Ilkogretim Online - Elementary Education Online, 2021; Vol 20 (Issue 5): pp. 7363-7370
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2021.05.834

Determinants of online consumer buying behaviour – An analysis by applying TAM model – A study with reference to Chennai City

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Abstract:

Aim: The purpose of the study is to test the technology acceptance model predicting the consumer's acceptance and use of web based store influences the intention to return unplanned purchases.

Methodology: The research based on empirical in nature. The research was a sample size of 276 online consumers of both a shopper and a computer user. The research constructs the model of TAM and flow variables and theoretical framework of online consumer behaviour.

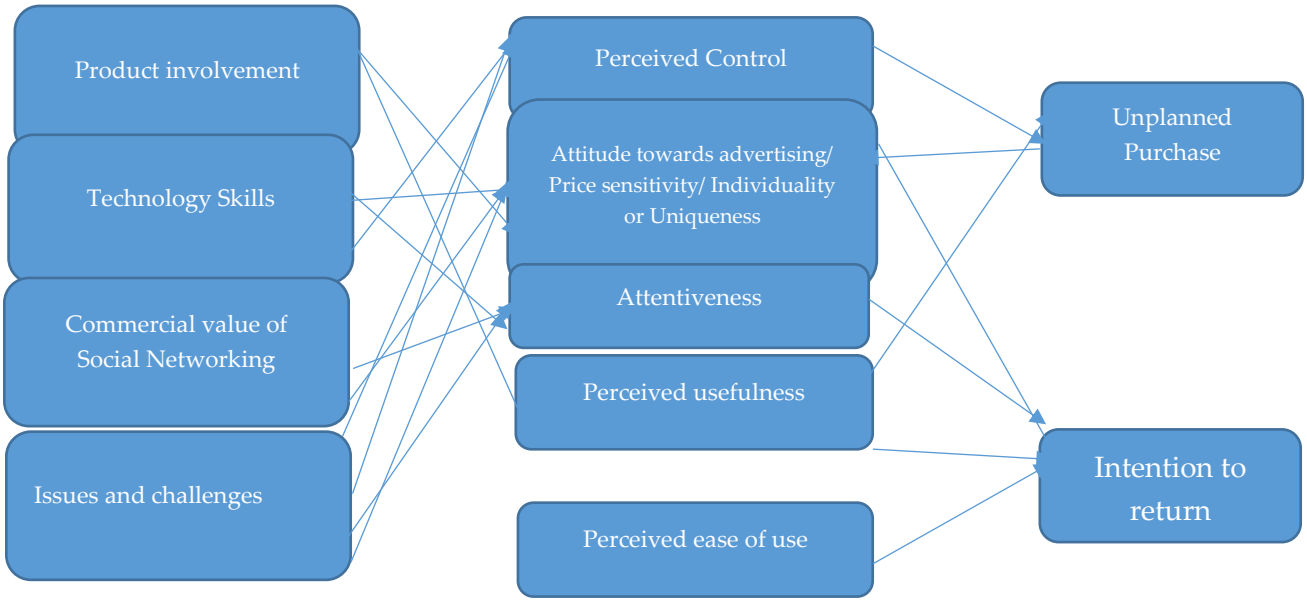
Results: The online shopper's dual identity as a shopper and a computer user, since both shopping pleasure and perceived site utility strongly predict intention to return. Our findings on impulsive purchases are inconclusive. We also look at certain person and website variables that could have an effect on the emotional and cognitive responses of customers. Participation in the product, Web skills, challenges, and a use of value added search mechanism all have a significant impact on the Web consumer.

