAM). Results indicate that perceived entertainment outweighed 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 had little influence on TAM measures. Entertainment and usefulness were the primary motivating factors for IUSs to shop online. The findings of this study could help universities and e-retailers develop guidelines to ensure a safe and attractive shopping experience for IUSs.

Field of Research: e-commerce, social sciences, marketing research, marketing and international consumers, online shopping, the Technology Acceptance Model (TAM)

1. Introduction

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") pertaining to online shopping, including number, type and cost of items purchased, and modes of online shopping. The literature (e.g., Garbarino & Strahilevitz 2004; Monsuwé et al. 2004; Zhou 2007; Seock & Bailey 2008; Naseri & Elliott 2011; Kahttab et al. 2012; Sin et al. 2012; Wan et al. 2012; Yin-fah 2010) 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 in current studies even though IUSs are an important demographic segment in the online shopping context for several reasons:

IUSs form a significant portion of the university population (Delafrouz et al. 2009; Yin-fah 2010). Moreover, they share some valuable attributes with other students regarding online shopping. For example, they have a broad vision of shopping, a readiness to learn and adapt, curiosity, intelligence, insight, a variety of cultural backgrounds, and access to rich information sources (Wenjie 2010). In addition, IUSs are more exposed to different learning environments, have a wider range of social and cultural understanding, as well as good adaptation skills, which enable them to function effectively in and outside of their home countries as compared to domestic students (Gu et al. 2010). Such attributes are significant for an efficient, active, and capable online shopper (Cheung & Lee 2010).

¹Eman Alyami, Faculty of Graduate Studies, Dalhousie University, Canada, Email:alyami@cs.dal.ca

²Louise Spiteri, Faculty of Management, Dalhousie University, Canada, Email:louise.spiteri@dal.ca

Alyami & Spiteri

In addition, many IUSs may have a sudden need to shop online in order to adapt to their new environments. Exposure to a new environment often makes them feel lonely and homesick for their familiar surroundings, including food, clothes, cultural habits, and so on (Cheung & Lee 2010). Online shopping is shown to be a helpful way to overcome some of these negative feelings (Bridges & Florsheim 2008). In addition, an IUS might order products that are unique to his/her country or culture. Furthermore, he or she might engage in online activities that require an actual purchase such as Rebtel (an online phone call service offering lower international rates as compared to what traditional long distance suppliers offer) to keep in touch with family and friends.

Also, IUSs often have unsettled feelings about off campus life where they frequently feel rejected and unwelcome (Gu et al. 2010). This anxiety stems from communication differences, such as verbal language, body language, bargaining conventions, etc., between an IUS and local residents (Gu et al. 2010). The majority of retailers that IUSs deal with have online stores. In this case, an IUS can order what he or she needs, from furniture to clothes, without losing his or her self-esteem when confronting difficulties in communications, which can be overcome over time and through a positive shopping experience (Yang & Noels 2012).

Finally, the majority of IUSs face financial problems, especially in the first three months of their life in the host country (Gu et al. 2010), which adds to their concerns about shopping. 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). Even though students in general have limited finances, as the majority of them do not have permanent jobs and supportive families (Ma & Ma 2012), this issue is more significant for IUSs.

To our knowledge, there has not been, until the time of this study, a research study that considered IUSs as a focus group in the context of online shopping. Therefore, this study will examine the motivations, perceptions and behaviour of IUSs (while they reside in Canada) that result from the needs described above while proposing a modified version of the Technology Acceptance Model to which the purposes of this study are well-suited. In particular, the study will address the following questions: 1) what is the impact of the demographics and characteristics of IUSs in terms of their online shopping behaviour?; and 2) how does prior online shopping experience affect IUSs' online shopping behaviour?

The following sections are designed as follows: first, we provide an overview of the background factors related to this study while addressing the gap in the current literature. Next, we explain how we designed our study and chose the sample selection. Later, we include our analysis and explain the results. Finally, we discuss our findings and conclude by addressing the existing limitations and making suggestions for future work.

2. Literature Review

2.1 Demographic Characteristics of Online Shoppers

Age has a considerable influence on online shopping behaviour. Young online shoppers (i.e., university age consumers who are between 18 to 25 years of age) are more likely to perceive the benefits of shopping online (Khare et al. 2012). They tend to challenge

themselves by accepting new technologies and they are more adaptable to changes in information technology (IT) (Wan et al. 2012). Since IUSs are considered to be a part of the young population, hence: *H₁: Age of IUSs has a positive impact on their attitude towards online shopping.*

