# Adoption Of Technology Acceptance Model For Online Shopping Behaviour Towards Purchase Of Electronic Goods

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ABSTRACT

Analysis of consumer behavior is an important aspect to understand the underlying factors affecting the success of e-commerce. Such analyses help the e-businesses identify the value addition customers look for while adopting this new method of conducting business. This research study has been conducted with the objective of identifying the determinants of the online shopping experience influencing customer's buying behaviour while purchase of electronic goods leading to the technology acceptance model adoption for determining the online shopping behaviour. The research methodology used for the research is primary data collection with the help of questionnaire and factors have been identified through factor analysis using SPSS 20. Nine hypotheses were formulated on the basis of the relationships between factors indicated in the conceptual Framework developed to indicate the B2C e-commerce experience determinants for online purchase of electronic goods. The techniques used are Exploratory and Confirmatory Factor Analysis followed by the conceptual model testing using Structural Equation Modelling technique in AMOS 22. The findings of this research study accepts the model developed to be a good fitting model with the estimate of the regression weights between all the major constructs found to be

significant.

KEYWORDS Technology Acceptance Model, Online Shopping, Consumer Behaviour Model, Business-to-Consumer e-commerce, Perceived Ease of Use, Perceived Usefulness.

## 1. INTRODUCTION

The Technology Acceptance Model has been applied to a number of researches in the past to identify the theoretical model predicting the usage behaviour and the usage acceptance of information technology. The TAM is also varyingly used to understand the user behaviour towards online shopping, especially in the consumer markets. Davis (1986), in his research way back in the year 1986 has identified two salient variables of perceived ease of use and perceived usefulness, that can be used to predict the consumers' likelihood of accepting or rejecting the use of IT at workplace. He defined the variable perceived ease of use as the degree to which an individual believes that using any particular system will be effortless and perceived usefulness as the degree to which an individual think that by using a particular technology would lead to enhancement in his or her performance.

In 2007, Benbasat and Barki claimed, that many scholars and other studies have concluded the significant effect on presumed usefulness. In order to allow more efficient use of TAM, it should be incorporated into a wider model with an emphasis on a particular context. Most of the researchers have consequently developed and updated TAM to include other variables to assess people's intentions to buy online.

## 2. LITERATURE REVIEW

### 2.1 Factors Leading to Customer Preference Towards Online Shopping

Raman, Prashant (2014) in his research study explored the factors affecting online shopping by women. The author's conceptual framework describes four factors that influence women's shopping attitudes towards online shopping: reliability, risk, convenience and preference. Any time shopping, COD, time saving, home delivery and variety of products were identified as the attributes of convenience. Reliability included the attributes of sufficient product details, safe online transactions, product genuineness,

correct explanation of the product and the opportunity to feel the product before purchase. The risk-related dimensions include loss of privacy, identity theft, credit card transaction, not the correct product according to order and returns. Finally, the dimensions of preference include difficulty in online shopping, availability of cheap products in online store, lack of faith in online retailers, and internet incompetence. The positive and negative factors that affected online shopping on Flipkart and Amazon in India during Diwali Festival in 2014, was investigated by Khanna Preeti, Sampat Brinda (2015). Some of the positive factors that emerged include:

- Comprehensive product details, the user-friendly interface, appropriate, accurate content of a site and easy-in-use functionality.
- Other critical factors identified were convenience or usefulness.
- Simple and varied payment options.
- Positive word of mouth by colleagues, friends and family.
- The ease of return of the product to the e-tailer.
- Ease of accessibility of the ecommerce site architecture.
- The website has ease in navigating on different systems.
- Enticing offers and discounts on the products in e-commerce site.

Bhagat, Sneha Mahendra (2015) in the research study identified the factors influencing the purchase and non-purchase behaviour in online shopping and also at finding out the factors needed to improve the e-commerce website experience. The quantitative research study identified some of the factors influencing the purchase decision as convenience and benefits of shopping online; promotional activities on websites; its features and services. The factors requiring improvement in ecommerce websites included product and service displays, after sales services and logistical services. Costly products, risks associated with online shopping and no trust issues influence the customers to avoid shopping online. Devedi, Sujatha, Pathak (2017) conducted research approximately 104 respondents, to understand the parameters of the review content that the online customer checks before making an online purchase of products/services. The parameters found to be highly preferred included Use of cumulative reviews posted by consumers; Online reviews of information related to product usage; Understanding of the cost-benefit analysis

through reviews; Information related to discounts or deals on the product; Reviews related to logistic service; Product warranty and guarantee information

Upon subjecting to factor analysis, four factors related to online reviews that emerged were

Factor 1 – rating and reality check.

Factor 2 – customer's expectation from the online content such as the deals and discounts; benefits of the product, etc.

Factor 3 – caution a customer adopts before buying a product/service.

Factor 4 – variables that help the customer to understand about the new product; to do comparative analysis of the information available; etc.

Mishra and Mahalik (2018), studied the delivery system of the four major B2C e- commerce players, Flipkart, Amazon, Snapdeal and Myntra, using Correspondence analysis. The attributes taken in the research study are reliability, responsiveness, competency, accessibility courteous, communication, credibility, empathy, security, tangibility, surveying needs, need fulfilment, fairness, mistake, and treatment. The primary data was collected through questionnaire was subjected to correspondence analysis involving association of two variables; attributes and websites. Upon analysis of the attributes of the e-commerce websites, using weights, distances and squared distances to the origin, inertia and relative inertia of the attributes and the corresponding e-commerce websites identified the importance of each factor in relation to each attribute. The attributes of responsiveness, reliability, accessibility, competency, credibility, communication, empathy, surveying needs and security were found to be at satisfactory level and almost at similar level for the four websites under consideration. However, the attributes of tangibility, mistake was found to be at unsatisfactory level.

