Factors Influencing Online Purchasing Intention: The Mediation Role of Consumer Attitude

K.C. Koththagoda¹ and H.M.R.P. Herath²

1. Department of Marketing Management, Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka
2. Department of Marketing Management, Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka

* kosala@kln.ac.lk/ kosalackg@gmail.com

Abstract

The purpose of this study is to investigate the new Technology Acceptance Model that appropriate to predict users’ intention to purchase the electronic products through online. In this study it proposes the new model which is developed based on the original Technology Acceptance Model with incorporating the construct of Information Adaptation Model. The data were collected through convenience sampling and sample size was determined as 300 individuals. Data were analyzed and tested the hypotheses by using Structural Equation Modeling. The results of the analysis revealed that Perceived Usefulness, Perceived Ease of Use and Source Credibility, are strong predictors of online purchase intention. Further it confirmed that consumer attitude mediates the relationship between independent variables and dependent variable of purchase intention. Also, fit indices obtained for the conceptual model refers to the high validity of the model in explaining the relations among variables. Hence the proposed model is more appropriate to predict and explain online purchasing intention. This will important for e-marketers for formulating their e-marketing strategies to cater existing and potential consumers to improve online shopping experience and satisfaction while understanding what drives Sri Lankan consumers to online purchasing behaviour.

Keywords: Information Adaptation Model, Technology Acceptance Model, online purchasing, Source credibility

1. Introduction

In the modern era, online shopping is growing around the world. According to eMarketer report in July, 2017, it has estimated that retail ecommerce sales will hit $2.290 trillion this year (2017) making up 10.1% of global retails sales. Three out of five internet users worldwide will make at least one digital purchase in 2017 (eMarketer, 2017). The e-commerce sales in Asia-Pacific will remain as the world’s largest retail ecommerce market throughout the forecast period (2020), with sales expected to $2.725 trillion by 2020 (eMarketer, 2016). According to these statistics, sales in Asia-Pacific region is reportedly higher than the average rate of worldwide, while marking bigger players as China, Indonesia and India are driving the region’s growth and countries including Sri Lanka now immensely experiencing growing demand for reliable e-commerce websites with staggering growth of telecommunication industry in Island wide( SLTRC annual report, 2016).

With the advancement of information technology, things continue to drive towards digitalization. The consumers who grew up with digital technology era specially, Millennial and Generation Z are much interested and comfortable with the new technological trends. These generations are shaping up new marketing trends for present as well as future. Therefore, it’s very much important that service providers and manufacturers understand how these consumers behavior in the future virtual market while using technology.

Online purchasing behavior refers to the process of purchasing products or services through the Internet. The online buying process consists of five steps similar to which are associated with traditional shopping behavior. Goldsmith and Goldsmith (2002) found that experienced online shoppers have more trust and better feeling on online service than non-experienced shoppers who have no online shopping experience before. Therefore user acceptance on the technology is very much important, because without users’ acceptance, the new technology will be waste and useless. To explain the technology usage Davis in 1989 proposed the Technology Acceptance model. It suggests the formation of the individual’s intention to adopt or reject a behavior. According to Sussman & Siegal (2003) technology depends on the individual’s beliefs and assessments of the consequences of adoption. TAM has two primary determinants of IT acceptance. The first determinant is perceived usefulness (PU) which is defined as the degree to which person believes that using a particular system would enhance his or her
performance. The second determinant is perceived ease-of-use (PEOU) which is defined as the degree to which person believes that using a particular system would be free of effort. Both PU and PEOU influence user’s behavioural intention to use technology. Although previously researchers have investigated and replicated the TAM and agreed that it is valid in predicting the individual’s acceptance towards the technology. According to the Moon & Kim (2001) the TAM’s fundamental constructs does not fully reflect the specific influences of technological and usage-context factors that may alter the users’ acceptance. Therefore another main theory used in this study is Information Adoption Model (IAM). IAM analyses factors that determine the information adoption (Cheung et al., 2008). In this study Source Credibility of IAM model is used to see to what extent source credibility affects the information adoption of on line information seekers. Information seekers consider the source trustworthiness and expertise before accepting or rejecting the information (Ohanian, 1990; Cheung et al., 2008). Therefore, the two source credibility sub dimensions, namely, trustworthiness, expertise were used in this study to enhance the understanding of an individual’s information technology adaptation behavior.