Keywords: TAM model, online consumer, search mechanism

I. INTRODUCTION:

Shopping has become an inextricable part of life in the twenty-first century, as human desires are insatiable, and it can be done either in a traditional/retail setting or online. Both channels have their own set of advantages, but the value of saving time has led consumers, especially the younger generation, to prefer online shopping to "brick and mortar" shopping. Online shopping is a rapidly growing development around the world. Online shopping is a rapidly growing development around the world. Because of the availability of ICT, advanced technologies, and widespread internet access, online shopping has become a rapidly growing activity around the world. ICT, new technologies, and ubiquitous internet connectivity have all contributed to this. Smartphones, laptops, and tablets have made online shopping more accessible and affordable. In general, online shopping is a good idea. Online shopping, on the other hand, is the analysis of the processes or stages that a person or a group goes through in order to buy, use, or dispose of goods, services, experiences, or ideas over the internet. Consumers consider a number of factors before making an online purchase, including perceived usefulness, price, confidence, and perceived ease of use, as well as gender, marital status, social impact, performance expectancy, habit, and facilitating condition. These reasons are explicitly stated to influence customer attitudes about online shopping and provide a window into why people choose to buy online over in stores. Despite the fact that there is literature on consumer online shopping conduct. This research was also inspired by future research directions. Their research was confined to the technology adoption model's antecedents (TAM). They argued that identifying other antecedents, such as "perceived danger," which was often used to justify one's intention to use the Internet, would be beneficial. Acceptance of mobile commerce in a risk-free setting is a significant challenge. As a result, the research used an Extended Technology Acceptance model to assess the determinants of online shopping behaviour among Ghanaian tertiary students. In light of this, the research team devised the following basic goals:

Proposed Research model



II. CONCEPTUAL MODEL REVIEWS:

Mirela Mihić and Ivana Kursan Milaković (2017) The aim of this study is to look into the direct effects of personal factors (attitudes toward ads, the desire for individuality/uniqueness, and price sensitivity) on shopping enjoyment, as well as the moderating effects of demographic variables (gender and education) on these relationships. A representative sample of 1000 Croatians was used in the study. The findings indicate that personal variables have a positive impact on shopping pleasure, which is linked to WOM contact. Furthermore, the findings support the notion that gender and education have moderating effects on the relationship between shopping pleasure and WOM.

(Beatty & Ferrell, 1998; in Mohan, Sivakumaran, & Sharma, 2013).The gratification a customer receives from the shopping process/activities is referred to as shopping enjoyment.

(Engel et al. 1990, Quelch and Klein 1996, Miller 1956)Web customers can have a short attention span because of their limited resources of time and information processing
(Novak et al. 1998) Concentration, as a measure of flow, has been shown to have a positive impact on computer users' overall experience and their desire to use a device again.
(Clover, 1950; Stern, 1962; Rook, 1987; Peck and Childers, 2006) found that studying impulse purchases in supermarkets may be of great interest to manufacturers and retailers all over the world.
Davis developed the TAM model in 1986, and it has since been the most commonly used model in research for defining and predicting consumer behaviour in terms of technology use.
Teo and seif described as "the degree to which a consumer can find using a particular technology to be free of effort on their part." A number of studies have discovered a link between perceived ease of use and perceived usefulness. There was also a direct connection between perceived utility and attitude toward technology use. Others find that the effect of PEOU on PU is statistically important in an extension of the model.

Davis Regarding the significance of perceived utility, it was stated: Users follow an application primarily for the tasks that the application or technology performs for them, as well as for the ease or complexity in which they use the application. If a person believes that the benefits of using the internet outweigh the effort needed to use it

Kim DJ, Ferrin DL, HR Rao (2008) Individuals with a good outlook about online shopping are more likely to have better intentions toward it and are more likely to use it. Consumer engagement in online transactions

is substantially predicted by their intention to participate in e-transactions, according to numerous e-commerce reports.

Research Purpose:

The purpose of the study is to test the technology acceptance model predicting the consumer's acceptance and use of web based store influences the intention to return unplanned purchases.

Research method:

The research based on empirical in nature using an online questionnaire was administrated to actual users on web marketing. The study area is randomly selected online shops in Chennai city. Based on the type of information that was required to test the model, the wide dispersion of respondents across Chennai, and confidentiality and privacy issues, a mail self-administered questionnaire was considered most appropriate. A total of 300 surveys were sent to selected respondents and a total of 280. The questionnaire used in the survey was developed following a series of in depth interviews and focus groups with representatives from the population of interest. All items were measured on a five-point Likert scale – strongly disagree to strongly agree, with the exception of behaviour which was measured on a six-point scale - extremely unlikely to extremely likely.

