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Consumer Acceptance of Online Shopping in Cameroon: Comparing Different Types of Product

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Abstract

Purpose: The purpose of this paper is to determine the effects of consumer acceptance of online shopping in Cameroon by comparing different online product types.

Design/Methodology/approaches: The sampling method employed in this study is convenience sampling method. The descriptive study was carried out in survey method. The research group consisted of total number of 108 of participants (female 60, n=55.6%; male 48, n=44.4%) and age range is between 20 and 35. A total of 108 sets of questionnaires were distributed randomly to students in Universities of Buea, Yaounde, Bamendaand working adults in Yaounde, Douala and Buea.

Findings: The relationships of consumer characteristics on their acceptance of online shopping are differ depend on the product types. For electronic gadgets, the findings remained in line with the overall results. For apparel, personal innovativeness has become insignificant to influence on the online buying behaviours while internet self-efficacy have in turn a significant relationship toward online shopping. Hence, it is concluded that product types affect the relationships between consumer characteristics and attitudes toward online shopping.

Originality/value: This study's research questions and methods are new to the line of consumer perception of online shopping of different product types making it a starting point for further lines of exploration.

Keywords: Online shoppinconsumer acceptance; Different product types

Introduction

In a globalized world as it exists today, the consumer has become increasingly important as competitors fiercely antagonized themselves and the real challenge of economic crisis deepens. The real changes in demand and to a greater extent the changes in quantity demanded are becoming even more rapid due to change in consumer desires who dictate the paste of the music of our modern market because they play the drum. As the consumers now control the markets, organizations have just one means of survival that is to increase investment in research and development.

One of the aspects of research and development which to be incorporated into modern marketing is the so-called internet marketing or online shopping. Internet marking or online shopping has becoming increasingly popular with the development of the internet. The traditional marketing system is gradually being replaced by online shopping, but this too, as a medium of modern marketing has its own drawbacks such as internet security and privacy concerns. Consumers have to ponder over these issues before deciding whether or not to engage themselves into internet marketing. However, the sophistication of internet-based marketing has led to increase online shopping as many users or consumers remain interested in online marketing or shopping thereby creating a new business and investment potential in electronic commerce [1-3].

Problem statement

It is extremely important for businesses to understand the characteristic and personality differences existing between the internet shoppers and non-internet shoppers. Businesses can accurately identify and target potential markets by understanding the different characteristics or personalities of potential online shopping customers. Conversely, because of the special characteristics of the internet, the characteristics of the product and services offered will determine its suitability for marketing [4]. We can better understand the influence of internet marketing or online shopping by considering the differences among product types [5,6]. Based on the limitations of previous studies which neglected the effects of product times in determining consumer characteristics, it is important to look at the effects of different types of products.

Research objectives

The research objectives of this study are:

a) To examine the different characteristics of online shoppers and non-online shoppers on accepting online shopping.

b) To evaluate the effects of different products and services type when considering online shopping.

Literature Review

Past studies identified four factors that can determine consumer acceptance of online shopping; consumer characteristics, personal perceived values, website design and the product itself [7-9]. The success of internet marketing and online sales of products depends on the types of product and service being marketed [4].

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Personal information technology innovation

According to Rogers [10], individual willingness to try out any new information technology can be referred to as personal innovativeness of information technology (PIIT). This testing of this concept can be theoretically justification by examining the statement that high PIIT individuals are likely by nature to be impulsive and may ignore thinking through reasons and implications for their actions. Individuals may dive into trying new technologies out of risk taking, adventurous and curiosity nature and not necessarily because of the concrete advantages of such a decision [11]. This was further reiterated by Hwang [12] stating innovators are likely to adopt online shopping because it is an innovative behaviour. Individual are more likely to adopt comfortable information technology innovations [13]. Individuals with high levels of PIIT are more likely to accept online purchasing because PIIT significantly affected consumer behaviour towards online shopping. Hence, the hypothesis developed as:

H1: A User attitude toward online shopping is positively affected by high levels of PIIT.

Internet self-efficacy

Bandura [14] proposed a social cognitive theory known as Internet self-efficacy. The theory shows that personal factors such as cognitive, motivation and environmental influence are some of the reason why one's behaviour is constantly under reciprocal influence. Bandura [15], Eastin [16], Perea, Dellaert and de Ruyter [17] called this environmental situations, behaviour interaction, and the three-way cognitive factors as the triadic reciprocity. This was applied in the internet context by Hernández, Jiménez and Martín [18] and Wei and Zhang [19] named it as internet self-efficacy. They defined internet self-efficacy as one's abilities to effectively use the internet. Self-efficacy in other words, [20] is an online shopping terminology that helps to describe the ability of an individual to apply their internet skills to complete a purchase a product online. Eastin [16] also indicated that user acceptance of online shopping is positively affected by a person's internet self-efficacy. This argument as further strengthen by Perea, Dellaert and de Ruyter [17], who indicated that low level self-efficacy consumers feel uncomfortable and insecure when making internet purchases. This argument therefore leads us to the second hypothesis which states that:

H2: User attitudes toward online shopping is positively affect by High levels of Internet self-efficacy.

Perceived web security

Roca, García and de la Vega [21] defined Perceived web security as "a threat that creates an event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosures, modification of data, denial of service as well as fraud, waste and abuse". Flavián and Guinalíu [22] also stated that perceived web security is the consumer's belief that his financial data is secured and cannot be accessible, visible, will not be used or stored by any unauthorised users. Elliot and Fowell [23] established that the greatest challenge faced by E-commerce is security of online transactions. This view was also supported by Kesh, Ramanujan and Nerur [24] and Liao and Cheung [25] found that security concerns who holds the opinion that the success of e-commerce depends on web security and affects consumer behaviour. According to Li and Zhang [26]; Zorotheos and Kafeza [27] and O'Cass and Fenech [28], the number one factor that seriously affected and prevented user online shopping was web security. Hence, the following hypothesis is adopted:

H3: User attitudes toward online shopping is positively affect by high levels of personal perceived Web security.