Gender differences play a significant role in online shopping (Al-maghrabi & Dennis 2012). In general, men are more motivated to shop online because 1) they are impulsive shoppers (Kahttab et al. 2012); 2) they have a greater sense of enjoyment and satisfaction in online shopping (ibid); and 3) they have fewer concerns about privacy and security while shopping online (Garbarino & Strahilevitz 2004). Therefore, men tend to shop online more than women (Schwanen et al. 2014), so this research postulates that: *H₂: A male IUS has a more positive attitude towards online shopping than a female IUS.*

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). Another quantitative study (Yin-fah 2010) conducted research into the online shopping behaviour of university students and found that there is a significant positive relationship between a person's level of education and his/her attitude towards online shopping, so: *H₃: IUSs with higher education have a positive attitude towards online shopping.*

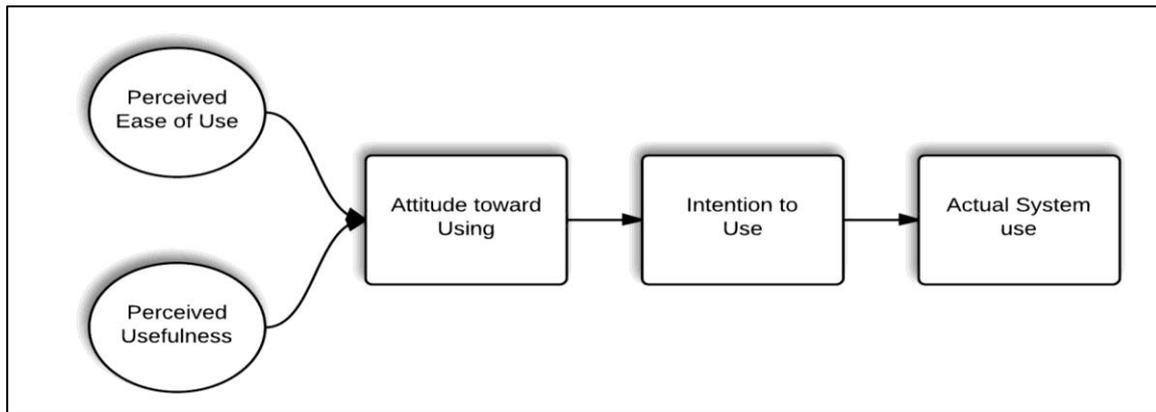
Furthermore, higher income increases the frequency of online shopping (Wan et al. 2012). Higher income results in higher credit ratings for credit cards, as well as an increased likelihood of access to high speed Internet, which might result in more frequent online purchases (Naseri & Elliott 2011), hence: *H₄: IUSs with a higher income have a positive attitude towards online shopping.*

Online shoppers want to have more interesting, interactive, and personalized shopping experiences. To achieve this goal, they tend to make frequent purchases. Thus, the more they buy, the more experienced they become (Naseri & Elliot 2011). Therefore, *H₅: IUSs who are experienced in online shopping tend to have a positive attitude towards online shopping.*

2.2 The Technology Acceptance Model (TAM) and Associated Measures in the Context of Online Shopping

The above stated research questions will be examined below through the Technology Acceptance Model (TAM) introduced by Davis (1986)(Figure 1). Because online shopping sites are examples of information technology systems (ITS)(Kim 2012), TAM has been successfully applied to study online shopping behaviour and demographic-related technology acceptance (Al-maghrabi & Dennis 2012).

Figure 1: The Technology Acceptance Model (TAM) by Davis (1986)



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 of IUSs towards online shopping as follows:

Perceived Ease of Use (PEOU)

'PEOU' refers to the effortless performance associated with online shopping, or the minimum level of effort involved (Sin et al. 2012). The easier an online store is to use, the more likely it is that users will make a purchase (Monsuwé et al. 2004). PEOU positively influences the user's behavioural intentions and attitude towards online shopping (Pan et al. 2012). *H₆: When an IUS perceives online shopping is easy, his or her attitude towards online shopping will be positively influenced.*

Perceived Usefulness (PU)

'PU' refers to the users' perception that using a website would result in a useful and faster online shopping experience as compared to an experience at a traditional store (Dash & Saji 2007). In addition, PU positively and directly influences a shopper's attitude towards online shopping and it enhances the probability of repeated purchases (Sin et al. 2012). *H₇: Perceived usefulness of online shopping will have a positive impact on IUSs' attitude towards online shopping.*

Attitude (ATT)

'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 (Hsu et al. 2006). Attitude (ATT) was used in TAM as a mediating factor between perceptions (i.e., PEOU and PU) and behavioural intentions (BI) (Kim 2012), and it had a positive influence on behavioural intentions (Al-maghrabi & Dennis 2012). *H₈: IUSs' attitude towards online shopping positively influences their online shopping behavioural intentions.*

Alyami & Spiteri

Behavioural Intentions (BI)

'BI' refers to the likelihood that an Internet user will make a decision to buy online (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). 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 (Kahttab et al. 2012). *H₉: IUSs' attitude and behavioural intentions positively influence their online shopping behaviour.*

Actual Behaviour (AB)

'AB' in general, is driven by two main factors: rational intentions (strengthened by perceptions) and social influence (social awareness, pressure, and necessity) (Lee et al. 2007). 'AB' is the state an online shopper undergoes while interacting with online websites for the purpose of making a purchase (Liao & Keng 2013).