Hypothesis of the study:

H1a: Shopping pleasure is linked to a higher likelihood of returning.
H1b: The perception control is positively linked to the desire to return.
H1c: The desire to return is positively linked to concentration.
H2a: The perceived usefulness of the Web store is linked to the likelihood of returning.
H2b: The perceived ease of use of the Web store is linked to the likelihood of returning.
H3a: Consumers who enjoy shopping are more likely to make spontaneous purchases.
H3b: Consumers with higher perceived control are less likely to make impulse purchases.
H3c: Consumers who are more concentrated are more likely to make spontaneous purchases.
H4a: Shopping pleasure is strongly linked to product involvement.
H4b: Concentration is inversely proportional to product involvement.
H5a: Perceived skills are linked to perceived control in a positive way.
H5b: Shopping pleasure is favourably linked to perceived skills
H5c: Concentration is favourably linked to perceived skills.
H6a: The use of value-added search mechanisms is linked to a perceived control.
H6b: The use of value-added search mechanisms is linked to increased shopping pleasure.
H6c: The use of value-added search mechanisms would be positively linked to attentiveness.
H7a: The perceived power of a Web store is positively linked to the degree of challenges.
H7b: The level of challenges in a Web store is positively linked to how much fun it is to shop there.
H7c: The concentration of a Web store is positively linked to the level of challenges of a web store

III. ANALYSIS AND DISCUSSION

Table 1 Descriptive Statistics and reliability statistics

	Mean	Standard Deviation	Cronbch's Alpha
Attentiveness	4.49	1.41	0.917
Attitude towards advertising/ Price sensitivity/ Individuality or Uniqueness	4.21	1.51	0.931
Perceived Control	4.90	1.51	0.823
Technological Skills	5.29	1.35	0.921
Issues and Challenges	2.83	1.45	0.812
Product Involvement	6.23	1.10	0.921
Perceived ease of use	5.21	1.72	0.937
Perceived usefulness	4.21	1.51	0.916

Intention to return	4.63	1.69	N/A
Commercial value of Social Networking	1.45	1.23	N/A

We predicted the flow and TAM variables to be associated based on our previous study. As a result, we factored our scales using principal components extraction with direct oblimin rotation, a process that is suitable when the variables are expected to be correlated. As seen in the Appendix, this study validated our instrument and multiitem scales. Cronbach's alpha values were appropriate on all scales. (Table 1) We wanted to see if there was a difference in explanatory power between the part of the model that considers the online customer as a shopper and the part that considers the consumer as a computer user when we tested the model. As a result, the three flow variables were evaluated separately from the TAM variables. The TAM variables were then independently checked. Finally, we used a single model to evaluate all of the variables.

Table 2 Linear regression – Intention to return flow variables.

Variable	B	Std.Error	Beta
Constant	0.877	0.337	
Perceived Control	0.123	0.045	0.089
Attitude towards advertising/ Price sensitivity/ Individuality or Uniqueness	0.721	0.072	0.621
Attentiveness	0.039	0.071	0.021

N=276, R^2 = 0.472: F= 81.069, ($p<0.01$),

The linear regression model with the three TAM variables is shown in Table 2. After eliminating four outliers with absolute values greater than 3.0 in their uniform residuals, With an R^2 of 0.472, the final model had an outstanding fit and clarified a significant percentage of variance. Only the shopping pleasure coefficient was statistically important. Hypothesis 1a is also supported, but Hypotheses 1b and 1c are not. 2

Table 3 Linear regression – Intention to return and TAM variables.

Variable	B	Std.Error	Beta
Constant	1.128	0.231	
Perceived usefulness	0.691	0.061	0.619
Perceived ease of use	0.114	0.061	0.121

N=276, R^2 = 0.489: F= 130.651, ($p<0.01$),

The linear regression model with the TAM variables is shown in Table 3. The model had a good fit and explained around the same variance after eliminating the same four outliers (R^2 0.489). Only the perceived usefulness coefficient was important, while the perceived ease of use coefficient was not. As a result, only Hypothesis 2a is accepted.

Table 4 Linear regression – Intention to return and all variables.

Variable	B	Std.Error	Beta
Constant	0.711	0.321	
Perceived control	0.027	0.061	0.013
Attitude towards advertising/ Price sensitivity/ Individuality or Uniqueness	0.377	0.075	0.324
Attentiveness	0.024	0.055	0.045
Perceived usefulness	0.455	0.071	0.421

Perceived ease of use	-0.002	0.067	-0.002

N=276, R^2 = 0.546: F= 64.986 (p<0.01),

When we compared the two models, we found very little difference in their ability to predict return intention. After eliminating the same four outliers, we ran a combined regression model, as shown in Table 4. The model fit well and explained more variation than intended. (R_2=0.546). The same hypotheses were confirmed by the important coefficients for shopping pleasure and perceived usefulness. To assess the effects of perceived power, shopping pleasure, and focus, we used a logistic regression on the binary variable of unplanned purchases.

Table 5 Logistic regression – Unplanned Purchases and flow variables.