2.2 B2C E-commerce Consumer Behaviour Models

Butt et al (2016) explored the relevance of Technology Acceptance Model, using SEM, in the context of customer's adoption of online shopping in a developing country. The conceptual framework was created by formulating the hypotheses of the relation of the identified factors with the PEOU and PU of TAM. The other factors identified were website quality, customer service, consumer's attitude, trust, intention to purchase online, online shopping enjoyment. The data collected through questionnaire,

involved 340 responses of the target respondents, mainly students of the various universities in Lahore, was subjected to confirmatory factor analysis; convergent and discriminant validity; construct reliability and finally subjected to structural equation modelling to examine the relationships between the constructs. The research employed a two-part frame-work, integrating the factors such as trust and online shopping experience (belief factors) with PEOU and PU. The second part included establishing the influence of PEOU and PU on the consumers' attitude towards online shopping. The scope of future research included product category specific research; analyzing the behaviour of the customers who search online for the products but buy the products from the traditional shops; and examining the impact of the trust on the attitude of the customers towards shopping online.

Wei, Zhenqian et al. (2018) in their research extended the Technology Acceptance Model to identify few other parameters, in addition to presumed usefulness and presumed ease of use that influences the consumers of China to purchase clothes online. The primary data, of the responses from over 500 respondents, was subjected to Structural Equation Modelling technique. The results showed no direct relationship between PEOU and buying intention, there was a significant effect of presumed usefulness on the consumers' intention to purchase clothing online. The new constructs of presumed money-saving, presumed convenience and presumed time-saving introduced by the researchers indicated as to why consumers presumed buying online to be useful. The perceptions of these newly introduced constructs were found to be positive on the buying intention.The findings also indicated that the friend circles and fashion innovativeness had significant impact on the consumers' intention to purchase clothing online.

2.3 Emergence of Online Shopping Model

Ozen, Hilal and Engizek, Nil (2014) conducted a study to find out whether the potential impact of the hedonic motivations of the Turkish customers on the impulse buying tendencies in online shopping behaviour. An extensive literature review on impulse buying identified its four elements: that the purchase is unplanned, it is the result of a stimulus, something decided on the spot and involving an emotional or cognitive reaction (Piron, 1991). This research adapted a multidimensional construct to measure the

hedonic value giving an insight to the marketers the online impulse buying behaviour of the customers in relation to the different components of hedonic shopping motivation like value shopping, social shopping, adventure shopping, relaxation shopping and idea shopping. The findings indicate a positive correlation between the relaxation, adventure and value dimensions of hedonic shopping motivation and the online impulse buying decisions. Social shopping was found to be negatively correlated to impulse buying tendency leading to the conclusion that online buyer with a social personality avoided online impulse purchasing. The researchers suggested the e-tailers to improve the look, feel and design of the website to provide excitement and relaxation to the online customers. Though the study by Phau and Lo (2004), identified a positive relationship between changes in the fashion and online IBT (internet based trading), but the researchers found that such relationship did not exist in the case of Turkish online buyers.

K, Dr. Bolar, B, Dr. Shaw, (August 2015) gathered responses from about 127 online shoppers to investigate the effect of website quality, perceived behavioural control and information integrity on the online shopping experience of the customers. Online customer experience (OCE) has been defined as the impression formed by the customers' encounter with the products, services or businesses (Rose et al 2011). The impression includes the consumer perceptions that are the result of the sensory information gained during online interface on the website. As per the Technology Acceptance Model (TAM), perceived usefulness (PU) and perceived ease of usefulness (PEOU) make these perceptions (Davis, 1989). Information Integrity and website features were considered the determinants of PU and PEOU. The researchers considered OCE as the positive determinant of user satisfaction. A conceptual framework based on the theory of planned behaviour (TPB) was developed by the authors to construct the hypotheses for testing the objectives. 10 different hypotheses were constructed to understand the influence of the quality of website, perceived control on experiences of the online customer and the integrity of information available on website on PU and PEOU respectively. Further, the other four hypotheses were developed to test the influence of perceived usefulness and perceived ease of use on the website usage and customer satisfaction respectively. The

study involved the use of exploratory factor analysis to identify and validate the constructs and multiple regression analysis to test the hypotheses. All proposed hypotheses were accepted. The conclusions drawn from the study shows that the user satisfaction with the ecommerce site indicates the consumer acceptance of the shopping website in comparison to the usage. OCE (online customer experience) consists of two components the hygiene conditions (PEOU) and motivation condition (PU). To ensure the ease of use by the end-user, perceived behavioural control holds importance for e-tailers, where as to ensure the motivation condition, the quality of website and the information integrity should be taken care of.

Yi Jin Lim, Abdullah et al. (2016) carried out a study to understand the relation of perceived usefulness, subjective norms, and online shopping behaviour in the context of purchase intention. The study was conducted by floating questionnaires on a sample of the university students between age group of 18-34. The data was subjected to factor analysis and SEM using SPSS 18 and AMOS 16. It was found that the perceived usefulness and subjective norms positively and significantly influenced the online purchase intention. However, the subjective norm insignificantly and negatively influenced the shopping behaviour. The perceived usefulness insignificantly influences the shopping behaviour. The purchase intention was found to significantly positively influence online shopping behaviour. The research gaps identified after review of the literature included:

- Most of the researches done in B2C e-commerce have been irrespective of any category of products/services, with no studies carried out in the category of electronic goods.
- Most of the consumer behaviour models developed to understand the purchase intention of customers in B2C setting have been outside India, making it imperative to work on a behavioural model of B2C e-commerce customers for a specific product category in the Indian set up.