Perceived Risk (PR)

'PR' is defined as the degree of uncertainty felt by a user during an online shopping process (Forsythe et al. 2006). PR works as a barrier to shopping online as it reduces the chances of shopping, especially for new users (Allred et al. 2006). In other words, the level of user's uncertainty negatively affects ATT and BI of online shopping (Dash & Saji 2007). *H₁₀: IUSs' risk perceptions negatively affect their attitude towards online shopping.*

Perceived Entertainment (PE)

'PE' refers to online shoppers' level of enjoyment that is associated with using an online store (Hsu et al. 2006). 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 2012). Studies found that PE affects ATT positively, and prompts the online shopper to stay longer and browse more, which increases the likelihood of more purchases (Kim et al. 2010). *H₁₁: Perceived entertainment has a positive impact on IUSs' attitude towards online shopping.*

Perceived Self-Efficacy (PSE)

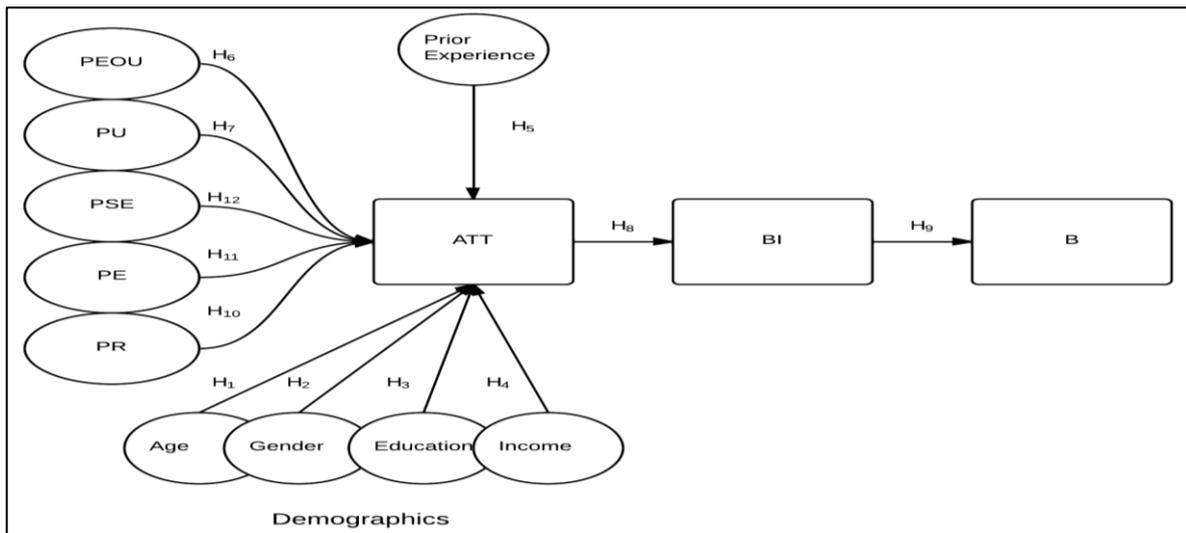
'PSE' refers to the extent that a user thinks he or she is capable of performing a certain task to achieve the desired results (Venkatesh & Bala 2008). There are several factors that influence the user's self-efficacy, such as the user's level of experience (Venkatesh & Bala 2008); emotions and feelings (Zhou 2007); and self-confidence (Dash & Saji 2007). Thus, studies found that PSE positively influences ATT (e.g., Hernández et al. 2011). *H₁₂: Perceived self-efficacy positively influences IUSs' attitude towards online shopping.*

Research Contribution

From a user's perspective, online shopping fulfills consumers' needs in a way that brick-and-mortar stores cannot. Online shopping meets three important consumer needs: convenience, variety of options, and monetary value (i.e., cost-effectiveness). As

discussed above, there have been a number of studies that analyzed consumer behaviour using the TAM model with several modifications. However, both social and e-business studies have not considered IUSs as an important marketing segment. Our focus here is to highlight that group and address their online shopping behaviour. This is done in order to compare this behaviour to the existing studies and to come up with useful guidelines for marketing strategies. In a dynamic and virtual world, our proposed version of TAM (Figure 2) contains many variables that will help us address the different factors that affect IUSs online shopping experience.