Privacy concerns

Customer and user privacy concerns related to online shopping remains a major challenge of 21st century e-commerce. In an attempt to gaining customer's confidence in online shopping and reduce asymmetry of information, today's online businesses have widely adopted privacy policies which provides a complete picture of the vendor's handling of information to help fill the information gap that exist between the vendors and the consumer. Paine and Reips [29] argues that it would be very easy for online merchant to find out reservation prices, taste, and identity of their customers or online users. This is because, in other to complete an online purchase or transaction, customers are required to reveal their personal information. However, according to Tsai et al. [30], there are high concerns from users on how their personal information are used by businesses and it is believed that online purchases intention is greatly affected by these privacy concerns. Tsai et al. [30] further highlighted that several factors such as privacy sensitivities, cognitive or behavioural biases may affect individual privacy attitudes. There is a perceived greater risk and uncertainty in online users who are worried on the privacy of their personal information and fear that their information could be misused or exchanged when engage in online transactions. Consequently, Tsai et al. [31] findings reveal that privacy concerns would negatively affect consumer's willingness to dealing with online merchants or register on websites or to do an online purchase.

Conversely, other scholars identified the difficulty in understanding and time consuming and reading as challenges to online privacy policies [32]. People seldom read privacy policies before completing an online purchase and most often than not the users make misleading assumptions. Most of the users willingly ignore privacy concern due to lack of understanding of the meaning of privacy seals. Given the contradictory results, this study hypothesizes that:

H4: A User attitude toward online shopping is negatively affected by high privacy concerns.

Product involvement

Zaichkowsky [33] was the first scholar to propose the concept of personal involvement and stated that an individual perception on whether an object, product, item or commodity is relevant or not is based on the value, interest and inherent needs of that object. Traylor [34] defined product involvement as "a reflects recognition that a particular product category may be more or less central to people's lives, their sense of identity and their relationship with the rest of the world". Tsai [35] claimed that the higher levels of product involvement will usually affect consumers in a way that requires them to focus on the central features of a purchasing context and relatively pay less attention to product and services. Similarly, in high product involvement situations, online service satisfaction or quality will have less impact on consumer's behavioural intentions to participant in online shopping.

On the other hand, Mueller [36] believed that low involvement goods tend to be package goods of a relatively low price which are purchased frequently by the consumer while high-involvement goods are those which generally tend to be higher in price, which require extensive consumer's information searching and which are infrequently purchased. However, Bian and Moutinho [37] research revealed no negative relationship and statistically significant between consumer purchase intention and product involvement of counterfeit products.

Hence, the enduring perceptions of consumers of the importance of the product category are basically based on their own interests, values, inherent needs. Given the contradictory results, this study hypothesizes that:

H5: A User attitude toward online shopping is positively affected by high levels of product involvement.

Product and service types

Internet has become a widespread medium both in the work place and at home and using the Internet as a retailing channel has become a trend in this business era. Gudergan et al. [38] indicated that managers need to understand the way customers evaluate their online shopping experience and the drivers of behavioural intentions for future purchase in order to manage online retailing effectively. Currently, there is constantly growth of online shopping channels covering different products and services. Huang and Yang [39] found that different gender treats online shopping for difference purposes in term of sociality, fashion, value or authority. Chyan and Chia [40] discovered that females are more fashion oriented as they are mostly dominated over perfectionism and novel-fashion consciousness than males. The survey conducted by Mintel [41] found that nearly eight out of ten women have made a purchase online and nine out of ten women have shopped for clothing themselves in the past year. Roslani [42] stated that there is constant growth of women's e-shopping for apparel as modern Malaysian woman is becoming even savvier to shopping online.

On the other hand, Kim [43] has claimed that most of the men are heavier users of the internet, do more activities online, less enthusiastic about online communication, perform more transaction, explore more information and look for more entertaining activities online. They are more tech-savvy person and men are typically more interested in new technology as compared to women. However, there is a changing gender role in today's society and it is mainly due to the combined effect of growing media influences and cultural changes. For instance, Malaysian women make up between 50 and 60 percent of the computer industry's employees and many hold middle or upper-level management positions [44]. Therefore, women may be one of the targeted segments of electronic products as well as men. Given the contradictory results, it is hypothesizes that:

H6: The relationship between consumer characteristics and attitudes toward online shopping is affected by Product and service type.

Research Theoretical Framework

Based on the literature review, a theoretical framework analysing the relationship on the independent variables of consumer characteristics to the dependent variables of user personal acceptance of online shopping is adopted and tested in this study as shown in Figure 1.

This study makes us of five variables related to critical consumer characteristic. This include; personal innovativeness of information technology (denoted as PIIT), internet self-efficacy (denoted as IS), perceived web security (denoted as PWS), privacy concerns (denoted as PC) and product involvement (denoted as PI). These independent variables are inferred to be the key influences on personal acceptance of online shopping (denoted as ATT) moderated by different products types. Research model was developed consisting of six hypotheses as shown in Figure 2 below. A summary of the indicators used research model is shown in Table 1 as below.

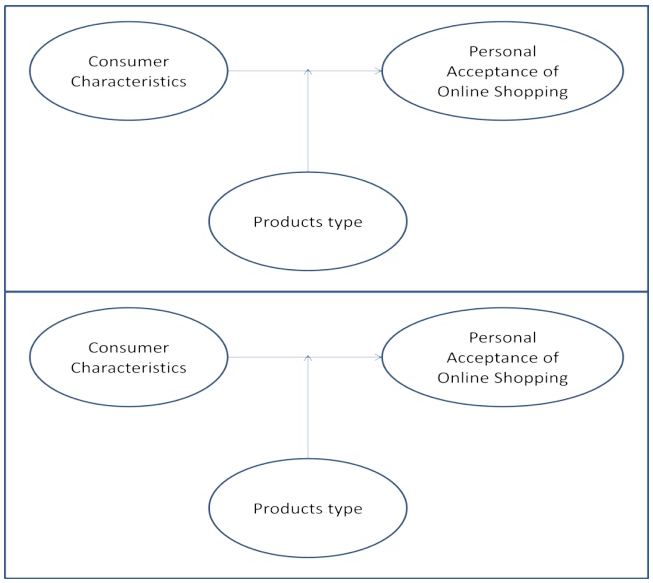


Figure 1: Research framework.

Methodology

Sampling method

The sampling method employed in this study is convenience sampling method. It is one of the sampling method falls under non probability sampling technique categories where it draws representative data by selecting people because of the ease of their volunteering and due to their availability and easy access [45]. Participants are sampled by chance and the designed questionnaires, as shown in Appendix A were randomly distributed to respondents who have experience with online purchasing experience through online.

Study population

The descriptive study was carried out in survey method. The research group consisted of total number of 108 of participants (female 60, n=55.6%; male 48, n=44.4%) and age range is between 20 and 35.