## 3. RESEARCH OBJECTIVES

1. To identify the determinants of B2C ecommerce experience of consumers influencing their buying behaviour with respect to the online purchase of electronic goods.

2. To develop a B2C ecommerce model of the online shopping behaviour.

## 4. RESEARCH METHODOLOGY

The study involves formulating a conceptual framework that is empirically examined to determine the proposed relationships in the framework. Hence, quantitative analysis is done by collecting primary data with the help of questionnaire. The questionnaire consists of closed ended questions and a 5-point Likert scale has been used to collect the responses related to the questions with reference to the items of the different constructs designed for the behavioural model.

Online survey was conducted on Internet users in India with a set target of 500 respondents for data collection. The target respondents were from different age groups, occupation, and income groups.

Further, IBM SPSS Statistics 20 has been used to conduct Exploratory Factor Analysis and AMOS 22 is used for Structural Equation Modelling.

## 5. DATA ANALYSIS

An initial primary research was conducted on a sample of 150 respondents to determine the reasons that lead to online shopping experience of Indian consumers. The research was not product specific but lead to identify website specific and service experience determinants affecting online shopping behaviour. The study was conducted primarily with young consumers. The methodology included exploratory research design to collect primary data with the help of questionnaire. The data analysis was performed using SPSS 20. The variables found in the study became a basis for formulating the different parameters with respect to the experiential aspects that affects the buying behaviour of online shoppers. Hence to find out the determinants of B2C ecommerce experience of consumers influencing their buying behaviour with respect to the online purchase of electronic goods, the conceptual model was framed and Hypotheses were developed based on thismodel.

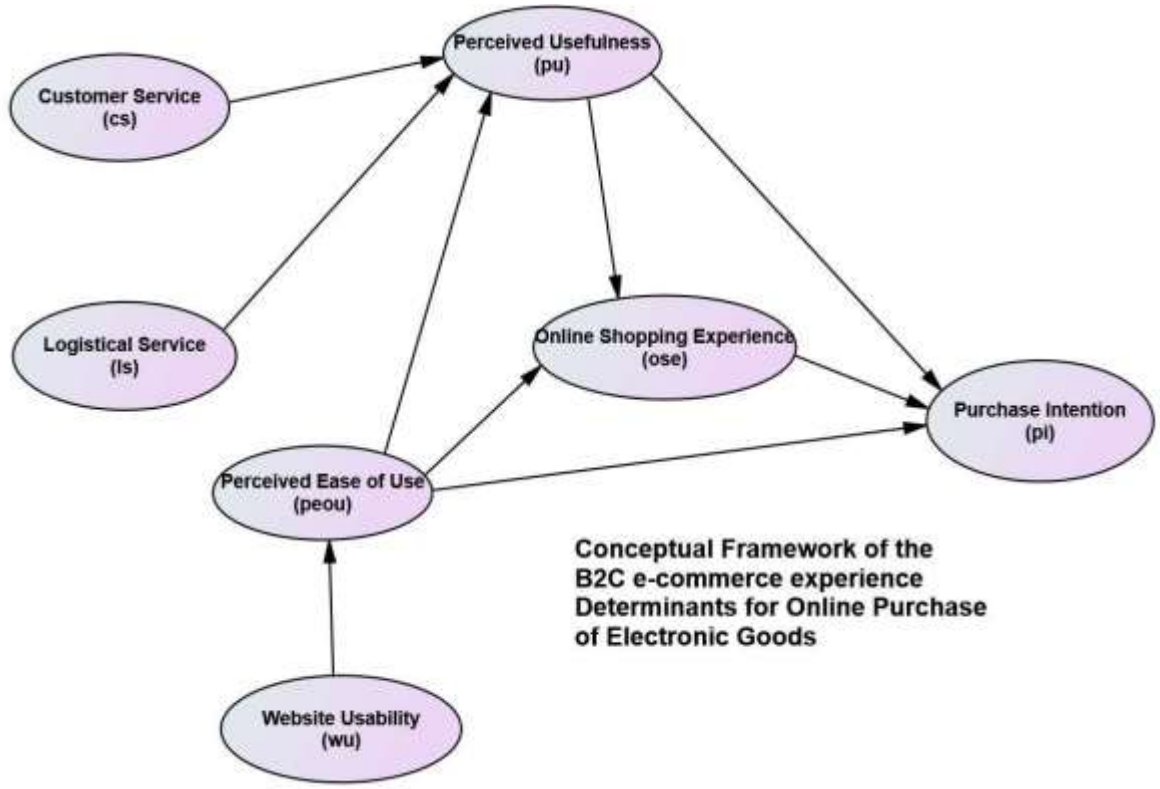


Figure 1. Conceptual Framework of the B2C e-commerce experience Determinants for Online Purchase of Electronic Goods

5.1 HYPOTHESES FORMULATION

H1: The customer service is positively associated with perceived usefulness

H2: The Logistical service is positively associated with perceived usefulness

H3: The website usability is positively associated with perceived ease of use

H4: The Perceived Usefulness (PU) is positively associated with online shoppingexperience

H5: The PU is positively associated with purchase intention

H6: The Perceived Ease of Use (PEOU) is positively associated with online shoppingexperience

H7: The PEOU is positively associated with purchase intention

H8: The PEOU is positively associated with PU

H9: The online shopping experience is positively associated with the purchase intention

Primary data was collected with a target of collecting the data from 500 respondents. The number of responses collected through online survey was 464. Data cleaning was done using Mahalanobis distance in SPSS. Data were

assessed for multivariate outliers using Mahalanobis Distance Test (Tabachnick & Fidell, 2013). Identifying and removing 94 multivariate outliers, further analysis was done with the remaining 370 responses. Sample size adequacy for SEM was done using A-priori Sample Size calculator for SEMs. The sample size was found to be adequate.