Figure 2: Effects of IUSs’ Demographic Factors and Perceptions on Online Shopping Behaviour



3. Methodology

3.1 Research Design

This study examined the hypotheses via an online survey based on measures established in related works (Table 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 2007).

Table 1: Variables and Indicators of Online Shopping Behaviour’s Measures

| Scale | Items | References |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Perceived Usefulness | <ul style="list-style-type: none"> Online shopping enables me to make purchases more quickly than at traditional stores. Online shopping improves my ability to make the right decisions about products. Online shopping is more useful than traditional shopping. I find exactly what I want in an online store. | Davis 1986 |
| | <ul style="list-style-type: none"> Online shopping improves my academic performance. I find online shopping useful to my studies. | Venkatesh & Bala 2008 |

Alyami & Spiteri

| Scale | Items | References |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| | <ul style="list-style-type: none"> • Shopping websites provide useful content. • Shopping websites provide sufficient information about specific products/ services. • Online shopping websites make it easy for me to find what I want. | Hsieh & Liao 2011 |
| | <ul style="list-style-type: none"> • Online shopping helps me to shop more efficiently. • Online shopping saves me time. • Online shopping saves me money. | Hernández et al. 2011 |
| | <ul style="list-style-type: none"> • Shopping online reduces the monetary cost of traditional shopping (e.g., parking fees). | Yin-fah 2010 |
| Perceived Ease of Use | <ul style="list-style-type: none"> • From my experience, online shopping is easy to comprehend. | Venkatesh & Bala 2008 |
| | <ul style="list-style-type: none"> • It is easy to pay for items online. | Hsieh & Liao 2011 |
| | <ul style="list-style-type: none"> • Online shopping does not require a lot of mental effort. | Venkatesh & Davis 2000 |
| Perceived Self-Efficacy | <ul style="list-style-type: none"> • I do not need to learn about online shopping. • I do not need assistance when doing my online shopping. • I do not need to consult anyone about the product / service before I buy it. | Venkatesh & Bala 2008 |
| | <ul style="list-style-type: none"> • I feel capable of shopping online. • I feel comfortable looking for information about a product/ service online. | Hernández et al. 2011 |
| | <ul style="list-style-type: none"> • I would be frustrated about what to do if I became dissatisfied with a purchase made online. | Yin-fah 2010 |
| Perceived Entertainment | <ul style="list-style-type: none"> • 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 |
| | <ul style="list-style-type: none"> • I have fun while shopping online. | Venkatesh & Bala 2008 |
| Perceived Risk | <ul style="list-style-type: none"> • Online shopping is risky. | Yin-fah 2010 |
| | <ul style="list-style-type: none"> • I am afraid that my personal information would be stolen during an online purchase. • I feel secure making transactions. | Lin et al. 2010 |
| | <ul style="list-style-type: none"> • 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 Toward Online Shopping | <ul style="list-style-type: none"> • My general attitude towards online shopping is positive. | Hernández et al. 2011 |
| | <ul style="list-style-type: none"> • I prefer online shopping to traditional shopping. • The thought of buying a product/service online is appealing to me. | Yin-fah 2010 |
| | <ul style="list-style-type: none"> • I recommend online shopping to my friends. | Garbarino & Strahilevitz 2004 |

Alyami & Spiteri

| Scale | Items | References |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Behavioural Intentions | <ul style="list-style-type: none"> • 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 |
| | <ul style="list-style-type: none"> • I intend to continue doing online shopping. | Chen et al. 2010 |
| | <ul style="list-style-type: none"> • I will buy more products online. | Hernández et al. 2011 |
| | | |

The measures used in this study were categorized into seven major scales, each of which had several items. The rating for each item was measured via a Likert scale ranging from “strongly disagree” to “strongly agree”. Likert scale is an acceptable measurement of attitude in self-administered questionnaires (Delafrouz et al. 2009), and it gives an assessment of confidence in the rating (Maurer & Pierce 1998).

3.2 Population, Sample, and Participants

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% (Yang & Noels 2012).

Convenience and purposive sampling techniques were used to recruit IUSs in different ways, including: through the cooperation of the international centres at Saint Mary University and Mount Saint Vincent University; through email lists put out by the Faculty of Computer Science at Dalhousie University; and through the universities’ social media pages. The criteria for participation were: the participants must be IUSs, 18 years and older, be enrolled in a university program in Halifax, NS, and have at least one online shopping experience.

The survey was open for two months (February 28 – April 30, 2013). A total of 142 participants completed the survey (93 males and 49 females). The data was coded for analysis using SPSS.

4. Data Analysis and Results

4.1 Descriptive Statistics of TAM Measures

All the scales were assessed by using a total of 38 items. Responses for each item were scaled from -2 (strongly disagree) to +2 (strongly agree), with 0 representing neutral. The items for each scale were checked for validity and reliability; then they were averaged to create one score that represented that scale. The summary of statistics for the PU, PEOU, PSE, PE, PR, ATT and BI scales are shown in Table 2.

