



# **Journal of Internet Banking and Commerce**

*An open access Internet journal (<http://www.icommercecentral.com>)*

*Journal of Internet Banking and Commerce, August 2016, vol. 21, no. 2*

## **USING TECHNOLOGY ACCEPTANCE MODEL TO STUDY ADOPTION OF ONLINE SHOPPING IN AN EMERGING ECONOMY**

---

**IRFAN BUTT**

**College of Economics & Political Science, Sultan Qaboos University  
Muscat, Oman, Tel: +968 2414 1971;**

*Email: [irfanb@squ.edu.om](mailto:irfanb@squ.edu.om)*

**SADIA TABASSAM**

**Lahore School of Economics Lahore, Pakistan**

**NEELAM GUL CHAUDHRY**

**Lahore School of Economics Lahore, Pakistan**

**KHALDOON NUSAIR**

**College of Economics & Political Science, Sultan Qaboos University,  
Oman**

---

### **Abstract**

Ecommerce has been growing significantly worldwide in terms of volume as well as number of users due to pervasiveness of technology and convenience it provides to consumers. Nonetheless, online shopping is still in infancy in South Asia despite tremendous growth potential with its burgeoning population. The purpose of this research is to examine the behavioral acceptance of consumers towards online

shopping using technology acceptance model (TAM) in a developing country with implications for South Asia. The data was gathered from 340 respondents using online questionnaire. The measurement model was first analyzed in terms of reliability, discriminant validity and convergent validity. Structural equation modeling (SEM) was applied to determine factor loadings and assess various associations among constructs. It was found that trust, perceived usefulness, perceived ease of use and online shopping enjoyment influence attitude as well as customer intention to adopt online shopping. It is imperative to keep in mind that the primary concern of the customers in e-shopping context is trust and perceived ease of use.

**Keywords: Online Shopping, E-Shopping, Technology Acceptance Model (TAM), Trust**

© Irfan Butt, 2016

---

## **INTRODUCTION**

The growing use of the information and communication technology (ICT) has brought tremendous changes in the society. It has completely transformed the mediums of information and brought easy access to various tools. One of its greatest outcomes is the convenience of online shopping. Online shopping can be considered as an exchange of money, time and effort for getting products and services. It has tremendously overshadowed the traditional ways of shopping. A lot of new avenues have opened for easy and comfortable buying. People can purchase products with convenience, as Bhattacharjee [1] articulates there are various choices available for consumers to choose and consumers pick those products which give them maximum utility.

Global retail ecommerce sales were estimated to be \$1.67 trillion in 2015, a growth of 25% from previous year. It is projected to grow to \$3.57 trillion, 12.8% of retail purchases in 2019. Asia-Pacific was the fastest growing region contributing over 50% (\$877.61 billion) of the global retail ecommerce sales in 2015. Ecommerce sales in Asia are expected to grow by 166% to \$2.336 trillion in 2019 [2]. Thus, Asian countries are the main driver behind ecommerce growth and are very lucrative markets for e-retailers. As of November 2015, the number of Internet users in Asia counts 1.6 billion, a penetration of 40% of total population, and greatest number of people in any region of the world. Therefore, Asia represents the biggest share of potential ecommerce consumers.

However, the acceptance of ecommerce is relatively low in many emerging South Asian markets. According to Global Information Technology Report [3] India, Pakistan and Bangladesh are ranked very low in terms of their network readiness, country's ability to take advantage of opportunities related to information and communication technologies. Nonetheless, India, Pakistan and Bangladesh are among the fastest growing

economies and their combined population is in excess of 1.68 billion with 518 million Internet users and rapidly increasing [4]. Therefore, with growing internet penetration, there is tremendous opportunity to expand ecommerce business in these countries.

The current research on e-commerce adoption has been primarily conceptualized and conducted in western developed countries [5]. It has been suggested that implementation of ecommerce in emerging markets cannot be based on western experience [6]. Additionally, research findings about technology acceptance model (TAM) across different cultures point to variations from one culture to another [6,7]. The role of perceived usefulness and perceived ease of use, in the TAM, requires further examination [8]. Yamin and Sinkovics [9] have stated that poor performance of firms in foreign market is related to their inability to understand the complexities of international market. It is, thus, imperative for foreign e-retailers to understand the factors that influence the buying behavior of consumers in international markets.