In this present study it has proposed new conceptual frameworks to investigate the causal relationship between the perceived usefulness, ease of use, source credibility and online purchase intention those to be mediated by customer attitude to aid explaining the causality among the studied variables. This paper intends to fill some of this knowledge gap by empirically investigating the determinants of Sri Lankan consumers’ online purchasing intentions. Relatively few empirical studies have been carried out in the Sri Lanka context this regard. It has been developing ever since in terms of range of services, efficiency, security and popularity, but marketing via virtual mode needs continual improvement if it is to meet the changing and developing needs and expectations of consumers. Therefore, it is very much important the industries to be prepared for this transformation and gain the competitive advantage in future market.

2. Literature Review

This study has used Technology Acceptance Model (TAM) to predict consumer behavior in making purchase decision of online shopping. TAM was first developed by Davis (1989) in order to explain technology acceptance. To formulate TAM, Davis adopted Theory Reasoned Action (TRA) by Fishbein and Ajzen, 1975 as reference TAM suggests that two variables, perceived ease of use and perceived usefulness, are significant determinants of behavioral intention to use a system/technology. The Usefulness and Ease of Use are expected be able to influence individual attitude on technology acceptance, both can also explain intention to use technology.

TAM model has been widely used by many researchers in order to examine the intention to use information technology. According to the study of Chuttur (2009), TAM is not good enough in predicting technology acceptance. Based on empirical result that still contradictory with TAM, the theory which is based on Theory Reasoned Action (TRA) and the consumer behavior in this research, at last, it was decided that attitude still be used as intervening variable that influence intention to shop online. Therefore TAM is still not establish and liable for the further improvements. According to Enrique et al. (2008), Kim & Song (2010) and Xie et al. (2011), perceived usefulness was proven to have significant impact on the intention to purchase via internet. Davis et al., 1989 suggested that there is strong direct relation between usefulness and intention to use. Further Zeithaml et al. (2002) stated that the degree to which an innovation is easy to understand or use could be considered as perceived ease of use. Many researchers have provided evidence of the significant effect of perceived ease of use on usage intention, (Hernandez and Mazzon, 2007; Guriting and Ndubisi, 2006; Eriksson, 2005; Wang et al., 2003; Venkatesh, 2000; Venkatesh and Davis, 1996; Venkatesh and Mor-ris, 2000). Based on above arguments following hypotheses have been formulated:

H1 – Perceived Usefulness has positive and significant influence on online purchase intention

H2 – Perceived Ease of Use has positive and significant influence on online purchase intention

Another main theory used in this study is Information Adoption Model (IAM) which was developed as the integration of Technology Acceptance Model (TAM) and Elaboration Likelihood Model (ELM) (Sussman & Siegal, 2003). Information Adaptation Model which explains factors that affect the adoption of a behaviour or a technology, can influence the adoption of an information. Even though IAM is commonly used to examine informational influence, it received criticism from researchers. According to Erkan & Evans (2016) claim that IAM has limited scope as it investigates influence of source credibility and information quality only on
information adoption. Therefore, previously researchers had to combined IAM and TRA in order to examine the influence of information characteristics on consumer’s behaviour, particularly purchase intention (Gunawan & Huarng, 2015; Erkan & Evans, 2016). Recently, Chen and Barnes (2007) have empirically found that two technological aspects of the interface, namely perceived ease of use and perceived usefulness significantly affect customer adaptation intentions. Hence in this present study, conceptual framework was formulated with incorporating Source Credibility the construct of IAM and TAM models. Source credibility is defined as “the extent to which the source is perceived as possessing expertise relevant to the communication topic and can be trusted to give an objective opinion on the subject” (Goldsmith et al., 2000). In According to Ohanian (1990) made a further comment that “communicator's positive characteristics affect the receiver's acceptance of a message. These definitions of source credibility indicate that expertise and trustworthiness are its key components. The past research showed that source’s trustworthiness, expertise and attractiveness are important factors in influencing consumers’ perception (Cheung et al., 2008). Expertise and trustworthiness are considered the most important components of source credibility (Hovland et al., 1953) and they are shown to have a persuasive effect on consumers’ attitude, behavioural intention and actual behaviour (Senecal & Nantel, 2004). Therefore third independent variable has been determined as source credibility and based on previous research arguments next hypothesis was formulated as below,