**Descriptive Statistics of the respondents (n = 370):**

| **Demographic information** | **Frequency** | **Percentage** |
|---|---|---|
| Gender | | |
| Male | 236 | 63.8 |
| Female | 134 | 36.2 |
| Age (years) | | |
| 15-20 | 4 | 1.1 |
| 21-25 | 159 | 43.0 |
| 26-30 | 90 | 24.3 |
| Above 30 | 117 | 31.6 |
| Educational Qualification | | |
| Graduate | 54 | 14.6 |
| Post graduate | 229 | 61.9 |
| Other | 87 | 23.5 |
| Monthly income (INR per month) | | |
| less than ₹15000 | 60 | 16.2 |
| ₹15001-35000 | 145 | 39.2 |
| ₹35001-50000 | 101 | 27.3 |
| Above ₹50000 | 64 | 17.3 |
| Online shopping frequency | | |
| Rarely | 2 | 0.5 |
| Sometimes | 29 | 7.8 |
| Often | 247 | 66.8 |
| Always | 92 | 24.9 |

**Table 1: Demographic Details**

The data was subjected to EFA (Exploratory Factor Analysis). The KMO was 0.964 (greater than 0.5) proving the sample size to be sufficient. The Bartlett's Test of Sphericity was found to be significant. The variables of factors were extracted using Principal Component Analysis. The Extractions are found to be very high. The total variance output indicating the Eigen values extracted showed that the Eigen values for factors 5, 6 and 7 were below 1.0, but it was decided to retain them as factors because the variables under each construct turn out to be at least 4 and

they hold certain meaning. (Samuels, Peter, 2016) The rotated component matrix using Varimax with Kaiser normalization indicated the following determinants under each of the 7 factors identified as:

1. ls stands for Logistics Services (Factor 1)
2. wu stands for website usability (Factor 2)
3. peou stands for Perceived Ease of Use (Factor 3)
4. ose stands for Online Shopping Experience (Factor 4)
5. pi stands for Purchase Intention (Factor 5)
6. pu stands for Perceived Usefulness (Factor 6)
7. cs stands for Customer Service (Factor 7)

The Cronbach's Alpha for each of the construct identified was found to be greater than 0.7 indicating a good scale. The uni-dimensionality check for each of the 7 constructs indicated indices greater than 0.9. Confirmatory Factor Analysis was then conducted. The convergent, and discriminant validity were tested to complete the CFA. The results of the AVE and CR were as tabulated below:

| Convergent validity | PI | OSE | WU | LS | CS | PEOU | PU |
|---|---|---|---|---|---|---|---|
| AVE Value>0.5 | 0.730 | 0.545 | 0.737 | 0.717 | 0.700 | 0.705 | 0.793 |
| CR Value>0.7 | 0.890 | 0.824 | 0.943 | 0.946 | 0.902 | 0.934 | 0.938 |
| Convergent validity | Established | Established | Established | Established | Established | Established | Established |

**Table 2. AVE, CR values, Convergent Validity test**

All the constructs were found to have convergent validity.

The comparison of the squared correlations and AVE scores for each of the pairwise constructs were performed to check the discriminant validity. The covariance between each of the construct pairs have found to be significantly different from zero at the 0.001 level of significance.

| Discriminant validity | Factor Correlation | Correlation squared ($r^2$) | AVE1 AVE2 (AVEs should be > $r^2$) |
|---|---|---|---|
| pu<--> ose | .710 | 0.5041 | 0.793 0.545 |
| pu<--> pi | .777 | 0.6037 | 0.793 0.730 |
| pu<--> wu | .838 | 0.7022 | 0.793 0.737 |
| pu<--> ls | .835 | 0.6972 | 0.793 0.717 |
| pu<--> cs | .764 | 0.5837 | 0.793 0.700 |
| pu<--> peou | .833 | 0.6939 | 0.793 0.705 |
| ose<--> pi | .692 | 0.479 | 0.545 0.730 |
| ose<--> wu | .749 | 0.561 | 0.545 0.737 |
| ose<--> ls | .768 | 0.5898 | 0.545 0.717 |
| ose<--> cs | .644 | 0.415 | 0.545 0.700 |
| ose<--> peou | .810 | 0.6561 | 0.545 0.705 |
| pi<--> wu | .821 | 0.674 | 0.730 0.737 |
| pi<--> ls | .910 | 0.828 | 0.730 0.717 |
| pi<--> cs | .711 | 0.5055 | 0.730 0.700 |
| pi<--> peou | .875 | 0.76 | 0.730 0.705 |
| ls<--> wu | .874 | 0.76 | 0.717 0.737 |
| wu<--> cs | .778 | 0.6053 | 0.737 0.700 |
| peou<--> wu | .956 | 0.91 | 0.705 0.737 |
| ls<--> cs | .664 | 0.441 | 0.717 0.700 |
| peou<--> cs | .692 | 0.479 | 0.705 0.700 |
| peou<--> ls | .930 | 0.86 | 0.705 0.717 |

**Table 3. Discriminant Validity Table.**

The discriminant validity was found to be fairly OK with a few exceptions of violations.