The objective of this paper is to examine the application of TAM in adoption of online shopping in emerging market of Pakistan while also incorporating variables of trust and shopping enjoyment. The study seeks to answer the following research questions:

1. How prevalent is TAM in influencing consumer intention to purchase online?
2. What is the impact of trust on consumer attitude?
3. Does online shopping enjoyment influence customer attitude towards online shopping?

The rest of the paper is structured as follows: Section 2 provides review of the literature, theoretical background and hypothesis; section 3 explains methodology for conducting the survey; section 4 presents the analysis and results of major hypotheses; section 5 discusses the significant findings. The last section concludes the overall study and provides limitations and future research opportunities.

## **THEORETICAL BACKGROUND AND HYPOTHESIS FORMULATION RESEARCH MODEL**

Davis [10] used the Theory of Reasoned Action (TRA) model from consumer behavior literature to formulate Technology Acceptance Model (TAM). TAM depicts a version of TRA which suggests that the voluntary decision of users about the acceptance of new technology depends upon their logical evaluation of the expected outcomes of that technology. It facilitates in explaining the factors for technology acceptance and it can also help in explaining the behavior of users towards wide variety of technologies including e-commerce [11-15]. Perceived usefulness and perceived ease of use are the main factors involved in the TAM.

### **TAM – PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE**

Davis [10] asserted that perceived usefulness is described as “the degree to which it is

assumed that the acceptance of IT will improve the performance of an individual". Whereas, "the degree to which a person believes that learning and using some new IT requires less or no effort at all" is referred to as perceived ease of use.

TAM suggests that intention to adopt online shopping is a direct function of usage of IT and intention to adopt e-shopping is a function of consumer attitude towards perceived usefulness. Jointly, observed usefulness and ease of use are utilized to determine consumer's attitude towards IT usage. Porter and Donthu [16] stated that there was a significant linkage between perceived usefulness and consumer's attitude. However, the intention to adapt a new technology can also be accredited to the ease of use.

Chang et al. [17] determined that perceived usefulness was a major factor that affected the retention of the people who do online shopping. They also found a positive correlation between perceived usefulness and both the satisfaction of consumers and their trust. Moreover, there is a variety of critical factors that affect the expectation of online shopping usefulness negatively. These factors include: "inconvenient use", "social disturbance" and "unsatisfactory purchase". So it can be inferred that the consumers find online shopping "useful" only when they can buy products easily and without any social hindrance.

Al-Maghrabi and Dennis [18] assert that the individuals compare the actual usefulness with the expected usefulness and this has an impact on the individual's persistent intention to use online networks. If the expected usefulness meets the actual usefulness and the user is content, then the positive intention to buy online is experienced by the consumer. So, the perceived usefulness is a strong determinant of the intention to adopt TAM and hence ecommerce [19]. In other words, if the online shopping experience of customers meets their expectations, they would have positive perception for its usefulness and this would ultimately have a positive impact on the attitude towards online shopping.

While examining the effect of perceived ease of use on the consumer's intention to adopt e-shopping, Monsuwe et al. [20] found that there was both the direct and indirect effect of ease of use on the intention of the consumers to purchase online. They stated that ease consumers face in online shopping had an influence on usefulness which in turn had a positive association with the consumer's intention to shop online. This indicates an indirect association between intention to adopt and ease of use. Hence, the easier and effortless a new technology will be, more likely the consumers will intend to utilize that technology. Furthermore, it is also observed that the ease of use is the most significant and powerful factor in the initial phase of online shopping experience [20]. Therefore, we expect a significant and positive association between the degree of perceived usefulness, perceived ease of use and the consumer's attitude. We have also hypothesized the influence of website quality and customer service on the perceived ease of use.

H1: Website quality is positively related to perceived ease of use.

H2: Customer service is positively related to perceived ease of use.

H3: There is a positive association between perceived ease of use and consumer's attitude.

H4: Perceived usefulness has a positive association with consumer's attitude.

## **TAM AND TRUST**

Trust is a key factor in buyer-seller relationships because it reduces the element of risk [21]. Trust is a conviction that both parties will behave accordingly while exhibiting proficiency, integrity, and benevolence. However, Yang et al. [22] state that the quality of website and a better design enrich the trust of consumer and if consumers observe that the seller's website has extraordinary features then they would have complete trust on seller. Trust plays a vital role in various business relationships. It also determines the nature and the social order of many businesses. There is an absence of verified guarantees that the electronic vendor will not involve in any sort of harmful immoral behaviors, so trust is a critical factor in electronic commerce [21].