Sample selection

A total of 108 sets of questionnaires were distributed randomly to students in Universities of Buea, Yaoundé, Bamenda and working adults in Yaounde, Douala and Buea. There are restrictions imposed to screen out inappropriate sample among the respondents where the respondents have to be who have online purchasing experience. Therefore, 108 respondents chosen are the population who have internet access and able to proceed with online transactions.

Variables and measurement of variables

The questionnaire in this study is designed to determine the Consumer Acceptance of Online shopping in Cameroon; comparing different types of product. Consumer characteristic includes personal innovativeness of information technology, internet self-efficacy, perceived web security and privacy concerns as the independent variables and users' acceptance of online shopping is the dependent variables. Products types chosen in the study include of apparels and electronic gadgets as discussed previously.

The questionnaire is divided into three different sections in which

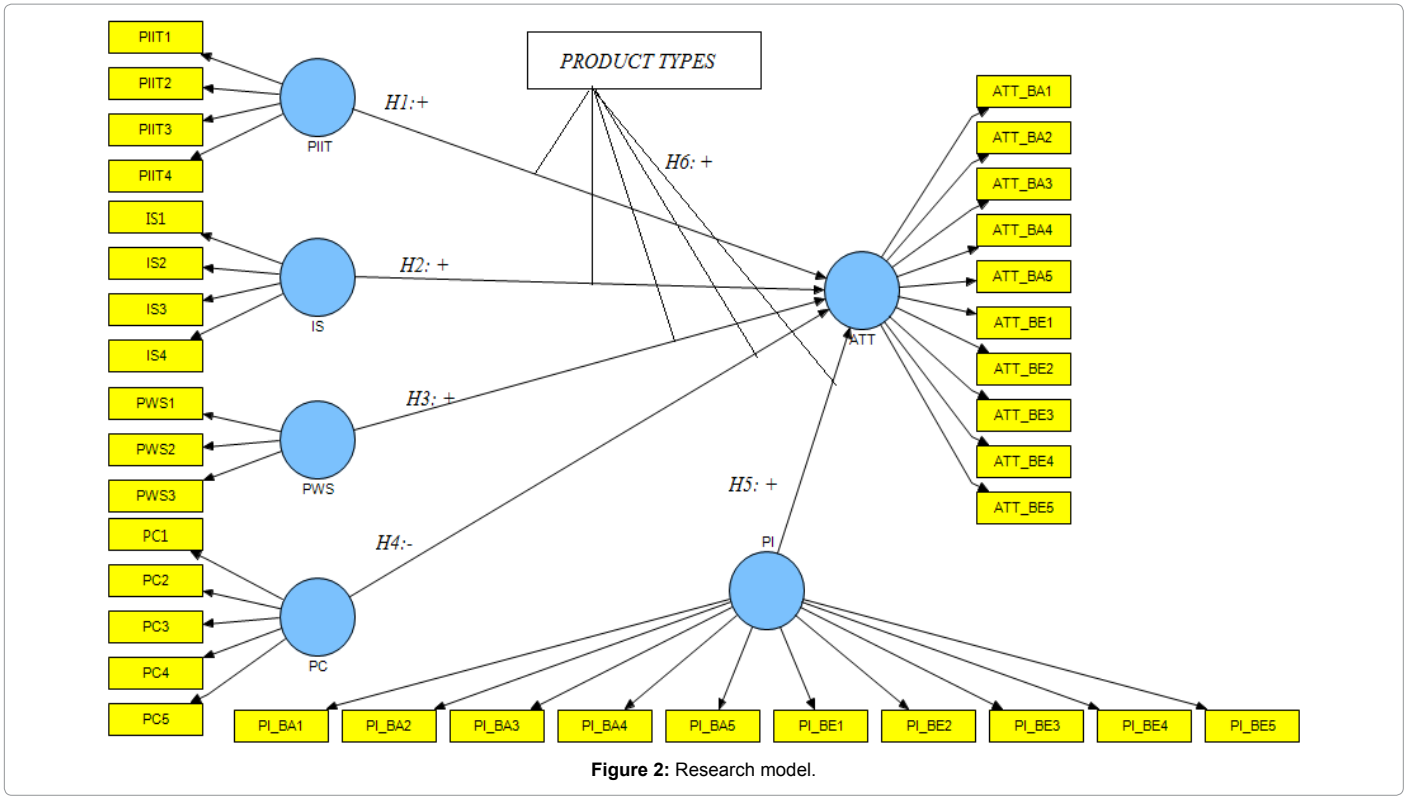


Figure 2: Research model.

the first section collect data on the demographic information including gender, race, age, education level, employment status and income level. The frequency of purchase of apparels and electronic gadgets are also collected in Section 1 in terms on multiple choices of frequency categorised as "never", "seldom", "sometimes", "regular" and "very often". In Section two, semantic differential scale on a series ranging from 1 to 7 of five different descriptive terms are provided to collect information on the users' products involvement in both apparels and electronic gadgets. Section three collects data on the independent variables and dependent variables based on 5 point likert scales ranging from (1) "strongly disagree" to (5) "strongly agree". There were 26 questions covering the areas of personal innovativeness of information technology (4 questions), internet self-efficacy (4 questions), perceived web security (3 questions), privacy concern (5 questions), and attitude toward online shopping (10 question).

Analysis method

A statistical tool or software named Statistical Package for the Social Sciences (SPSS) has been utilised to input and analyse data collected. Tests have been conducted to investigate the relationships between the mentioned variables which have been proposed in the hypotheses. Smart PLS has been used to construct the research model and test for the models' reliability and validity and the results are presented and discussed in the following sections.

Analysis and Discussion

Analysis

Descriptive analysis was used to demonstrate the profile of respondents and their product involvement in both apparels and electronic gadgets to evaluate the user's attitude and acceptance towards online shopping. The measurement and structural model are tested for reliability and validity using PLS Structural Equation Modelling. The structural model is used to predict the latent relevancy. Multiple regression analysis is used to further analyse the effect of products types on the customers' characteristics towards to the users' acceptance of online shopping. One Way ANOVA was performed to compare the mean of products involvement to the degree of users' acceptance on online shopping. Chi square and cross tabulation was utilised to determine the association between demographic variables and the level of products involvement (Table 2).