**H3:** Source credibility has positive and significant influence on online purchase intention

Attitude to online is positive or negative feeling as evaluation result felt by consumer related with online shopping through e-commerce channel. Therefore if consumer has attitude such as think it positive, like it, please it, consumer will intend to shop online. Some potential consumers may have a positive attitude to online shopping, but some of their associates may have negative attitudes. According to the technological acceptance model introduced by Davis et al (1989), attitude plays a mediate effect on variables (Perceived usefulness and Perceived ease of use). However, this model was recreated by removing the variable of attitude (Davis, 2000). Anyway consumers’ relevant social and psychological characteristics are mainly derived from psychological theories such as TPB, social cognitive theory. Favorable attitudes towards-shopping are positively associated with consumers’ e-shopping intention and actual use (e.g. Ahn et al., 2004; Kitchen et al., 2014; O’Cass and Fenech, 2002; Ratten and Ratten, 2007). Based these arguments fourth Hypotheses were formulated.

**H4:** Consumer attitude positively and significantly influence on online purchase intention

**H5:** Consumer attitude mediate the relationship between a) Perceived Usefulness b) Perceived Ease of Use c) Source Credibility on online purchase intention.

### 3. Conceptual Framework

On the basis of literature the following conceptual model has been developed (see Figure 1). It has been designed using the construct of TAM and IAM models. The proposed conceptual framework will lead to investigate the causal relationship between the Perceived Usefulness, Perceived Ease of Use, Source Credibility on line purchase intention and the mediation effect of consumer attitude between independent and dependent variables.
According to this model, the following research hypotheses were developed:

H1 – Perceived Usefulness has positive and significant influence on online purchase intention
H2 – Perceived Ease of Use has positive and significant influence on online purchase intention
H3 - Source Credibility has positive and significant influence on online purchase intention
H4 - Consumer attitude positively and significantly influence on online purchase intention
H5-Consumer attitude mediate the relationship between a) Perceived Usefulness b) Perceived Ease of Use c) Source Credibility on online purchase intention.

4. Research Methodology

The research model includes five constructs, and each construct is measured with multiple items. All items were adapted from extant literature to improve the content validity and measured with a seven-point Likert scale ranging from extremely disagree (1) to extremely agree (7). The study uses a scale of 19 items. The statistical procedures and measures, in chronological order, are: reliability analysis, confirmatory factor analysis and structural equation modeling (SEM). The target population of this research include both existing online shopping consumers between the age group of 18 to 35, who lived in Colombo district, Sri Lanka. The sampling method used is the convenience sampling technique and 300 individuals were included in the sample.

Reliability analysis measures how consistent results are yielded over time and across situations. Cronbach’s alpha was applied to establish reliability (Zikmund, 2003). The least value acceptable for the reliability of the items was 0.7 (Lance, Butts, & Michels) the alpha coefficient was calculated for each item. The results obtained refer to high reliability of the questionnaires as presented in Table 01.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of indicators</th>
<th>Cronbach’s alpha</th>
<th>Number of observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness (PR)</td>
<td>4</td>
<td>0.762</td>
<td>300</td>
</tr>
<tr>
<td>Perceived Ease of Use (PEOU)</td>
<td>3</td>
<td>0.891</td>
<td>300</td>
</tr>
<tr>
<td>Source Credibility (SC)</td>
<td>6</td>
<td>0.808</td>
<td>300</td>
</tr>
<tr>
<td>Consumer attitudes(CA)</td>
<td>3</td>
<td>0.879</td>
<td>300</td>
</tr>
<tr>
<td>Online purchase intention(OPI)</td>
<td>3</td>
<td>0.868</td>
<td>300</td>
</tr>
</tbody>
</table>
5. Results and Analysis

5.1 Confirmatory factor analysis

In this research, confirmatory factor analysis was used to test the construct validity of questionnaire. When conducting confirmatory factor analysis, according to the Carmines & Zeller (1979) variables with loadings less than 0.3 should be constrained to zero. Results of confirmatory factor analysis which were from SEM is more rigorous test of unidimensionality (Garver and Mentzer, 1999). Based on the confirmatory factor analysis, all of the variables were retained. All the items ‘loadings are larger than 0.3.