There is diversity in conceptualization of trust in the literature and this is also apparent in the context of electronic commerce. Bart et al. [23] assert that the trust is viewed as a necessary condition for relationship building in the field of marketing. However, security and privacy issues have a negative impact on the trust-building. Gefen et al. [24] proclaim that the trust increases the intention to purchase both directly and indirectly. So, a person won't shop online if there is a lack of trust. Gefen et al. [24] presented an integrated model of trust and TAM and concluded that trust is a significant factor in determining consumer's intention to purchase online. Moreover, Chen and Lan [25] claim that the perceived usefulness only exists for those online retailers upon whom consumers have trust. However, earlier research also specifies that the trust is the driving force for perceived usefulness [26].

Nepomuceno et al. [27] state that trust decreases complexity of information and also reduces the perceived risk related to the online shopping. Another study conducted on electronic shopping states that trust plays a significant role in increasing the preference of online shopping [28]. Therefore, we also hypothesize trust is related to attitude and that the attitude of consumers has a direct and significant relationship with their intention to do online shopping.

H<sub>5</sub>: Trust is positively related to consumer attitude.

H<sub>6</sub>: Attitude is positively related to intention to purchase online.

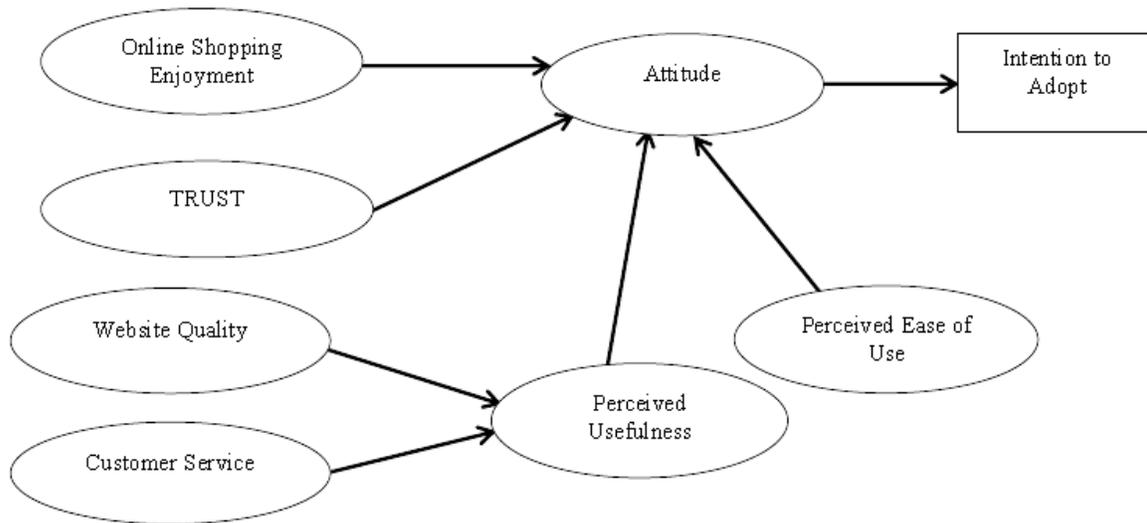
## **ONLINE SHOPPING ENJOYMENT**

Thousands of e-retailers are providing similar services to the people, so retaining the

existing consumer is fairly challenging. The retention of the existing consumers by providing a high quality and enjoyable website has been researched by academics. Mosteller et al. [29] asserted that intention to adopt online shopping was affected by enjoyment in the website. Several studies show that the enjoyment has a substantial effect on behavior of consumer, for instance, growing consumer’s intention to repurchase through online shopping [23,30]. Also, Akhlaq and Ahmed [31] found that the enjoyment had a positive connection with the usage of web, especially for the sake of entertainment. Thus, the attitude towards online shopping can be predicted by the enjoyment, just as much as it can be predicted by the usefulness. Therefore, we hypothesize:

H7: Online shopping enjoyment is positively related to attitude.

The conceptual framework, depicted in Figure 1, developed after extensive review of the literature, integrates all the variables hypothesized above.