Demographic analysis

Table 2 describes the demographic information of the respondents. The demographic information taken into account for this study includes of gender, age, race, education level, employment status and their income level. The questions were mainly targeted for students as well as working adults in generation Y.

Majority of the respondents for this study are females (55.60%). A huge proportion of the respondents are around the age of 20 to 25 years old (68.50%) and very less respondents are from the age group more than 35 (1.90%). Chinese is the majority group among the total respondents which encompasses 77.80% in total. 53.70% of the total respondents have a bachelor degree and 31.50% have master degree. This indicates that 85.20% of the respondents are well and highly educated. 64.80% of the respondents are employed and 33.30% are students. Their respective income level is recorded as well where most of the respondents earned in the range of RM2000 to RM2999 (29.60%) and other ranges of income level as shown in Table 1 are equally distributed. Besides that, there is a large group of "non-applicable" response which accounted for 24.10% of the total respondents. Students who are not working and do not have any relevant income will fall into this category.

Variable	Indicator
PIIT	*Personal innovativeness of information technology*
PIIT 1	If I heard about a new information technology, I would look for ways to experiment with it.
PIIT 2	Among my peers, I am usually the first to try out new information technologies.
PIIT 3	In general, I am hesitant to try out new information technologies.
PIIT 4	I like to experiment with new information technologies.
IS	*Internet Self Efficacy*
IS 1	I could easily use the Web to find product information on a product/service.
IS 2	I can get to a specific Web site with a browser.
IS 3	I feel comfortable searching with World Wide Web on my own.
IS 4	I would be able to use Web on my own to locate retail sites.
PWS	*Perceived Web Security*
PWS 1	I feel secure sending personal information across the Web.
PWS 2	I feel safe providing personal information about me to Web retailers
PWS 3	Web is safe environment to provide personal information.
PC	*Privacy Concern*
PC 1	All the personal information in the computer database should be double-checked for accuracy - no matter how much this costs.
PC 2	Companies should not use personal information for any purpose unless it has been authorized by the individuals who provided the information.
PC 3	When companies ask me for personal information, I sometimes think twice before providing it.
PC 4	When people give personal information to a company for some reason, the company should never use the information for any other reason.
PC 5	Computer databases that contain personal information should be protected from unauthorized access ¨C no matter how much it costs.
PI	*Product Involvement*
PI_BA1	For me, buying apparel online is important.
PI_BA2	For me, buying apparel online is interesting.
PI_BA3	For me, buying apparel online is mean a lot.
PI_BA4	For me, buying apparel online is valuable.
PI_BA5	For me, buying apparel online is needed.
PI_BE1	For me, buying electronic gadget online is important.
PI_BE2	For me, buying electronic gadget online is interesting.
PI_BE3	For me, buying electronic gadget online is mean a lot.
PI_BE4	For me, buying electronic gadget online is valuable.
PI_BE5	For me, buying electronic gadget online is needed.
ATT	*Attitude toward online shopping*
ATT_BA1	I like buying apparel online.
ATT_BA2	Buying apparel online is interesting.
ATT_BA3	Buying apparel online makes my life more attractive.
ATT_BA4	I intend finishing apparel buying processes totally online.
ATT_BA5	I will increase buying apparel online in the future.
ATT_BE1	I like buying electronic gadget online.
ATT_BE2	Buying electronic gadget online is interesting.
ATT_BE3	Buying electronic gadget online makes my life more attractive.
ATT_BE4	I intend finishing electronic gadget buying processes totally online.
ATT_BE5	I will increase buying electronic gadget online in the future.

Table 1: Predictor latent construct item.

Table 3 summarises the frequency of products purchase for apparel and electronic gadgets symbolised low and high outlay of products in the product classification grid model proposed by Peterson et al. 20.60% of respondents are purchasing apparels online in small frequency and 20.40% of respondents purchase in a regular basis. As compared to the purchase of electronic gadgets, majority of the respondent (40.70%) of them has never purchased such relevant products through online transaction.

Products involvement

Product involvement is scaled from 1 to 7 on a semantic differential scale and it is grouped into either high or low product involvement in the data analysis. According to Zaichkowshy [33] in his research, there were 10 questions conducted and therefore 10 are the anchor for low involvement and 70 is the anchor for high involvement while40 is the midpoint of the scale. Adopting the same principle in this study in the categorisation, there were 5 questions conducted for each of the category and therefore 5 is the anchor for low involvement and 35 is the anchor for high involvement while 20 is the midpoint of the scale. Respondents whose product involvement is scored above scale mean of 20 are categorised as high involvement while others are categorised as low involvement. As shown in Table 4, the respondents distributed equally in terms of high and low involvement in apparel products while 57.41% of the respondents are considered as low involvement in the electronic gadgets.

Descriptive analysis

Table 5 as above illustrated the descriptive statistics used in this study. Means and standard deviations are computed for each variable. Variables including personal innovativeness of information technology, internet self-efficacy, perceived web security, privacy concerns, and attitude of customers towards online shopping are scaled

Variable	Categories	Frequency (N)	Percentage (%)
Gender	Male	48	44.40
	Female	60	55.60
Age	Below 20	4	3.70
	20-25	74	68.50
	26-30	24	22.20
	31-35	4	3.70
	More than 35	2	1.90
Race	Malay	12	11.10
	Chinese	84	77.80
	Indian	6	5.60
	Others	6	5.60
Education	High School and Below	6	5.60
	Diploma	10	9.30
	Bachelor Degree	58	53.70
	Master Degree	34	31.50
Employment status	Employed	70	64.80
	Unemployed	2	1.90
	Student	36	33.30
Income	Below RM2000	16	14.80
	RM2000-RM2999	32	29.60
	RM3000-RM3999	16	14.80
	RM4000 and above	18	16.70
	Not applicable	26	24.10

Table 2: Demographic analysis of respondents.

Variable	Frequency (N)	Percentage (%)
Times for purchasing apparels online		
Never	14	13.00
Seldom	40	37.00
Sometimes	32	29.60
Regular	16	14.80
Very often	6	5.60
Times for purchasing electronic gadgets online		
Never	44	40.70
Seldom	32	29.60
Sometimes	18	16.70
Regular	10	9.30
Very often	4	3.70

Table 3: Frequency of products purchase.

	Apparel	Electronic Gadget
High Involvement	52 (48.15%)	46 (42.59%)
Low Involvement	56 (51.85%)	62 (57.41%)

Table 4: Product involvement.