Alyami & Spiteri

Table 2: 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 |
| Behavioural Intentions (BI) | 0.713 | 0.631 | -1.000 | 2.000 |

4.2. Correlations between TAM Measures

Table 3 provides the Pearson correlations between all the scales, plus Experience and Demographics. Note that all were significant ($p < .05$) except PR with ATT, and PR with BI.

Table 3: Pearson Correlations between Scales Experience and Demographics

| | PU | PEOU | PSE | PE | PR | ATT | BI | Exp. | Demo. |
|-------|------|---------|---------|---------|----------|---------|---------|----------|-------|
| PU | 1.00 | .628*** | .542*** | .526*** | -0.205* | .545*** | .407*** | .183* | .190 |
| PEOU | | 1.00 | .523*** | .383** | -0.216** | .389*** | .309*** | .188* | .256 |
| PSE | | | 1.00 | .364 | -0.221** | .551*** | .460*** | .153 | .210 |
| PE | | | | 1.00 | -0.180* | .639*** | .459*** | .145 | .187 |
| PR | | | | | 1.000 | -.162 | -.098 | -.301*** | .299* |
| ATT | | | | | | 1.00 | .633*** | .292*** | .227 |
| BI | | | | | | | 1.00 | .191* | .180 |
| Exp. | | | | | | | | 1.00 | .276 |
| Demo. | | | | | | | | | 1.00 |

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

The different components of the model overlap; they are not pure (unrelated) measures. Therefore, to assess the pure contribution of each variable, the semi-partial correlation was used (Table 4).

Table 4: The Analysis of Each Term of the Model in Context

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

Given the p values in Table 4, the null hypotheses of PU, PSE, and PE were rejected, as follows:

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

Alyami & Spiteri

- H_{11} : 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 null hypotheses was accepted ($p > 0.05$) and the assumptions below were rejected:

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

4.3 Prior Experience and TAM Scales

Table 3 shows the simple correlations between Experience and each of the TAM measures. Note that Experience is related to PU and PEUO, but it is strongly (negatively) related to PR.

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 Perceptions (i.e., PU, PEOU, PSE, PE and PR) were entered first (as a group) and Experience was added second (as a group). This enabled Experience to explain anything that PU, PEOU, PSE, PE and PR did *not* explain and helped to show how each new variable added to the scores of the previous variables (Howitt & Cramer 2008, p. 180). The Perceptions 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 was an improvement ($\Delta R^2 = .033$) (i.e., Experience explained about 3.3% of ATT in isolation). This improvement was significant with $F(1,135) = 9.122$ ($p < .003$), 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.

4.4 Demographics and TAM Measures

In section 2, it was assumed that demographics would have a strong influence on ATT. However, with further analysis, *gender* seemed to be 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 3).

As previously stated, the hierarchical regression was used to figure out how much Demographics would add to the predictability of ATT. The results indicated that the inclusion of demographics did *not* add predictability.

4.5 Behavioural Intentions

Behavioural intentions (BI) are thought to flow from attitudes toward acceptance. 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. Further analysis showed that Experience and Demographics seemed to have a very minor effect on BI, and 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.

4.6 Behaviour

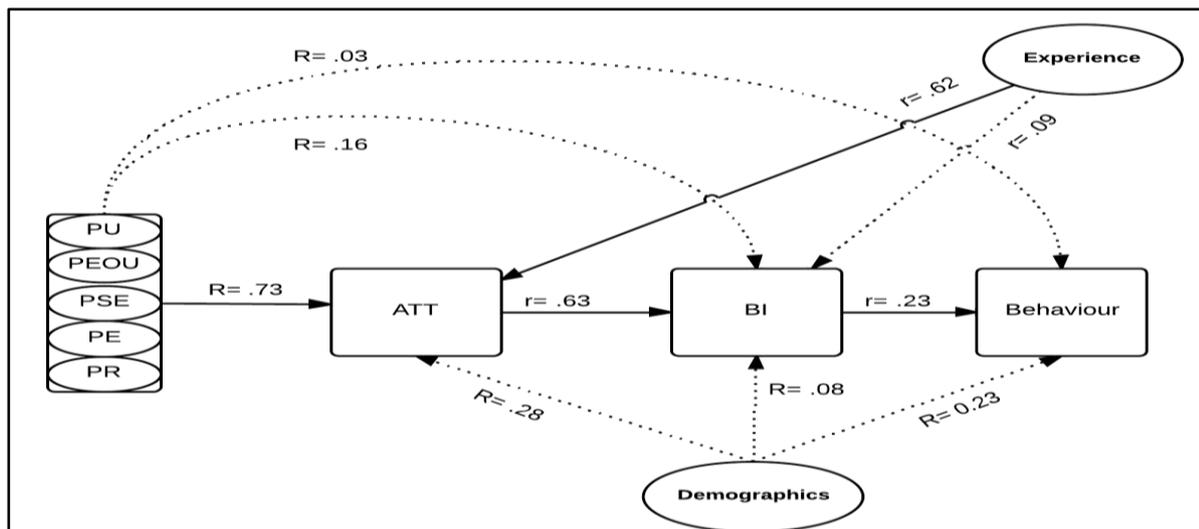
The final set of analyses examined actual online shopping behaviour (B). The variable *Total Spending = Monthly Spending x Frequency of Online shopping* was created in order to expand the range of spending and to facilitate the analysis.