Variable	B	Std.Error	Beta
Constant	-2.969	0.621	0.057
Attentiveness			
Attitude towards advertising/ Price sensitivity/ Individuality or Uniqueness			
Perceived Control			

Initial -2 Log likelihood = 350.136, -2 log likelihood = 322.413, Chi-square = 17.729, Df=3, N=276, R^2= 0.061, R^2= 0.086, where p<0.1

To assess the effects of perceived power, shopping pleasure, and focus, we used a logistic regression on the binary variable of unplanned purchases. Table of contents the findings are shown in Figure 5. The model has a good fit, but none of the coefficients are meaningful, according to the chi-square value. Hypotheses 3a, b, and c, thus, are unsupported.

Table 6 Linear Regression – Customer concentration

Variable	B	Std.Error	Beta
Constant	0.041	0.649	
Product Involvement	0.401	0.081	
Issues and Challenges	0.229	0.051	0.219
Technology Skills	0.129	0.054	0.149
Value added use	0.127	0.070	0.114
Non value added use	0.077	0.071	0.071
Gender	0.012	0.173	0.004
Age	0.004	0.003	0.045

N=276, R^2= 0.210, F=10.321, (p<0.01)

To test the impact of individual and environmental variables on perceived influence, Attitude towards advertising/ Price sensitivity/ Individuality or Uniqueness, and attentiveness, we used linear regression models. To test the impact of individual and environmental variables on perceived influence, Attitude towards advertising/ Price sensitivity/ Individuality or Uniqueness, and attentiveness, we used linear regression models. The regression model's attentiveness results are shown in Table 6. The model was well-fitting and informative. The variance accounts for 21% of the total. Hypotheses 4b, 7c, and 5c were supported by important and optimistic coefficients for product involvement, issues and challenge's, and technology skill. The value-added usage coefficient was in the right direction, but not important.

Table 7 Linear Regression – Customer shopping involvement

Variable	B	Std.Error	Beta
Constant	0.081	0.630	
Product Involvement	0.382	0.089	
Issues and Challenges	0.398	0.089	0.214

Technology Skills	0.179	0.057	0.189
Value added use	0.278	0.079	0.231
Non value added use	0.168	0.170	0.054
Gender	0.121	0.141	0.051
Age	-0.012	0.002	-0.092

N=276, R^2= 0.281, F=15.095, (p<0.01)

Table 7 shows that the regression model for shopping pleasure had a better fit and explained more variance, with an R20.281. The product involvement, challenges and issues, and value-added usage coefficients were all highly significant and optimistic, indicating that hypotheses 4a, 7b, 5b, and 6b all receive assistance. The regression model for perceived regulation fit moderately well (F= 2.898, p<0.006), but there were no substantial coefficients and an R2 of 0.070, indicating that the model clarified too little variance. As a result, we were unable to test Hypotheses 7a and 8a.