**Figure 1:** Conceptual Frame Work for the TAM Model.

**METHOD**

The aim of the current study is to explore the influence of TAM on online shopping adoption. This research also examines how trust and online shopping enjoyment influence attitude towards adoption of online shopping in a developing economy. The data for this study was collected through a questionnaire designed in the form of an online survey. The questionnaire was aimed to find consumer perception about the different variables of the TAM model and to evaluate the relationships that exist between them. Prior research has exhibited that college students [32] are more likely to use the Internet than the older people and they are more inclined to adopt online shopping. Therefore, this study was restricted to young adults, mainly college students

with the age bracket of 18-35 years [33].

**DEVELOPMENT OF MEASURES**

The constructs relevant to online shopping adoption were identified through extensive literature review. A listing of validated measures was prepared based on published studies. However, the previous studies were primarily conducted in western countries and in a different cultural setting. It was, therefore, important to ensure the existence of measurement equivalence and reduce invariance. Thus qualitative research was conducted with three focus groups comprising respondents from target market of 18-35 years, and three in-depth interviews with retailers of departmental stores. The main objective of qualitative research was to see if measures identified through literature should be adapted and whether any new measures should be added to existing constructs. The qualitative research confirmed the clarity of existing measures though it was noticed that language should be adjusted in some instances to improve understanding. Also, some new questions (measures) were introduced to existing constructs based on qualitative research. For example, a question about existence of Pakistani websites was added to awareness construct; a question about credit card supplemented transaction risk (trust construct); and two additional measures (a. I will shop online although I won't be able to feel or try the product, b. For me, online shopping experience outweighs the fun of shopping with friends and family) augmented shopping experience construct.

The final questionnaire, constituted of eight parts: 1) Trust, 2) Website Quality, 3) Customer Service, 4) Perceived usefulness and perceived ease of use (TAM variables), 5) Online Shopping Enjoyment, 6) Attitude, 7) Intention to adopt online shopping, and 8) Demographics: age, gender, income, access to credit card. The items of variables, based on literature and adapted for Pakistani market, were measured using five-point Likert scale. The list of all the constructs, number of total items used to measure that construct and item source are given in Table 1.

**PRETEST**

A pretest was conducted prior to the actual study. The instrument was pretested with 10 respondents to assess the psychometric properties of the scale. It also helped in establishing the effectiveness of the questionnaire and in determining the limitations of the study. Some weaknesses were identified in the questionnaire where respondents struggled to understand the wording of questions. Consequently, appropriate amendments were made in order to make the questionnaire more intelligible. The pretest also facilitated in analyzing the time taken by the respondents on average to complete the survey.

**Table 1:** Number of Items and Item Source for Each Variable.

Variable	Items	Source
----------	-------	--------

Trust	10	[17,34]
Website Quality	3	[35]
Customer Service	4	[36]
Perceived usefulness & Ease of Use	8	[37,38]
Online Shopping Enjoyment	5	[34,39]
Attitude	7	[40,46]
Intention to adopt online shopping	3	[36]

**SAMPLE SELECTION AND DATA COLLECTION**

The unit of analysis in this study was the individuals who were Internet users. The target respondents of this study were mainly students of various universities in Lahore, Pakistan. Student sample was opted for this research due to the reason that online customers are usually young and highly educated people, making them a better representative of population of online customers. Each potential respondent was emailed the URL of the questionnaire survey. A total of 751 responses were received. Out of those 751 responses only 340 were found to be complete and usable for data analysis.

**DATA ANALYSIS AND RESULTS**

Structural equation modelling (SEM) using AMOS was conducted to validate the measures and test the hypotheses. The analysis of empirical data was conducted in two stages: Firstly, we tested our model by subjecting measures of the constructs to a sequence of Confirmatory Factor Analysis (CFA). Secondly, we made a structural model to test the relationship specified in hypotheses.

**RESPONDENT CHARACTERISTICS**

A large majority, 80% (272 out of 340), of the total respondents belonged to youngest age bracket (18-23). Most of the respondents, 255 out of 340 (75%), were students. However, the female to male ratio was approximately 44% to 56%. Majority of the respondents (80%) had access to credit card. Furthermore, 79.41% of the total respondents were oblivious of any Pakistani e-shopping websites. This showed that the marketing strategies employed by the online retailers were not very effective.