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 helped 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:

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

Figure 3 shows the final assessment of the relationships between TAM and the other components.

Figure 3: The Effects of TAM Measures, Demographics, and Prior Experience on Actual Behaviour



5. Discussion and 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). The analytical results 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. Entertainment through online shopping for IUSs can be exemplified in different ways: the sense of shopping at a relaxed pace, away from any social pressures; enjoyment of the features offered by an online store, where suggested items or one's history of browsing facilitate and improve the shopping session; or the enjoyment of purchasing items related to their culture, heritage, or personalities.

Retailers might want to consider that online shopping is a source of entertainment in order to develop marketing strategies that consider different cultures and thus address the need 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 shopper's sense of enjoyment increases the likelihood of him/her staying longer on a website, and making more purchases (Hsu et al. 2006; Kim 2012), 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 tasks have a strong influence on their attitude towards online shopping. This conclusion supports the results from other studies (e.g., Hernández et al. 2011; Dash & Saji 2007). Moreover, students are very adaptable to new technologies and willing to learn them (Wenjie 2010). In addition, 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. Thus, it is important for IUSs to become knowledgeable, capable and confident in their online shopping.

In most universities, international student centres have a significant responsibility of accommodating and educating their students (Gu et al. 2010). According to the suggestions proposed in Seock & Bailey's study (2008), these centres might want to 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.

In addition, as suggested by Zheng (2014), e-commerce instructors may benefit from diversity in their classes by exposing students to different online web store platforms.

Alyami & Spiteri

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 share their online shopping experiences and insights with 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, thus supporting 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 was expected because online shopping provides IUSs with the opportunity to shop for products they cannot find in their host city. Furthermore, online shopping reduces verbal communication and social barriers. The benefits also include low prices, free shipping, and promotions. This is further supported by the IUSs' motivations to shop online. Here, most of the sample indicated motivations such as convenience, cheaper prices, and product availability.

Prior Experience strongly influenced IUSs' 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 had higher PU and PEOU and lower PR than their Eastern counterparts (Tong 2010). Being in Canada allowed 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.

Some TAM measures did not have considerable influence on ATT as had been expected. 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. Demographics also had little influence on attitude towards online shopping, which supported the claim made by Hernández et al. (2011) that demographic factors have more of a moderating effect rather than a direct influence on online shopping behaviour. However, it is worth noting that *Gender* was the only factor that seemed to be related to ATT. E-retailers might want to consider this gender gap in order to attract more females by, for instance, using one or more social media platforms (e.g., Facebook), so that the online stores can build its community and reputation. Also, the e-retailers should encourage the missing segment with explicit incentives which would be given for inviting or referring friends, even those friends who are overseas (such as the approach applied by an e-retailer called *Groupon*). This would be a useful approach given that female IUSs are willing to trust the e-retailers who have served their friends and relatives.

Perceived Risk was not related to ATT. Very few studies based on TAM found that PR had a weak negative effect on attitude (Hsu et al. 2006). Future studies might limit the use of PR as a TAM measure in 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 (Wenjie 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.

Alyami & Spiteri

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 as 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, and 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 considerations will help IUSs to make frequent purchases, and to become more experienced in online shopping.

Compared to other theories in behavioural research, TAM is widely used to measure online shopping behaviour. Nonetheless, human behaviour is difficult to measure even though it is predictable under certain conditions. Therefore, this study has its limitations. First, the modified model in this study was formed with respect to the sample's points of view and it might be used in similar research under thorough re-evaluation of the measures used. Second, the sample was recruited locally in a city that 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 conclusion, there has been some focus on university students' online shopping trends and behaviour. However, with reasonable focused efforts, researchers and retailers might benefit from the diversity and willingness brought in via the international perspectives to the e-commerce field. IUSs have special characteristics that made them willing and adaptable online shoppers. Reflecting upon the results, entertainment and usefulness were the primary motivating factors for IUSs to shop online. This is not surprising, as online shopping might be a beneficial way to find products or services relevant to the cultures of IUSs and thus 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 means to have fun and to enjoy their time in Canada. Nonetheless, further investigation of factors that affect IUSs' online shopping behaviour should be considered in future work.