The model was analyzed by scanning through the estimates output and observing the standard residuals values and the following items under the constructs were found to be having values outside the range of +2.0 to -2.0:

- cs2
- wu3
- wu5

Hence, they were deleted from the model and after further adjustments done referring to the Modification indices, the following Structural Equation Model has been identified for further research:

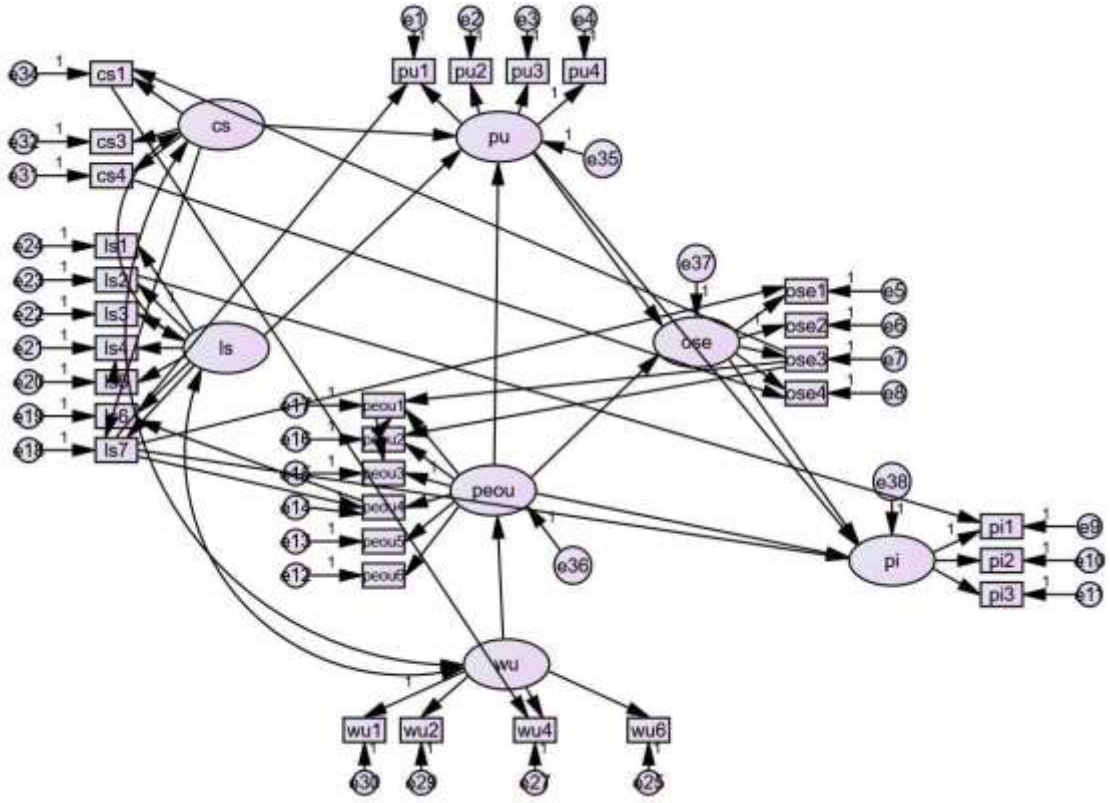


**Figure 2. Structural Equation Model**

The estimate of the regression weights between all the major constructs were found to be significant. The p values of 4 of the regression estimates though not equal to 0, all of them were under p<0.05, the usual significance level.

**Regression Weights: (Group number 1 - Default model)**

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| peou | <--- | wu | .747 | .052 | 14.481 | *** | |
| pu | <--- | cs | .305 | .045 | 6.837 | *** | |
| pu | <--- | ls | .448 | .065 | 6.889 | *** | |
| pu | <--- | peou | .284 | .096 | 2.965 | .003 | |
| ose | <--- | pu | .180 | .081 | 2.228 | .026 | |
| ose | <--- | peou | .766 | .120 | 6.374 | *** | |
| ose3 | <--- | ose | .807 | .054 | 15.061 | *** | |
| peou2 | <--- | peou | .731 | .072 | 10.218 | *** | |
| ls7 | <--- | ls | .559 | .051 | 10.965 | *** | |

| | | | | | | |
|---|---|---|---|---|---|---|
| peou2 | <--- | ose3 | .244 | .035 | 6.946 | *** |
| ls7 | <--- | cs | .284 | .046 | 6.152 | *** |
| peou4 | <--- | peou | .969 | .072 | 13.424 | *** |
| peou1 | <--- | peou | .459 | .069 | 6.634 | *** |
| ls5 | <--- | ls | .822 | .039 | 21.170 | *** |
| ls2 | <--- | ls | 1.000 | | | |
| cs4 | <--- | cs | 1.000 | | | |
| cs1 | <--- | cs | .668 | .050 | 13.285 | *** |
| pi | <--- | peou | .434 | .074 | 5.846 | *** |
| pi | <--- | ose | -.070 | .035 | -1.985 | .047 |
| pi | <--- | pu | .122 | .043 | 2.833 | .005 |
| peou1 | <--- | ose3 | .175 | .035 | 5.015 | *** |
| pi | <--- | ls7 | .294 | .034 | 8.571 | *** |
| peou4 | <--- | ls7 | .238 | .025 | 9.502 | *** |
| peou1 | <--- | peou2 | .379 | .050 | 7.555 | *** |
| cs1 | <--- | ose3 | .155 | .044 | 3.536 | *** |
| pu1 | <--- | pu | .634 | .038 | 16.508 | *** |
| pu2 | <--- | pu | .892 | .034 | 26.019 | *** |
| pu3 | <--- | pu | .950 | .024 | 38.902 | *** |
| pu4 | <--- | pu | 1.000 | | | |
| ose1 | <--- | ose | .507 | .050 | 10.222 | *** |
| ose2 | <--- | ose | 1.000 | | | |
| ose4 | <--- | ose | .422 | .060 | 7.051 | *** |
| pi1 | <--- | pi | 1.000 | | | |
| pi2 | <--- | pi | 1.350 | .090 | 14.952 | *** |