**CONFIRMATORY FACTOR ANALYSIS (CFA)**

The measurement model was first analyzed in terms of reliability, discriminant validity

and convergent validity. Table 2 represents the standardized regression weights (factor loadings) of each item of the construct and also the Average Variance Extracted (AVE). Most of the items in the model displayed factor loadings in the range of 0.70 to 0.90. So, they were considered acceptable for the further analysis. The items with factor loading of less than 0.5 were dropped for the further analysis.

**Table 2: CFA Factor Loadings.**

<b>Construct/Measures</b>	<b>Loading</b>	<b>AVE</b>
<b>Trust</b>		<b>0.660</b>
Secure retail websites in Pakistan	0.84	
Law protects Online shoppers in Pakistan	0.78	
Consumer privacy respected in Pakistan	0.86	
Online sales transactions can be handled in Pakistan	0.82	
Commercial transactions can be easily completed in Pakistan	0.88	
Risky to shop online in Pakistan	0.83	
Consumers' personal data is disclosed in Pakistan	0.72	
Sufficient expertise and resources in Pakistan	0.75	
Will use credit for website in Pakistan	0.77	
Will trust website in Pakistan	0.86	
<b>Attitude</b>		<b>0.647</b>
Online shopping is appealing	0.73	
Online shopping is essential	0.84	
I have a positive opinion of online shopping	0.86	
I would buy online rather than going to a store	0.82	
Online shopping more convenient than regular shopping	0.77	
I will shop online despite not being able to feel the product	0.75	
Online shopping is convenient and easy to use	0.85	
<b>Perceived Usefulness (PU)</b>		<b>0.712</b>
Traditional shopping is too tiring	0.81	
Online shopping saves time	0.92	
Getting to where I shop is a hassle	0.79	
Distance from home to store is an important factor	0.85	
<b>Perceived Ease Of Use (PEOU)</b>		<b>0.694</b>
Online shopping provides sufficient product info	0.81	
Online shopping allows me to order products easily	0.88	
I can easily compare products in online shopping	0.79	
Online shopping provides more options/choices	0.85	
<b>Customer Service (CS)</b>		<b>0.657</b>
Online shopping provides on-time delivery	0.81	
Online shopping provides customer -support	0.85	
Online shopping provides refund policy	0.76	
Online shopping provides product guarantees	0.82	

<b>Web Quality (WQ)</b>		<b>0.685</b>
Easy to use	0.86	
Listing of products in clearly defined categories	0.78	
Location of info with a few clicks	0.84	
<b>Online Shopping Enjoyment (OSE)</b>		<b>0.671</b>
While shopping online, I feel the excitement of the hunt	0.83	
Online shopping is a leisure activity	0.89	
Online shopping is better than shopping with friends/family	0.73	
I don't like spending a lot of time window shopping (reverse coded)	0.87	
Going out to shop is a hassle (reverse coded)	0.79	

Table 3 reports the goodness-of-fit measures. After dropping items with loading less than 0.5, the CFA exhibited good model fit. The Chi-square value came out to be of 1398.1 with 601 degrees of freedom. It also exhibited that the GFI value=0.86, CFI=0.88, TLI=0.89 and RMSEA=0.053. All the values indicate that they have exceeded the cut-off points.

**Table 3:** Goodness-of-Fit Measures of CFA.

<b>CFA (Goodness-of-fit measure)</b>	<b>Acceptable Range</b>	<b>Value</b>
Chi-square CMIN	NA	1198.1
Degree of freedom	NA	601
CMIN/DF	Chi-square/df ≤5	2.5
P value		0.000
Goodness-of-fit(GFI)	> 0.90	0.86
Comparative Fit Index(CFI)	> 0.90	0.88
Root Mean Square Error Of Approximate(RMSEA)	< 0.08	0.053
Tucker Lewis Coefficient (TLI)	≥ 0.90	0.89

**VALIDITY**

The convergent validity of the scale was assessed using two criteria's proposed by Fornell and Larcker [41]. First, the factor loadings of all the items should be substantial and the second the average variance extracted (AVE) should exceed the threshold of 0.50. So, the AVE was calculated one by one for each constructs. The result showed that the AVE values for all the constructs in the model were greater than the threshold of 0.50 and the factor loading (Table 2) are substantial (0.70-0.90).

Table 4 represents the discriminant validity of all the measurements of the constructs in the model. The present study displays that the condition of the discriminant validity is

satisfied by all the constructs in the model based on the criteria suggested by Fornell and Larcker [41]. The comparison is done with the square root of AVE and the correlation of each construct with other constructs in the model. Table 4 makes it quite apparent that discriminant validity exists for all the constructs because the diagonal values are higher than the off-diagonal values.