Acknowledgment

The authors would like to thank The Saudi Arabian Cultural Bureau (SACB) in Canada for their sponsorship and funding of this research.

References

- Al-Maghrabi, T & Dennis, C 2012, 'The driving factors of continuance online shopping: gender differences in behaviour among students, the case of Saudi Arabia', *International Journal of Business Information Systems*, vol. 9, no.4, pp. 360-384.

Alyami & Spiteri

- Allred, CR, Smith, SM & Swinyard, WR 2006, 'E-shopping lovers and fearful conservatives: a market segmentation analysis', *International Journal of Retail & Distribution Management*, vol. 34, no. 4/5, pp. 308–333.
- Bridges, E & Florsheim, R 2008, 'Hedonic and utilitarian shopping goals: the online experience', *Journal of Business Research*, vol. 61, no. 4, pp. 309–314.
- Burroughs, RE & Sabherwal, R 2002, 'Determinants of retail electronic purchasing: a multi-period investigation', *Infor*, vol. 40, no. 1, pp. 35–56, viewed 22 April 2013, <<http://www.proquest.com/>>.
- Chen, YH, Hsu, IC & Lin, CC 2010, 'Website attributes that increase consumer purchase intention: a conjoint analysis', *Journal of Business Research*, vol. 63, no. 9-10, pp.1007–1014, viewed 11 December 2011, <<http://www.sciencedirect.com/>>.
- Cheung, CMK & Lee, MKO 2010, 'A theoretical model of intentional social action in online social networks', *Decision Support Systems*, vol. 49, no.1, pp. 24–30.
- Dash, S, & Saji, KB 2007, 'The role of consumer self-efficacy and website social-presence in customers' adoption of b2c online shopping: an empirical study in the indian context', *Journal of International Consumer Marketing*, vol. 20, no. 2, pp. 33-48.
- Davis, FD 1986, 'A technology acceptance model for empirically testing new end-user information systems: theory and results', PhD thesis, Massachusetts Institute of Technology.
- Delafrooz, N, Paim, LH, Haron, SA, Sidin, SM, & Khatibi, A 2009, 'Factors affecting students' attitude toward online shopping', *African Journal of Business Management*, vol. 3, no. 5, pp. 200-209.
- Forsythe, S, Liu, C, Shannon, D, & Gardner, LC 2006, 'Development of a scale to measure the perceived benefits and risks of online shopping', *Journal of interactive marketing*, vol. 20, no. 2, pp. 55-75.
- Francica, J 1999, 'Internet acceptance is the driving force behind eCommerce', *Directions Magazine*, 26 February, viewed 17 May 2014, <<http://www.directionsmag.com/articles/internet-acceptance-is-the-driving-force-behind-ecommerce/124223>>.
- Garbarino, E & Strahilevitz, M 2004, 'Gender differences in the perceived risk of buying online and the effects of receiving a site recommendation', *Journal of Business Research*, vol. 57, no. 7, pp. 768–775.
- Garner, R 2010, *The Joy of Stats: a short guide to introductory statistics in the social sciences*, University of Toronto Press Incorporated, Toronto.
- Gu, Q, Schweisfurth, M & Day, C 2010, 'Learning and growing in a “foreign” context: intercultural experiences of international students', *Compare*, vol. 40, no. 1, pp. 7-23.
- Howitt, D, & Cramer, D 2008, *Introduction to SPSS in Psychology: for version 16 and Earlier*, Pearson, London.
- Hernández, B, Jiménez, J & Martín, MJ 2011, 'Age, gender and income: do they really moderate online shopping behaviour?', *Online Information Review*, vol. 35, no.1, pp. 113–133.
- Hsu, MH, Yen, CH, Chiu, CM, & Chang, CM 2006, 'A longitudinal investigation of continued online shopping behavior: an extension of the theory of planned behavior', *International Journal of Human-Computer Studies*, vol. 64, no. 9, pp. 889-904.
- Kahttab, SA, Al-Manasra, EA, Zaid, MKSA, & Qutaishat, FT 2012, 'Individualist, collectivist and gender moderated differences toward online purchase intentions in Jordan', *International Business Research*, vol. 5, no.8, p. 85-93.