Variable	Mean	Standard Deviation
Personal innovativeness of information technology	13.463	2.269
Internet security	15.852	3.114
Perceived self-efficacy	8.185	3.344
Privacy concern	22.556	2.975
Product involvement (Apparel)	20.982	6.724
Product involvement (Electronic Gadget)	19.037	8.058
Attitude (Apparel)	16.241	4.476
Attitude (Electronic Gadget)	14.426	5.430

Table 5: Descriptive statistics.

from 1 to 5. Mean scores and standard deviation are computed in this table. Additionally, product involvement is scale from 1 to 7; therefore it ranges from 5 to 35.

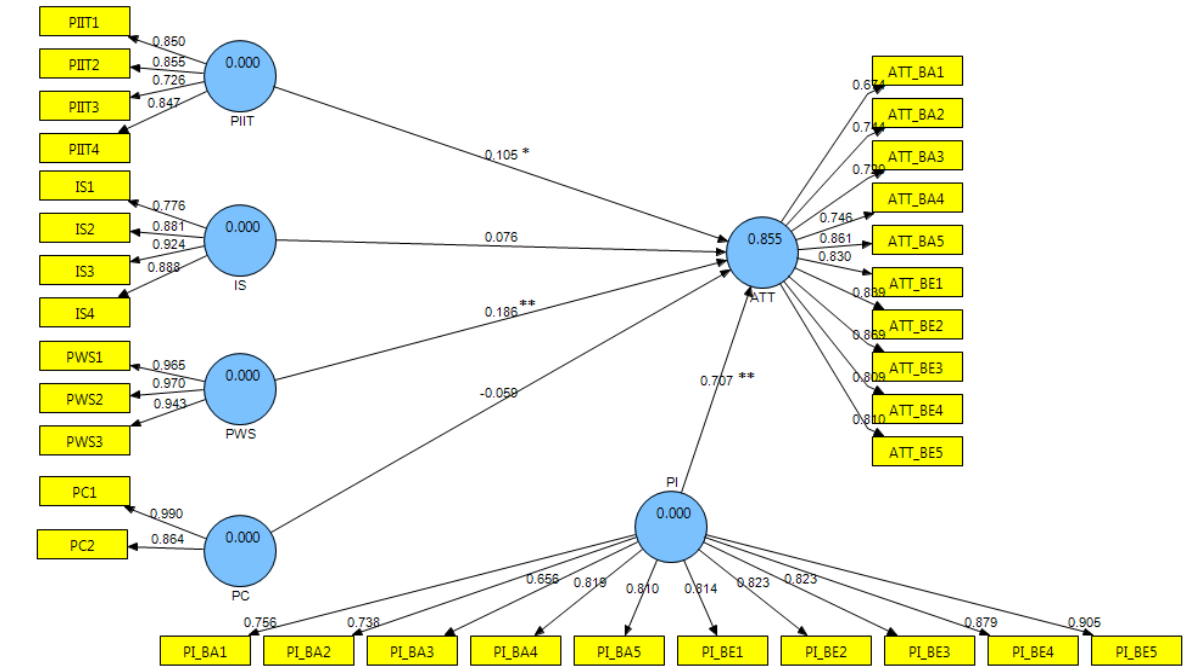
Validity and reliability test

The research model as shown in Figure 2 above was analysed using Structural Equation Modelling tool using Smart PLS software. It assesses the psychometric properties of the measurement model, and estimates the parameters of the structural model. This tool enables the simultaneous analysis of up to 200 indicator variables, allowing the examination of extensive interactions among moderator and latent predictor variable indicators. The measurement model has to fulfil all the requirements of validity and reliability before the structural model can be evaluated. Research model as developed in Figure 2 is reflective measurement model where indicators are manifestations of the construct and the direction of causality is from construct to items.

Assessment of measurement model: In assessing reflective measurement models in terms of its reliability, each indicator must have loadings of at least 0.70 and loadings of 0.60 were also accepted in case that there were additional comparable indicators in the block [46]. As shown in Figure 3, indicators of PC3, PC4 and PC5 were dropped as the loading is less than 0.70.

Construct validity of the measurement model is analysed through convergent and discriminant validity by extracting the factor and cross loadings of all indicator items to their respective latent constructs. These results as indicated in Table 6 shows that loadings are significant and all items loaded on their respective construct from a lower bound of 0.674 to an upper bound of 0.990 and more highly on their respective construct than on any other. The model has a significant cross loadings and confirming the construct validity.

In other to evaluate the discriminant validity, the AVEs of the latent variables should be greater than the square of the correlations among the latent variables [46]. As shown in Table 7, the square roots of the AVEs are represented by the elements in the matrix diagonals. The results show that the AVE is greater in all cases than the off-diagonal elements in their corresponding row and column, supporting the discriminant validity of our scales.



Note: *p < 0.05, **p < 0.01

Figure 3: Structural model results.

	ATT	IS	PC	PIIT	PI	PWS
ATT_BA1	**0.674**	0.435	(0.114)	0.320	0.592	0.456
ATT_BA2	**0.744**	0.367	0.058	0.262	0.694	0.505
ATT_BA3	**0.720**	0.335	0.071	0.345	0.658	0.493
ATT_BA4	**0.746**	0.465	0.245	0.390	0.695	0.540
ATT_BA5	**0.861**	0.466	0.166	0.412	0.786	0.635
ATT_BE1	**0.830**	0.242	0.140	0.504	0.749	0.624
ATT_BE2	**0.839**	0.298	0.228	0.481	0.790	0.607
ATT_BE3	**0.869**	0.329	0.082	0.521	0.754	0.652
ATT_BE4	**0.809**	0.410	0.102	0.553	0.692	0.635
ATT_BE5	**0.810**	0.275	0.152	0.452	0.713	0.599
IS1	0.157	**0.776**	0.324	0.434	0.103	0.015
IS2	0.464	**0.881**	0.323	0.637	0.382	0.394
IS3	0.362	**0.924**	0.428	0.455	0.329	0.312
IS4	0.452	**0.888**	0.383	0.372	0.411	0.352
PC1	0.169	0.418	**0.990**	0.125	0.226	0.118
PC2	0.047	0.346	**0.864**	0.007	0.081	0.095
PIIT1	0.434	0.423	0.140	**0.850**	0.361	0.238
PIIT2	0.553	0.415	0.052	**0.855**	0.453	0.408
PIIT3	0.360	0.381	(0.004)	**0.726**	0.355	0.267
PIIT4	0.381	0.614	0.156	**0.847**	0.354	0.237
PI_BA1	0.686	0.408	0.004	0.340	**0.756**	0.501
PI_BA2	0.654	0.354	0.087	0.428	**0.738**	0.477
PI_BA3	0.556	0.434	0.277	0.219	**0.656**	0.457
PI_BA4	0.757	0.356	0.065	0.394	**0.819**	0.600
PI_BA5	0.733	0.305	0.048	0.352	**0.810**	0.546
PI_BE1	0.758	0.267	0.188	0.437	**0.814**	0.540
PI_BE2	0.738	0.259	0.250	0.440	**0.823**	0.571
PI_BE3	0.778	0.252	0.321	0.319	**0.823**	0.576
PI_BE4	0.761	0.309	0.197	0.354	**0.879**	0.579
PI_BE5	0.802	0.284	0.196	0.476	**0.905**	0.650
PWS1	0.713	0.339	0.052	0.345	0.692	**0.966**
PWS2	0.727	0.388	0.159	0.352	0.657	**0.970**
PWS3	0.656	0.309	0.128	0.343	0.624	**0.943**