5.2 Structural Equation Modeling

The SEM is the most suitable analysis to estimate the strength of causal relationship among variables. In this research, several fit indices that were used to assess the overall fit of the model include CMIN/DF, GFI, AGFI, CFI and RMSEA. For a good model fit, CMIN/DF must be less than 3, GFI, AGFI and CFI must be greater than 0.90 and RMSEA must be less than 0.1 (Allameh et al., 2015). Figure 2 shows the specified relationships between the research variables. The overall model fit was good, CMIN/3.280, RMSEA 0.037 GFI 0.916, and CFI 0.968 Table 3 illustrates the results of the structural model and the overall fit statistics. The results of the hypotheses testing indicate a good fit between the model and the empirical data. The results of SEM show that four hypotheses underlying this model are supported at the 0.05 level of significance. The standardized estimates for Perceived Usefulness (0.092), perceived ease of use (0.572) and source of credibility (0.389) are significant, which shows that these constructs have a significant influence on online purchase intention, thus confirming H1, H2 and H3. Consumer attitude has a significant and positive effect on online purchase intention (0.350) and, consequently, H4 is supported.

Figure 2: Result of overall SEM model
### Table 2: Goodness of fit of the structural model

<table>
<thead>
<tr>
<th>Index</th>
<th>Criteria</th>
<th>Cutoff value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square/df</td>
<td>3.280</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>Goodness of fit index (GFI)</td>
<td>0.916</td>
<td>&gt; 0.90</td>
</tr>
<tr>
<td>Comparative fit index (CFI)</td>
<td>0.968</td>
<td>&gt; 0.90</td>
</tr>
<tr>
<td>Root mean square error of approximation (RMSEA)</td>
<td>0.037</td>
<td>&lt; 0.10</td>
</tr>
</tbody>
</table>

### Table 3: The results of hypotheses testing

<table>
<thead>
<tr>
<th>Hypothesis Path</th>
<th>Estimate</th>
<th>P value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPI&lt;---PU</td>
<td>.092</td>
<td>0.00</td>
<td>Supported</td>
</tr>
<tr>
<td>OPI&lt;---PEOU</td>
<td>.572</td>
<td>0.00</td>
<td>Supported</td>
</tr>
<tr>
<td>OPI&lt;---SC</td>
<td>.389</td>
<td>0.00</td>
<td>Supported</td>
</tr>
<tr>
<td>OPI&lt;---CA</td>
<td>.350</td>
<td>0.00</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Results for the mediation effect role of consumer attitude

The mediating effect of consumer attitude on the relationship between the independent and dependent variables were tested using Baron and Kenny’s methodology (Baron and Kenny, 1986). Recent research indicates that the majority of mediation analyses are guided by the procedures outlined by Baron and Kenny (Preacher and Hayes, 2004). Therefore, the mediation effect of a mediating variable on the relationships between an independent variable and a dependent variable occurs when four conditions meet. First, each of the independent variables significantly affects the mediator. Second, the mediator has a significant effect on the dependent. Third, each of the independent variables significantly affect the dependent variable in the absence of the mediator. Fourth, the effect of each of the independent variables on the dependent variable is significantly reduced upon the addition of the mediator (Baron and Kenny, 1986). Table 4 exhibits the p values and standardized estimates. However, these results indicate that consumer attitude fully mediates the relationship between independent and dependent variables. Thus H5 was supported.

### Table 4: Summary of mediation testing

<table>
<thead>
<tr>
<th>Mediation</th>
<th>Direct without mediations</th>
<th>Direct effect with Mediator</th>
<th>Indirect effect(Significance)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>P</td>
<td>B</td>
<td>P</td>
</tr>
<tr>
<td>PU_CA_OPI</td>
<td>0.024</td>
<td>0.045</td>
<td>0.106</td>
<td>0.149</td>
</tr>
<tr>
<td>PEOU_CA_OPI</td>
<td>0.556</td>
<td>0.124</td>
<td>0.516</td>
<td>0.852</td>
</tr>
<tr>
<td>SC_CA_OPI</td>
<td>0.404</td>
<td>0.089</td>
<td>0.376</td>
<td>0.430</td>
</tr>
</tbody>
</table>

### 6. Conclusion

The result shows that perceived usefulness, perceived ease of use and source of credibility have significant impact on online purchase intention and consumer attitude mediate the relationship between independent variables and dependent variable of online purchase intention. It means the all the hypotheses of this research are confirmed.