| | | | Estimate | S.E. | C.R. | P | Label |
|---|---|---|---|---|---|---|---|
| pi3 | <--- | pi | 1.343 | .096 | 13.944 | *** | |
| peou6 | <--- | peou | 1.255 | .091 | 13.738 | *** | |
| peou5 | <--- | peou | 1.273 | .089 | 14.352 | *** | |
| peou3 | <--- | peou | 1.000 | | | | |
| ls6 | <--- | ls | .355 | .060 | 5.877 | *** | |
| ls4 | <--- | ls | .510 | .045 | 11.395 | *** | |
| ls3 | <--- | ls | .880 | .034 | 26.101 | *** | |
| ls1 | <--- | ls | .957 | .035 | 27.383 | *** | |
| wu6 | <--- | wu | .942 | .026 | 36.413 | *** | |
| wu4 | <--- | wu | .793 | .037 | 21.389 | *** | |
| wu2 | <--- | wu | 1.002 | .021 | 47.117 | *** | |
| wu1 | <--- | wu | 1.000 | | | | |
| cs3 | <--- | cs | .956 | .034 | 27.772 | *** | |
| ose4 | <--- | cs4 | .475 | .049 | 9.688 | *** | |
| ose1 | <--- | ls7 | .377 | .044 | 8.586 | *** | |
| pu1 | <--- | ls7 | .293 | .037 | 7.922 | *** | |
| wu4 | <--- | cs1 | .158 | .030 | 5.358 | *** | |
| ls4 | <--- | ls5 | .397 | .041 | 9.682 | *** | |
| pi1 | <--- | ls2 | .283 | .038 | 7.525 | *** | |
| ls6 | <--- | peou4 | .590 | .059 | 9.940 | *** | |
| peou3 | <--- | peou1 | .279 | .049 | 5.666 | *** | |

**Table 4. Regression Weights of the Model**

To test the model fitness, the Chi-square/degree of freedom value was found to be 2.5 which was lower than 3.0 the acceptable value for a good fit model.

The values of GFI is 0.829 which was close to 0.9, whereas the value should be greater than 0.9 for an acceptable model

NFI value is 0.907 which is greater than 0.9, the acceptable value for a good model fit.

CFI value is 0.934 which is greater than 0.9, the acceptable value for a good model fit. RMSEA value is 0.076 which is less than 0.08, the acceptable value indicating a good fit model (Hooper et al. 2008).

The structural model developed was subjected to the Model Evaluation.

A composite scale model has been drawn and the averages

of items for each construct calculated.

| Convergent validity | PI | OSE | WU | LS | CS | PEOU | PU |
|---|---|---|---|---|---|---|---|
| CR Value>.7 | 0.890 | 0.824 | 0.943 | 0.946 | 0.902 | 0.934 | 0.938 |
| Factor Loading √CR | 0.943 | 0.908 | 0.971 | 0.973 | 0.95 | 0.966 | 0.968 |
| Error Variance 1 – CR | 0.057 | 0.092 | 0.029 | 0.027 | 0.05 | 0.034 | 0.032 |

**Table 5. Average Factor Loadings and Error Variance Calculation**

After the "hand-load" factor loading and error variances into composite scale model, the final model formed as follows:

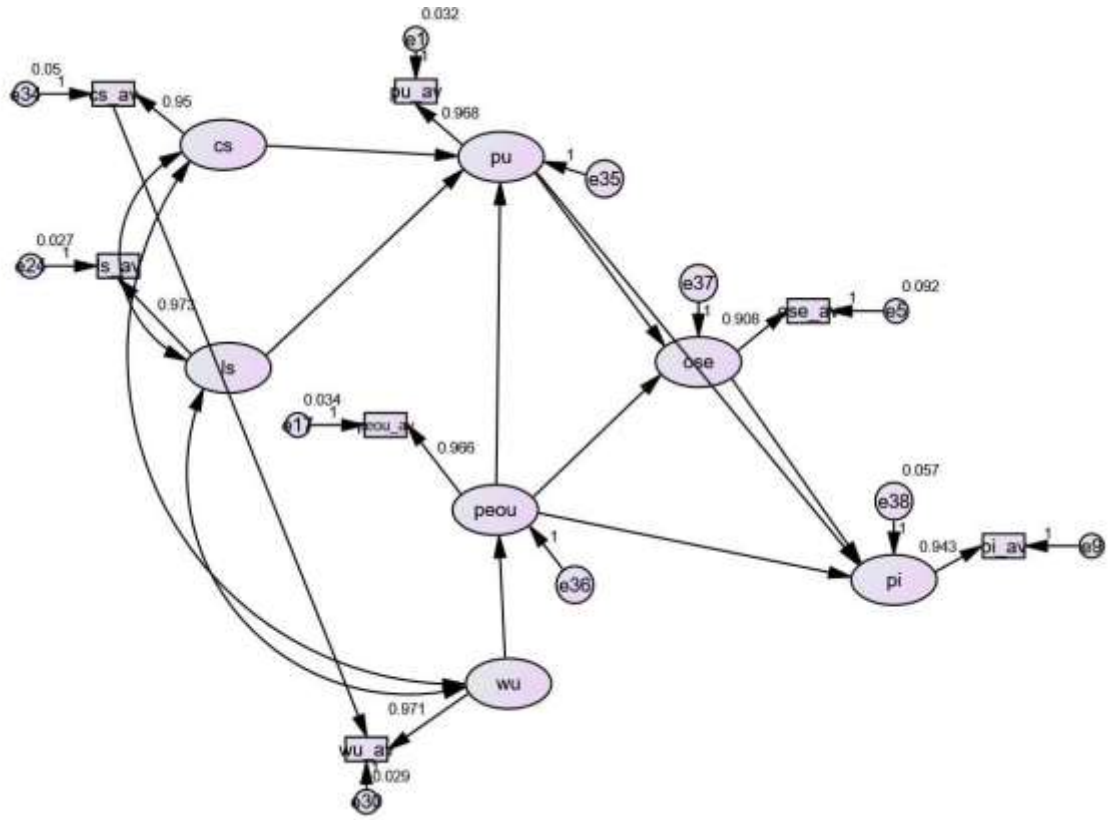


**Figure 3. Composite Scale Model**

After re-calculating the estimates and checking the model fit, following values were reflected:

CMIN value is significant at 67.709 indicating not a good fit model. GFI = 0.960, NFI = 0.975, CFI = 0.978, RMSEA = 0.142 As the values of GFI, NFI and CFI are greater than 0.9, they indicate the model to be a good fit. However, value of RMSEA indicates a poor fit. Thus, out of the 5 parameters, 3 indicate the structural model to be a good fit model. 2 out of the 5 model indicators are saying that the model is not a good fit.

After looking at the estimate values, it is found that 2 of the causal paths are not significant.

In the symmetric matrix (Refer Table 6), each residual covariance, has been divided by an estimate of its standard error. Analyzing the Standardized Residual covariance between the constructs causal effects it has been found that the majority of the values are lying between the permissible levels of between +2.0 to -2.0. Therefore, it is not advisable to omit any of the constructs. The constructs can be generalized for a much larger sample population.

Standardized Residual Covariances (Group number 1 - Default model)

| | cs_av | wu_av | ls_av | peou_av | pi_av | ose_av | pu_av |
|---|---|---|---|---|---|---|---|
| cs_av | .243 | | | | | | |
| wu_av | .047 | -.563 | | | | | |
| ls_av | -.208 | .416 | -.245 | | | | |
| peou_av | -.023 | .170 | -.164 | .068 | | | |
| pi_av | -.116 | -.696 | .579 | -.090 | -.013 | | |
| ose_av | -.351 | .067 | .036 | .234 | -.010 | .003 | |
| pu_av | .116 | .078 | -.132 | -.031 | -.029 | .150 | -.154 |

**Table 6. Standard Residual Covariances of Composite Scale Model**

## 6. CONCLUSION

After the model evaluation comparing the analysis with the structural model designed, following are some of the observations made:

a) All of the causal paths were found to be significant as the p values was less than 0.05
b) The values of 4 fit indices were indicating that the

model was fitting good. As far as the significant value of CMIN questioning the goodness of fit of the model, it has been indicated in the research done by Hooper et al. 2008, that there is certain restrictiveness to the manner in which Chi Square value varies, making it necessary to sought for alternative indices to assess the model fit. The limitations identified by Hooper et al, suggest model rejection as Chi Square test assumes multivariate normality and severe deviations from normality may result in the rejection of the model even if it has goodness of fit. Another limitation is that Chi square statistical significance test is sensitive to sample size – nearly rejecting the model when large sample size is taken and lacks the power for small sample size leading to discriminate between good and poor fitting models.

c) Hooper et al. have also identified that RMSEA value of less than 0.05 indicates ideal fitting model but values below 0.08 indicates a good fit whereas values between 0.08 to 0.1 indicates a mediocre fit.

The model can thus be generalized for a much larger sample population.

All the hypotheses were found to be supported as has been indicated in the following table:

**Table 7. Results of the hypothesis testing**

| **Hypothesis** | **Standardized Estimates** | **Critical Ratio** | **Result** |
|---|---|---|---|
| H1: The customer service is positively associated with perceived usefulness | 0.32 | 6.837 | Supported |
| H2: The Logistical service is positively associated with perceived usefulness | 0.431 | 6.889 | Supported |
| H3: The website usability is positively associated with perceived ease of use | 0.966 | 14.481 | Supported |

| | | | |
|---|---|---|---|
| H4: The Perceived Usefulness (PU) is positively associatedwith online shopping experience | 0.176 | 2.228 | Supported† |
| H5: The PU is positively associated with purchase Intention | 0.174 | 2.833 | Supported†† |
| H6: The Perceived Ease of Use (PEOU) is positively associated with online shopping experience | 0.554 | 6.374 | Supported |
| H7: The PEOU is positively associated with purchase Intention | 0.459 | 5.846 | Supported |
| H8: The PEOU is positively associated with PU | 0.211 | 2.965 | Supported* |
| H9: The online shopping experience is positively associated with the purchase Intention | - 0.102 | -1.985 | Supported** |
| †p = 0.026 that is covered under p<=0.05<br>††p = 0.005that is covered under p<=0.05<br>*p = .003that is covered under p<=0.05<br>**p = .047that is covered under p<=0.05 | | | |

Thus the structural model developed can be considered as a good fitting model that can be adapted to the larger population for evaluating the factors responsible for affecting the shopping behaviour of consumers in a B2C e-commerce environment.