Table 6: Factor loadings (bolded) and cross loadings.

For the examination of scales' internal consistency, three measures were used including Cronbach's alpha, where according to Nunnal [47] a value of 0.70 is acceptable in basic research. Based on Dillon-Goldstein's rho assessment of the composite reliability [48], which is applicable if there is no tau-equivalence and should be higher than 0.70 [49]; Fornell and Larcker's [50] average variance extracted (AVE) measures, which is more conservative and should be greater than 0.50 [46].

As summarised in Table 8, the results indicates that the measures are robust in terms of their internal consistency reliability as indexed by the composite reliability. The composite reliabilities of the different measures range from 0.892 to 0.972, which exceed the recommended threshold value of 0.70. Cronbach's alpha is acceptable for all latent variables. In addition, the average variance extracted (AVE) for each of the measures exceeded 0.50 which is consistent with the guidelines of Fornell and Larcker [50]. Therefore, the measurements are reliable.

In overall, the measurement model demonstrated adequate convergent validity and discriminant validity and reliability measurements confirming the reliability and validity of the measurement model used in the study.

Assessment of structural model: In the assessment of the model validity, the coefficient of determination, R^2 value of 0.855 suggesting that 85.5% of the variance in the extent of users attitude towards online shopping can be explained by the latent independent variables of personal innovativeness of information technology, internet self-efficacy, perceived web security, privacy concern and product involvement. The fit of model is substantial according to Chin [46].

As shown in Figure 3, the path coefficient indicates the strength of the relationship between the latent exogenous and latent endogenous variables. To assess the significance of the path estimates, a bootstrapping procedure calculating t-values with 500 re-samples was used which allows an evaluation of the stability and precision of the PLS results. The results and hypothesis testing is shown in Table 9 as below.

H1, H3 and H5 is supported where personal innovativeness of information technology, perceived web security and product involvement is significant predictor of extent of users attitude and acceptance towards online shopping. H2 and H4 is rejected where internet self-efficacy and privacy concern is not significant related to the dependant variables of users acceptance on online shopping [51].

Personal innovativeness of information technology (b=0.105, p<0.05) and perceived web security (b=0.186, p<0.01) both have a weak positive influence on user acceptance towards online shopping while product involvement (b=0.707, p<0.01) has a strong positive influence on customers attitude and acceptance towards online shopping.

Moderator effects on consumers characteristics toward users attitudes in online shopping

Multiple regressions were used to further test Hypotheses 1, 2, 3 and 4 which proposed effects of various consumer characteristics including personal innovativeness of information technology, internet self-efficacy, perceived web security and privacy concern on the acceptance of online shopping in terms of the moderator of apparel products and electronic gadget products (Table 10).

F test of 40.421 (sig=0.000) shows that the overall regression is significant. The R square of 0.611 shows that 61.10% of the variation in rating of attitude towards online shopping is explained by the regression. The fit of regression is moderate fit.

From the results of overall regression results as shown in Table 11, personal innovativeness of information technology (b=0.230, p<0.01) and perceived web security (b=0.624, p<0.001) both have positive significant influence on user attitudes toward online shopping in line with results as stated in previous section. While internet self - efficacy and privacy concern does not significantly influence on user attitudes toward online shopping.

Latent Variables	ATT	IS	PC	PI	PIIT	PWS
ATT	**0.792**	-	-	-	-	-
IS	0.454	**0.869**	-	-	-	-
PC	0.148	0.417	**0.929**	-	-	-
PI	0.901	0.394	0.202	**0.805**	-	-
PIIT	0.540	0.550	0.103	0.470	**0.821**	-
PWS	0.729	0.361	0.118	0.686	0.361	**0.960**

Table 7: Discriminant validity of variable constructs.

Variable Construct	Composite Reliability	Cronbach's Alpha	Average Variance Extracted (AVE)
ATT	0.944	0.933	0.628
IS	0.925	0.897	0.756
PC	0.927	0.880	0.864
PI	0.948	0.939	0.648
PIIT	0.892	0.839	0.674
PWS	0.972	0.957	0.921

Table 8: Reliability measurement.

Hypothesis	Relationship	Coefficient	t value	Supported
H1	PIIT → ATT	0.105	1.798	Yes
H2	IS → ATT	0.076	1.625	No
H3	PWS → ATT	0.186	3.783	Yes
H4	PC → ATT	-0.059	1.252	No
H5	PI → ATT	0.707	13.849	Yes

Table 9: Path coefficients and hypothesis testing.

Model Summary						
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	
1		0.782[a]	0.611	0.596	5.53060	
[a]Predictors: (Constant), IV_PWS, IV_PC, IV_PIIT, IV_IS						
ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4945.488	4	1236.372	40.421	0.000[b]
	Residual	3150.512	103	30.587		
	Total	8096.000	107			
[a]Dependent Variable: Total DV.						
[b]Predictors: (Constant), IV_PWS, IV_PC, IV_PIIT, IV_IS.						

Table 10: Model summary.