6.1 Conceptual Implications and Managerial Implications

The present study was derived to address the research gaps which were found in the e-shopping behavior
marketing literature and expanding the current knowledge on online environment while providing more suitable model for today’s online environment, specially considering technology acceptance model. This is one of the pioneering studies in defining and investigating the nature of online purchasing behavior by combining Technology Acceptance Model with construct of Information Adoption Model to assess the influence of information source credibility online purchasing context. Further this research provides support for the contention that consumer attitude performs a mediating role in the link between perceived usefulness, ease of use, source credibility and purchase intention. Moreover, the study examines a category of product of electronics that is generally price sensitive and which is not frequently purchased and this study identified new model that influence on online purchasing behavior of the customer within present context.

From managerial perspective, perceived usefulness, ease of use, and source credibility are very important factors to determine the online purchase intention of consumers within the study context. When consider the cost that incurred to develop the proper e-commerce system it is very much important to make sure that customer will accept the facility to use. In order to achieve this goal, practitioners must give much attention to develop easy-to-use, useful, informative and reliable systems. Thus the study recommended Source Credibility as one of the influential factors that determine the online purchase intention. Hence it is necessary to provide more trustworthy platform in order to attract more potential consumers to purchase products and services through online, especially with regard to high valued electronic products. Therefore e-marketers should pay much attention on making secure online purchasing process especially with reference to the monetary transactions done through online. The study revealed that online shoppers expect a useful and easy-to-use function which lines with previous studies. With respect to usefulness, practitioners are expected to provide more efficient and effective services through designing a user-friendly interface and platform as an example, a search mechanism that can not only provide relevant information but also facilitate product comparison and help users make their best decisions in a most efficient way.

Limitations and Future Directions

This study is only based on Sri Lankan consumers and only focuses on the electronic product category. Exploring other products or services categories and consumers in other countries may offer different insights and findings. Therefore future research could be expanded to test the proposed conceptual model on consumers with different cultural background. It is recommended to conduct a study including the proposed conceptual model on the random sample that would result in greater generalizability of the future study’s findings. This study also focused on existing users. It will be more important to investigate non-users’ perspectives to gain information of how to persuade them into users. The comparison of demographic profiles between users and non-users is also recommended. Future research should also investigate other personality traits such as impulsive and addictive consumptions towards online purchasing behavior as the moderator variables in the study. Further most of the studies have been conducted based on TAM but not IAM model, hence there is significant opportunity to combine constructs of Information adaptation model in future research to examine the influence of information quality impact on purchase intention. As an extension of this study further research could be included investigate impact of eWOM sources such as social media networks, discussion forums or consumer review platforms towards purchasing intention.

References


First Author

Kosala Chulani Koththagoda is an Assistant Lecture attached to the Department of Marketing Management, Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka. She was conferred MBA by the university of Kelaniya, Sri Lanka and obtained her B.Sc (special) degree from the UwaWellassa University, Sri Lanka. She shares her knowledge by conducting lectures in Food and Agricultural Marketing, Marketing Management, Strategic Management subjects, Soft Skills Development and apart from that she is more focus on statistic, specially econometrics and different quantitative analytical tools. She has presented several international research conferences and published in local and international indexed and refereed journals too. Koththagoda’s research interest areas are Destination Marketing, Brand Management, Tourism Economics and Marketing communication. Currently is serving as reviewer of an international journal.

Second Author

Dr. Herath is a Senior Lecturer attached to the Department of Marketing Management, University of Kelaniya where she has been working since 2003. She has obtained her first degree in Business Management specializing Marketing Management with a first class honours and also the gold medal for the highest GPA in the faculty of Commerce and Management Studies. The MBA has been concluded at the Postgraduate Institute of Management with a Merit pass. She has then completed her PhD at the Newcastle University, UK in Supply Chain Management. She is an alumni of Commonwealth scholarships too. Dr. Herath is a member of Winnet Center of Excellence, Poland and International Society of Development and Sustainability in Japan. She is presently serving as a country editor of International Journal of Advances in Management and Economics and editorial member of a few international journals. Further she acts as the chief-editor Sri Lanka Journal of Marketing (SLJM) and an editorial member of Newsletter, University of Kelaniya. She is also the Coordinator of Higher Diploma in Marketing offered by the Department of Marketing Management. She has served in the capacity of a reviewer, secretary and an editorial member for many local and international research conferences. Many research papers have been presented by her at local and international research conferences and published in local and international indexed and refereed journals too. She also works as a research consultant and her research interests lie especially on supply chain management, SMEs and fashion industries.