**Table 4:** Discriminant Validity.

	<b>Trust</b>	<b>PU</b>	<b>PEOU</b>	<b>CS</b>	<b>WQ</b>	<b>OSE</b>	<b>Attitude</b>
<b>Trust</b>	<b>0.812</b>						
<b>PU</b>	0.185	<b>0.844</b>					
<b>PEOU</b>	0.187	0.654	<b>0.833</b>				
<b>CS</b>	0.183	0.529	0.593	<b>0.811</b>			
<b>WQ</b>	0.041	0.184	0.396	0.247	<b>0.828</b>		
<b>OSE</b>	0.202	0.542	0.448	0.289	0.014	<b>0.819</b>	
<b>Attitude</b>	0.372	0.725	0.804	0.552	0.396	0.621	<b>0.804</b>

Note: Diagonal values are square root of AVE and the off-diagonal values are correlation among constructs. PU=Perceived Usefulness, PEOU=Perceived ease of use, WQ=Website quality CS=Customer service, OSE=Online Shopping Experience

**RELIABILITY**

The construct reliability is known as the internal consistency of the model. The construct reliability measures the degree to which items of the constructs have no random error and they produce consistent results. The internal consistency in the current study was assessed through Cronbach’s alpha. The results of Cronbach’s alpha are displayed in Table 5. It’s evident from the results that alpha values of all the constructs exceeded the threshold level i.e. 0.70 [42]. With the lowest being perceived usefulness at 0.820. All the other alpha coefficients were quite appropriate. Thus, the results depict the acceptable evidence of reliability and it also depicts that the internal consistency exist among the items of measurement.

**STRUCTURAL EQUATION MODELING**

Structural Equation Modeling was then used to test the specified hypothesis as the purpose of the current study is to test the relationships between the constructs. This model has both latent and observed variables. The observed variable in this model is only “intention to adopt”. The model fit summary is shown in Table 6. From Table 6, we can depict that the model fit was quite good as Bentler [43] asserted that CFI and TLI greater than 0.9; indicates a good model fit.

**Table 5:** Cronbach’s Alpha.

Construct	Cronbach's Alpha
Trust	0.889
Attitude	0.878
Perceived Usefulness	0.820
Perceived Ease of Use	0.877
Customer Service	0.849
Website Quality	0.847
Online Shopping Enjoyment	0.867

**Table 6:** Model Fit Summary.

Goodness-of-Fit Measure	Value
Chi-square CMIN	1321.2
Degree of freedom	645
CMIN/DF	2.6
P value	0.000
Goodness-of-fit(GFI)	0.87
Comparative Fit Index(CFI)	0.90
Root Mean Square Error Of Approximate (RMSEA)	0.064
Tucker Lewis Coefficient (TLI)	0.89

The results of the structural equation modeling are shown in the Table 7. It represents the paths, path co-efficient and also their significance. It is quite apparent from the Table 7 that all the specified hypotheses are supported. The results depicts that there is a positive and significant linkage between perceived ease of use and website quality ( $\beta=0.276$ ). Also, there is a substantial linkage between customer service and perceived ease of use ( $\beta=0.602$ ). So, it means that perceived ease of use is influenced by both website quality and customer service. These factors explained 38% variance in perceived ease of use. Hence, (H<sub>1</sub>) and (H<sub>2</sub>) are supported.

## DISCUSSION

The primary objective of the study was to investigate the application of TAM model for online shopping in developing countries. It also examined impact of trust on consumer attitude and explored influence of online shopping enjoyment on customer attitude towards online shopping.