**Table 8. Construct Items On the Basis of Consumer Behavioural Model for Online Shopping of Electronic Goods**

| Constructs | Factor | Items |
|---|---|---|

| | **Loadings** | |
|---|---|---|
| **Logistics Services- Factor 1 (CR=0.946; AVE=0.717; α=0.946)** | | |
| LS1 | 0.749 | The electronic product delivered is exactly the same, as it was displayed on the website. |
| LS2 | 0.725 | They deliver products within scheduled time frame. |
| LS3 | 0.751 | The Behaviour of delivery associate is courteous. |
| LS4 | 0.777 | The product is delivered on the preferred time as opted. |
| LS5 | 0.805 | The Follow ups by the delivery associate is prompt. |
| LS6 | 0.657 | The Facility for tracking the consignments is available. |
| LS7 | 0.628 | Facility for Convenient pick up of the returned product on the preferred time and day. |
| **Website usability- Factor 2 (CR=0.943; AVE=0.737; α=0.942)** | | |
| WU1 | 0.552 | Ease in viewing the product. |
| WU2 | 0.551 | Good Picture quality of products displayed. |
| WU4 | 0.630 | Easy accessibility to online complaint registration. |
| WU6 | 0.518 | Good behavior of the customer care associate during interaction on the website. |
| **Perceived Ease of Use- Factor 3 (CR=0.934; AVE=0.705; Cronbach Alpha=0.934)** | | |
| PEOU1 | 0.723 | Shopping website should be appealing in terms of look & feel. |
| PEOU2 | 0.668 | Availability of user-friendly guidelines about their product/site. |
| PEOU3 | 0.538 | Familiarity with the website before actual purchase reduces risk of shopping online. |
| PEOU4 | 0.329 | Prefer online shop, the authority of which is reliable. |
| PEOU5 | 0.384 | Prefer the website with high security of credit/payment details. |
| PEOU6 | 0.449 | Prefer the e-commerce website where secrecy is maintained of the user information. |
| **Online Shopping Experience- Factor 4 (CR=0.824; AVE=0.545; α=0.816)** | | |
| OSE1 | 0.432 | The website design helps in searching the products easily. |
| OSE2 | 0.705 | Prefer to buy from website that provides quality of information. |
| OSE3 | 0.802 | Prefer to buy from website that has exciting cool features. |
| OSE4 | 0.584 | Availability of the choice of using the mobile phone as well as on laptop to shop. |
| **Purchase Intention- Factor 5 (CR=0.890; AVE=0.730; α=0.887)** | | |
| PI1 | 0.510 | When buying electronic goods, I try to purchase it on online shopping websites. |
| PI2 | 0.627 | It is likely that I will use online shopping sites as the medium to make my purchases of electronic goods in the near future. |
| PI3 | 0.700 | I intend to regularly use online shopping sites to buy an electronic good in the near future. |
| **Perceived Usefulness- Factor 6 (CR=0.938; AVE=0.793; α=0.937)** | | |
| PU1 | 0.353 | Easy to choose & make comparison with other products while shopping online. |

| | | |
|---|---|---|
| PU2 | 0.553 | Customer reviews in the shopping website helps in making purchase decision. |
| PU3 | 0.607 | Appropriate Feedback about the delivery of products of previous purchases, helps in purchase decision. |
| PU4 | 0.630 | Appropriate feedback about the product rating of previous purchases, helps in purchase decision. |
| **Customer Service- Factor 7 (CR=0.902; AVE=0.700; α=0.906)** | | |
| CS1 | 0.716 | Regular Flashing of customized offers helps in purchase decision. |
| CS3 | 0.302 | Ease in return of goods or products that is damaged or not matching the expectations. |
| CS4 | 0.339 | Ease in return of payment of the goods/products returned to the seller. |

## 7. CONTRIBUTION OF THE RESEARCH AND FUTURE SCOPE

Business-to-Consumer e-commerce, in India, started with the psychology of online users looking for convenience and free home delivery as the most important factors that influenced their buying behaviour. However, with technological advancements in IT sector and the emergence of app-based B2C e-commerce, the online users are looking towards greater fulfilment of experiential factors for shopping online. Few researches have been done to explore and understand the experiential concerns of online users.

With most of the Indian e-commerce companies expanding their product base in the span of last few years, it becomes extremely important for the marketers to understand the product-specific experiential factors that affects consumers' preference for shopping online. The research carried out helps to identify the consumer behavioural model vis-a-vis TAM for the online shopping of Electronic goods.

The findings of the research provide interesting insights to the B2C e-commerce players regarding the relationship of customer services and logistical services with the perceived usefulness of the e-commerce platform; the relationship of website usability with perceived ease of use; the relationship of PU and PEOU with each other and with the OSE and purchase intention. Therefore, the research findings will enable the B2C e-commerce marketer to develop and enhance the customer experience of their website.

Online transactions are also becoming a necessity for online

commerce. Studies can be conducted in identifying their role in the shift of customers to purchase online. There are a host of products and services that are being sold online in the B2C e-commerce context. Further studies can be done in the context of e-commerce platforms dealing with selling in the service sector. A number of e-commerce players are introducing app-based shopping experience. Studies can also be conducted to understand the consumer behaviour model for online shopping of such segments.

Experiential retailing is one of the fundamental feature of online shopping wherein the brands create community around it to increase engagement and curate value enhancing experiences. The role of artificial intelligence, augmented reality/virtual reality and other futuristic technologies cannot be negated while enhancing the online shopping experience of the customers. While the increase in the smart phone usage has influenced how and when the customers may purchase, greater personalization in terms of product recommendations, mode of payment and display of product types, on the basis of the past purchases, have greatly impacted the customers shopping experience.

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Statements and Declaration

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Role of funding source: No Funding source involved