Product Types	Variable	Standardized Coefficients	t-value	Sig.
Overall	Personal innovativeness of information technology	0.230	3.258	0.002**
	Internet self-efficacy	0.126	1.696	0.093
	Perceived web security	0.624	9.503	0.000***
	Privacy concern	-0.044	-0.685	0.495
Apparel Products	Personal innovativeness of information technology	0.060	0.700	0.486
	Internet self-efficacy	0.263	2.949	0.004**
	Perceived web security	0.504	6.369	0.000***
	Privacy concern	-0.028	-0.355	0.723
Electronic Gadget Products	Personal innovativeness of information technology	0.320	4.157	0.000***
	Internet self-efficacy	-0.016	-0.194	0.846
	Perceived web security	0.058	8.175	0.000***
	Privacy concern	-0.048	-0.684	0.495

Note: **p<0.01, ***p<0.001

Table 11: Regression analysis in terms of product types.

Products Involvement	Levene's Statistics	Sig.	Equal Variance	Analysis
Apparels	6.563	0.012	Not assumed	Robust ANOVA
Electronic gadgets	3.693	0.057	Assumed	One Way ANOVA

Table 12: Test of homogeneity of variance.

With the existence of product types of apparels and electronic gadgets as the moderator, the relationship between independent variables and dependent variable are moderated. For apparel products, the relationship between personal innovativeness of information technology to the user acceptance of online shopping has become insignificant inconsistent with the results as discussed above. Apparel is low cost product and frequently purchased by users hence, personal innovativeness in the perspective of information technology does not influence users' acceptance for online shopping. Willingness of an individual to try out any new information technology is not relevant for buying these low costs products.

In contrast to the overall regression results without the effect of the moderator, internet self-efficacy has significant relationship (b=0.263, p<0.01) with the dependant variable when users are buying apparel products. This might be due to the need for users to browse through internet and search as well as compare different apparels products between different vendors in order to negotiate for the best deal. Internet self-efficacy plays a role when users need to have a certain level of internet searching skills to complete a best deal in buying apparels products through online transactions as there are vast sellers in the internet.

As for electronic gadgets, personal innovativeness of information technology (b=0.320, p<0.001) is significant associate with the users acceptance in online shopping while internet self-efficacy remains insignificant consistent with the regression results without the effect of the moderator. Customers with higher level of personal innovativeness of information technology will be more interested in purchasing electronic gadget products as it is associated with their willingness and enthusiasm in trying new products. However, internet self-efficacy has proven to be irrelevance to the user's acceptance of online shopping. The result is contrast with buying apparels mainly due to the low frequency of electronic gadgets purchased among the respondents. Electronic gadgets are considered as high cost and high outlay products where users seldom purchase online for this type of products.

Perceived web security is the main contributor to the low buying frequency as users feel insecure for doing such transactions especially the products are expensive. Perceived web security has the most significant influence on user attitudes toward online shopping from the overall regression results (b=0.645, p<0.001); moderator of apparels (b=0.504, p<0.001) and moderator of electronic gadgets (b=0.058, p<0.001). Web security is very much concern by users when processing online transactions.

Privacy concern does not have significant influence associate with users' acceptance and attitude to online shopping in any circumstances. Consumers have low awareness on the privacy issue as discussed in the literature review and privacy concern will not affect users in their attitude on doing online transactions. Thus, H6 where product and

service type affect the relationships between consumer characteristics and attitudes toward online shopping is supported.

Products involvement and users attitudes in online shopping

In this study, one way analysis of variance (One Way ANOVA) is used to compare the difference between the level of products involvement in different products types and users attitude towards online shopping. The test of homogeneity of variance is conducted to validate the equality of variance and the test to be performed against the variables.

The test of homogeneity of variance as shown in Table 12 suggested robust ANOVA test for the variables of product involvement in apparels where the equal variance is not assumed and one way ANOVA test for product involvement of electronic gadgets where the significant level is more that 5% and equal variance is assumed. Post hoc test of Bonferroni and Dunnett's where carried respectively for the products involvement of one way ANOVA and robust ANOVA to identify the significant differences between different groups of products involvement.

Both ANOVA tests are significant at the 0.01% level. There is significant relationship between different production involvement and user attitudes online shopping. Hence, H5 is supported. The descriptive analysis as shown in Table 13 indicated that the product involvement for apparel is higher than electronic gadgets with a mean score of 16.2407 compared to 14.4259. Respondents with high involvement significantly associate with the user's acceptance towards online shopping as compared to respondents with low involvement in either buying apparels or electronic gadgets products. High product involvement positively affects user's attitudes towards online shopping in the context of all employed products or service.

Analysis on products involvement by demographic variables

Table 14 analyses products involvement in terms of demographic variables using Chi-square test. The demographic variables of income level significant influences the involvement levels of different products. Income per month is significantly affecting the buying pattern toward apparel and electronic gadget. For those who have monthly income below than RM 2,000 or "not applicable", they are having high involvement in buying apparel (62.50%; 53.80%) and low involvement in buying electronic gadget (37.50%; 30.80%). Apparels are cheaper compared to electronic gadgets and are more frequently used in daily life. Students who are under the category of "not applicable" are more likely to buy apparels online because of convenience in terms of door to door delivery. For the respondents who earned more than RM 4,000, they are highly involved in buying both apparels(77.80%) and electronic gadgets(77.80%) online. Apparently, products price will not be a concern for this category of respondents where both expensive and inexpensive items can be bought online. Therefore, other factors such as convenience, quality and reliability may add competitive advantage to the online vendors as people earning higher income are highly involved in online shopping for any products.

Race also has a significantly association with the products involvement in buying apparels products. Majority of the races by category are classified as high involvement in buying apparel through online transaction except for Chinese (59.50%) where they seldom buy apparel through online media as compared to other races. This might be due to the internet self-efficacy and perceived web security variables as discussed previously.

There is no other significant association between the other demographic variables to the levels of products involvement in either apparels or electronic gadgets.

Summary of hypothesis

In overall as summarised in Table 15, the influence of personal innovativeness and perceived web security have a significant influence on users' acceptance towards online shopping while on the other hand, internet self-efficacy and privacy concern have no significant relationship associating the online shopping behaviours. High product involvement is associated positively to users' online shopping behaviours and income level is significantly affecting the level of products involvement.

However, the relationships of consumer characteristics on their acceptance of online shopping are differ depend on the product types. For electronic gadgets, the findings remained in line with the overall results. For apparel, personal innovativeness has become insignificant to influence on the online buying behaviours while internet self-efficacy have in turn a significant relationship toward online shopping. Hence, it is concluded that product types affect the relationships between consumer characteristics and attitudes toward online shopping.