IV. RESULTS AND DISCUSSIONS:

We predicted the flow and TAM variables to be associated based on our previous study. As a result we factored our scales using principal components extraction with direct oblimin rotation, which is a good approach to use when the variables are likely to be associated. The hypotheses that follow will be tested to show further validity of the instrumentation, as previously discussed. We can assume that the measurement of the constructs is effects on normal accurate if the constructs behave as expected by theory. We wanted to see if there was a difference in explanatory power between the part of the model that considers the online customer as a shopper and the part that considers the consumer as a computer user when we tested the model. As a result, the three flow variables were evaluated separately from the TAM variables. The TAM variables were then independently checked. Finally, we put all of the variables through their paces in a simulation. The linear regression model with the three flow variables is shown in Table 2. After eliminating four outliers with absolute values greater than 3.0 in their uniform residuals. With an R2 of 0.472, the final model had an outstanding fit and clarified a significant percentage of variance. Only the coefficient for is significant. The pleasure derived from shopping was statistically important. Hypothesis 1a is also supported, but Hypotheses 1b and 1c are not hypothesis 2. The linear regression model with the TAM variables is shown in Table 3. The model had a good fit and explained around the same variance after eliminating the same four outliers (R2= 0.489). Only the perceived usefulness coefficient was important, while the perceived ease of use coefficient was not. As a result, only Hypothesis 2a is accepted. When we compared the two models, we found very little difference in their ability to predict return intention. After eliminating the same four outliers, we ran a combined regression model, as shown in Table 4. The model fit well and clarified more variance than predicted (R2 0.546). The same coefficients were important for shopping pleasure and perceived usefulness, implying that the same assumptions apply. To assess the effects of perceived power, shopping pleasure, and focus, we used a logistic regression on the binary variable of unplanned purchases. The results are shown in Table 5. The model has a good fit, but none of the coefficients are meaningful, according to the chi-square value. Hypotheses 3a, b, and c, thus, are unsupported. To test the impact of individual and environmental variables on perceived influence, shopping enjoyment, and concentration, we used linear regression models. The regression model's concentration results are shown in Table 6. The model was well-fitting and clarified roughly 21% of the variance. Hypotheses 4b, 7c, and 5c were supported by important and optimistic coefficients for product participation, difficulties, and skills. The value-added usage coefficient was in the right direction, but not important. Table 7 shows that the regression model for shopping pleasure had a better fit and explained more variance, with an R=20.281. The product involvement, difficulties, abilities, and value-added usage coefficients were all highly significant and optimistic, indicating that hypotheses 4a, 7b, 5b, and 6b all receive assistance. The regression model for perceived regulation fit moderately well (F2.898, p0.006), but there were no substantial coefficients and an R2 of 0.070, indicating that the model clarified too little variance. As a result, we were unable to test Hypotheses 7a and 8a. Conceptual model shows our nomological network but includes only the relationship that were supported by our data. We discovered that a customer's perception of a Web store's utility (a cognitive response) can influence their future visits. We discovered, however, that an emotional reaction to the website can have the same impact. Even though customers do not expect to be entertained when shopping online, if they do, they are more likely to return to the Web store. These findings indicate that online shoppers are not strictly utilitarian, placing a high value on quality in their purchases, but that they may also enjoy shopping online enough to return. If this

means that online consumers are more similar to offline consumers than previously believed, online consumer researchers might be able to effectively use previous offline research, but only with caution. Our findings on unplanned transactions were unexpected. Unplanned transactions had no correlation with the flow variables of shopping pleasure, focus, or perceived influence. This may have deterred some of our participants from purchasing something in the first place. Unfortunately, due to the high cost of such an opportunity, it was not feasible for our research. It's also likely that there are other factors that contribute to unplanned transactions that we didn't account for in our model. Future research should revisit the relationships we investigated and add new potential predictors. Our findings also backed up previous flow studies. We discovered that online shoppers' shopping satisfaction and focus was positively linked to their perceived Web skills and constructive challenges. The value of Web skills is also consistent with previous research on machine self-efficacy, and it emphasises the "computer user" aspect of the online consumer's dual identity once more. The more at ease and confident customers are with the website, the more likely they are to enjoy it. We also discovered that the use of value-added search methods can impact online consumers' experiences, which can influence their behaviour. The use of a practical tool like a search engine is linked to shopping pleasure, which is an emotional reaction. However, there was no connection between the use of value-added search mechanisms and feelings of control or focus. One potential consequence is that features on a website that are meant to be simple resources for the user to use can have a strong emotional effect. Another possibility is that the more users like themselves, the more value-added search mechanisms they use.

Implications of the study:

Our findings have significant practical consequences for businesses. Since the online consumer is both a traditional shopper and a computer user, a good user interface, navigational structure, and other aspects of human-computer interaction can be just as crucial as good customer service and lower prices in retaining customers. Many web-based businesses have gone to great lengths to make their customers' lives easier by offering features such as express checkouts and recommendation engines. However, our findings show that emotional interactions like shopping pleasure can help consumers stick around. As a result, online retailers can provide their consumers with both utilitarian and hedonic value, partly by value-added search mechanisms.

Limitations and directions for future research

Although the measurement scales used in this study is based on previous studies, further work is required to validate the scales and enhance their reliability in terms of perceived ease of use. Future research should look into the effects of age, gender, and personal ingenuity on predicting senior usage and acceptance of online marketing consumer behaviour. Our subjects could be more Web-savvy than the typical consumer because they registered with an online market analysis company and completed several online questionnaires. Unfortunately, in order to be hired and engage online, subjects must be comfortable with the Internet. The expected transactions of first-time buyers are a significant variable that is absent from our system. What factors influence consumers' decisions to visit a particular Web store for a planned purchase, and what factors influence whether they can make the purchase there? Our research did not include real customers who were visiting a store for the first time. Instead, we had to guide our subjects to the Web store in order to simulate new customers. A potential analysis of real new customers will be able to better describe the variables that influence customer acquisition and expected purchases.

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