Alyami & Spiteri

- Khare, A, Khare, A & Singh, S 2012, 'Attracting shoppers to shop online—challenges and opportunities for the indian retail sector', *Journal of Internet Commerce*, vo., 11, no. 2, pp.161–185.
- Kim, JB 2012, 'An empirical study on consumer first purchase intention in online shopping: integrating initial trust and TAM', *Electronic Commerce Research*, vol. 12, no. 2, pp.125–150.
- Kim, JU, Kim, WJ & Park, SC 2010, 'Consumer perceptions on web advertisements and motivation factors to purchase in the online shopping', *Computers in Human Behavior*, vol. 26, no. 5, pp.1208–1222.
- Lee, HY, Qu, H & Kim, YS 2007, 'A study of the impact of personal innovativeness on online travel shopping behavior: a case study of Korean travelers', *Tourism Management*, vol. 28, no. 3, pp. 886–897.
- Liao, TH & Keng, CJ, 2013, 'Online shopping delivery delay: finding a psychological recovery strategy by online consumer experiences', *Computers in Human Behavior*, vol. 29, no. 4, pp. 1849–1861.
- Lin, WB, Wang, MK & Hwang, KP 2010, 'The combined model of influencing on-line consumer behavior', *Expert Systems with Applications*, vol. 37, no.4, pp. 3236–3247.
- Ma, M & Ma, R 2012, 'The factors affecting the attitude of university students towards online shopping: a case study of students in honghe university', *Advance in Intelligent and Soft Computing*, vol. 2, no. 149, pp. 511–515.
- Manivannan, P 2013, 'Impact of credit card on buying attitudes: a study with reference to sub-urban locality', *Abstract*, vol. 2, no. 3, pp. 70–84.
- Maurer, TJ, & Pierce, HR 1998, 'A comparison of Likert scale and traditional measures of self-efficacy', *Journal of applied psychology*, vol. 83, no. 2, pp. 324-329.
- Milne, GR & Culnan, MJ 2004, 'Strategies for reducing online privacy risks: why consumers read (or don't read) online privacy notices', *Journal of Interactive Marketing*, vol. 18, no. 3, pp. 15–29.
- Monsuwé, TPY, Dellaert, BGC & Ruyter, KDE, 2004, 'What drives consumers to shop online? a literature review', *International Journal of Service Industry Management*, vol. 15, no. 1, pp. 102–121.
- Naseri, MB & Elliott, G 2011, 'Role of demographics, social connectedness and prior internet experience in adoption of online shopping: applications for direct marketing', *Journal of Targeting, Measurement and Analysis for Marketing*, vol. 19, no. 2, pp. 69–84.
- Jin, D (ed) 2012, *Advances in Electronic Commerce, Web Application and Communication*. S. Lin, Springer, New York.
- Schwanen, T, Kwan, MP & Ren, F 2014, 'The Internet and the gender division of household labour', *Geographical Journal*, vol. 180, no.1, pp. 52–64.
- Seock, YK & Bailey, LR 2008, 'The influence of college students' shopping orientations and gender differences on online information searches and purchase behaviours', *International Journal of Consumer Studies*, vol. 32, no. 2, pp. 113–121.
- Sin, SS, Nor, KM & Al-Agaga, AM 2012, 'Factors Affecting Malaysian young consumers' online purchase intention in social media websites', *Procedia - Social and Behavioral Sciences*, vol. 40, pp. 326–333.
- Tong, X 2010, 'A cross-national investigation of an extended technology acceptance model in the online shopping context', *International Journal of Retail & Distribution Management*, vol. 38, no. 10, pp. 742–759.
- Venkatesh, V & Bala, H 2008, 'Technology acceptance model 3 and a research agenda on interventions', *Decision Sciences*, vol. 39, no. 2, pp. 273–315.

Alyami & Spiteri

- Venkatesh, V & Davis, FD 2000, 'A theoretical extension of the technology acceptance model: four longitudinal field studies', *Management Science*, vol. 46, no. 2, pp.186–204.
- Wan, Y, Nakayama, M & Sutcliffe, N 2012, 'The impact of age and shopping experiences on the classification of search, experience, and credence goods in online shopping', *Information Systems and e-Business Management*, vol. 10, no. 1, pp. 135–148.
- Wenjie, X 2010, 'A empirical study on influencing factors to college students' online shopping. 2010 *The 2nd International Conference on Computer and Automation Engineering (ICCAE)*, vol. 5, IEEE, pp. 612–615.
- Yang, RPJ & Noels, KA 2012, 'The possible selves of international students and their cross-cultural adjustment in Canada', *International Journal of Psychology*, vol. 48, no. 3, pp. 316–323.
- Yin-fah, BC 2010, 'Undergraduates and online purchasing behavior', *Asian Social Science*, vol. 6, no. 10, pp. 133–147.
- Zheng, P 2014, 'Antecedents to international student inflows to UK higher education: a comparative analysis', *Journal of Business Research*, vol. 67, no. 2, pp. 136–143.
- Zhou, L 2007, 'A critical survey of consumer factors in online shopping', *Marketing Journal*, vol. 8, no. 1, pp. 41–62.