Discussion and Recommendations

Based on the findings on personal innovativeness of information technology, two different approaches can be adopted to tackle different groups of consumers. This is because buying behaviours of apparel customers is not so much affected by personal innovativeness of information technology as opposed to electronic gadgets buyers. This is because electronic gadgets require a high level of personal innovativeness of information technology while apparels don't. In this case, businesses can do educate more users with low personal innovativeness level on internet shopping. This can be done through online exciting videos simplifying the stages involve in buying a product online. When both consumers of apparel and electronic gadget have a positive significant this will influence their willingness to do internet shopping because people with high personal innovativeness of information technology will be more likely to buy online.

As far as an individual internet self-efficacy is concern, in general terms people seems to have a high level of internet self-efficacy maybe because of urban civilization. In this case, organizations or online businesses need to do more on product branding and advertisement rather than being concern with individual internet-self efficacy. Many people can assess the internet and such they will love to buy but the final

Products Involvement	Categories	N	Mean	Sig.	F
Apparels	Low involvement	56	13.1786	0.000	109.771
	High involvement	52	19.5385		
	Total	108	16.2407		
Electronic gadgets	Low involvement	62	11.1290	0.000	106.677
	High involvement	46	18.8696		
	Total	108	14.4259		

Table 13: Significant differences in mean attitude towards online shopping by different product involvement.

Variable	Categories	n	Apparel			Electronic Gadget		
			Low Involvement	High Involvement	c^2	Low Involvement	High Involvement	c^2
Gender	Male	48	54.20%	45.80%	0.185	47.90%	52.50%	3.183
	Female	60	50.00%	50.00%		65.00%	35.00%	
Race	Chinese	84	59.50%	40.50%	10.914*	54.80%	45.20%	5.172
	Malay	12	33.30%	66.70%		83.30%	16.70%	
	Indian	6	33.30%	66.70%		66.70%	33.30%	
	Other	6	0.00%	100.00%		33.30%	66.70%	
Age	Below 20	4	50.00%	50.00%	2.342	50.00%	50.00%	4.098
	20-25	74	54.10%	45.90%		62.20%	37.80%	
	26-30	24	50.00%	50.00%		50.00%	50.00%	
	31-35	4	50.00%	50.00%		50.00%	50.00%	
	Above 35	2	0.00%	100.00%		0.00%	100.00%	
Educational Level	High School and below	6	66.70%	33.30%	10.076	33.30%	66.70%	3.822
	Diploma	10	60.00%	40.00%		80.00%	20.00%	
	Bachelor Degree	58	62.10%	37.90%		58.60%	41.40%	
	Master Degree	34	29.40%	70.60%		52.90%	47.10%	
	PHD	-	0.00%	0.00%		0.00%	0.00%	
Employment Status	Employed	70	60.00%	40.00%	6.438	57.10%	42.90%	1.536
	Unemployed	2	0.00%	100.00%		100.00%	0.00%	
	Student	36	38.90%	61.10%		55.60%	44.40%	
Income Per Month	Below RM 2,000	16	37.50%	62.50%	19.087*	62.50%	37.50%	17.414*
	RM 2,000-RM 2,999	32	81.20%	18.80%		75.00%	25.00%	
	RM 3,000- RM 3999	16	50.00%	50.00%		37.50%	62.50%	
	RM 4,000 and above	18	22.20%	77.80%		22.20%	77.80%	
	Not applicable	26	46.20%	53.80%		69.20%	30.80%	

Note: *p<0.05.

Table 14: Percentage distribution of demographic variables on apparel and electronic gadget.

Hypothesis		Statistical Test	Results
H1	A User attitude toward online shopping is positively affected by high levels of PIIT.	PLS Structural Equation Modeling; Regression analysis	Supported
H2	User attitudes toward online shopping is positively affect by High levels of Internet self-efficacy		Not Supported
H3	A user attitude toward online shopping is positively affected by high levels of personal perceived Web security.		Supported
H4	A User attitude toward online shopping is negatively affected by high privacy concerns.		Not Supported
H5	A User attitude toward online shopping is positively affected by high levels of product involvement.	One way ANOVA	Supported
H6	The relationship between consumer characteristics and attitudes toward online shopping is affected by Product and service type.	Regression analysis	Supported

Table 15: Summary of hypothesis.

decision to pay for the goods or services lies in the hands of business who need to convince the internet buyer on the product and service through advertising campaign and branding. So it is recommended that businesses need to do more indoor and outdoor advertising to capture a wider market.

Since there is a positive relationship in perceived web security, it has been proven that people will turn to buy more online if they trust the web security and this affects their buying power if the web is negatively perceived. For online businesses to succeed, they should have certain features and stringent security measures on their website to ensure customers confidentiality of information disclosure especially concerning payment processing systems. Businesses should invest more on security measure because customers will prefer to deal with a secured and trusted web dealer than a non-trusted web dealer.

The findings also show that consumers don't have so much concern about security privacy when buying products online being it apparel or electronic gadgets. The organization can use this on its advantage because of customer willingness to share information to improve on its business. Businesses can capture a wider market by recording consumers or customer's internet activities on web sites, newsgroups, incoming and outgoing e-mails addresses to track customers' click stream data from ISP, by using cookies and web bugs to identify consumer behaviour. If well implemented, businesses can achieve high sales because they will know exactly what different groups of consumers need to be satisfied.

Finally, we found that consumers' willingness to buy online is affected more buy different product designs and futures of different product s and services in the market than price. In other words, individuals will still purchase a product online so long as the price meets the product features and design. As a result, companies need to improve product design and don more advertisement internally and outdoor to inform the public on their product value or worth. They can also improve product quality through product differentiation and convince the buyers on the reliability of these products.

Conclusions

This study had gain a fruitful result to understand the relationship between consumer characteristics from the perspective personal innovativeness of information technology, internet self-efficacy, and privacy concern, perceived web security on their acceptance of online shopping based on different product types.

The research is applicable and useful as and when online vendors and retailers are drawing a marketing plan. It is important to understand and segment consumers in order to successfully dominating the targeted market especially for online business where the cost of entrant is relatively low and aggressive competition. When designing a marketing plan, online retailers must consider the identity of potential buyers by studying the consumer characteristics of online shoppers and the type of products that are suitable for online marketing. Present research results can help businesses to focus on their potential market and increase their marketing edge.

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