**Table 7:** Hypothesis Test Results - Standard Regression Weights.

Paths	Path Coefficient ( $\beta$ )	P-Value	Findings
-------	------------------------------	---------	----------

<b>H<sub>1</sub></b>	PEOU ← WQ	0.276	***	Supported
<b>H<sub>2</sub></b>	PEOU ← CS	0.602	***	Supported
<b>H<sub>3</sub></b>	Attitude ← PEOU	0.774	***	Supported
<b>H<sub>4</sub></b>	Attitude ← PU	0.227	***	Supported
<b>H<sub>5</sub></b>	Attitude ← Trust	0.280	***	Supported
<b>H<sub>7</sub></b>	pak_10 ← Attitude	0.301	***	Supported
<b>H<sub>7</sub></b>	Attitude ← OSE	0.324	***	Supported

Likewise, Attitude is significantly influenced by perceived ease of use ( $\beta=0.774$ ), trust ( $\beta=0.280$ ), perceived usefulness ( $\beta=0.227$ ), and online shopping experience ( $\beta=0.324$ ). Hence, (H<sub>4</sub>), (H<sub>5</sub>), (H<sub>6</sub>) and (H<sub>7</sub>) are supported. The major hypothesis is the linkage between intention to adopt online shopping and consumer attitude (H<sub>3</sub>). The result shows that there exists a significant link between intention to purchase online and consumer attitude ( $\beta=0.301$ ).

Structural Equation Model (SEM) was conducted and the results revealed that ease of use, perceived usefulness, e-shopping enjoyment and trust had positive and significant impact on attitude. In the earlier studies of TAM conducted by Childers et al. [44] and Davis et al. [45] the perceived usefulness and perceived ease of use were determined to be the most important factors in the adoption of technology whereas enjoyment, trust and other factors were the subordinate factors. However, the results of this study differ a little. In the current study perceived ease of use and trust has more impact on consumer’s attitude or intention than the perceived usefulness.

The overall outcome of the study suggests that trust and ease of use are the key factors that affect consumer’s attitude and subsequently intention to adopt online shopping. In a developing country like Pakistan, perceived ease of use has more substantial influence on the attitude of the consumer, in terms of online shopping, as compared to perceived usefulness. The findings of the current study support all the hypotheses.

Furthermore, Davis et al. [45] found a positive and significant association between trust and attitude towards online shopping. However the results of the current study, display a much stronger effect. This is due to the fact that people of a developing country lack trust on the online retailers. There is a lack of adequate privacy and security controls in developing countries. Pavlou [26] and Gefen et al. [24] assert if an online producer can’t be trusted from the consumer prospective, then it leads to customer dissatisfaction and subsequent lack of value from using such website interface. Ashraf et al. affirm that the deficiency of trust will avert consumers from doing online shopping. Thus, trust is an essential factor to attain positive attitude of consumers [46,47].

Conversely, ease of use and attitude towards shopping also have a highly significant and positive relationship as found by Akhlaq and Ahmed [31]. People of developing countries are not as much familiar with online medium. Thus, online shopping should be easy so that it reduced complexities and online transactions become effortless for them.

Furthermore, a positive and significant association exists between usefulness and attitude towards shopping. Burke [48] stated that the perceived usefulness was the prime requirement for the technology acceptance by the mass market. Chung and Tan [49] found a positive association between enjoyment and perceived usefulness. It also suggests that a useful website, that has several characteristics related to marketing and information, can generate a better experience for the people at online stores. People will use such website and will recommend it to others as well.

If consumers trust their online retailers and have a perception that e-shopping is useful, then they will eventually concur that purchasing products online is also valuable. Moreover, behavioral intentions of consumers about e-purchasing are fundamentally built on rational evaluation i.e. how they can increase their purchasing performance. When the IT usage is beneficial to consumers, they will automatically commence continued purchases [1].

## **CONCLUSION**

The current study is inspired by a prior research that had vast difference in adoption of online shopping experiences between developed and developing countries. In order to examine various relationships among construct, an in-depth study was undertaken about the consumers' intention to shop online in a developing country. This study, using Structural Equation Model (SEM), is conducted to explore the relevance of using the technology acceptance model. It employs a two-part framework, which integrates belief factors such as trust and online shopping experience, in addition to constructs of TAM – perceived usefulness and perceived ease of use. Firstly, trust and online shopping experience come out as the significant factors in the decision making process of consumers of developing countries. Secondly, perceived usefulness and perceived ease of use have a substantial influence on the attitude of consumers towards e-shopping. And the attitude of consumers further affects their intention to adopt e-shopping.

## **LIMITATIONS AND FUTURE RESEARCH**

The study uses convenience sampling, primarily comprised of university students, which limits the generalization of the findings. Future studies could also use different product categories to see whether the intention to adopt e-shopping varies with dissimilar product categories. Also, the behavior of those consumers who do online search for products yet go to purchase the same products from traditional stores can be examined too. This sector of consumer's market could be utilized to further examine the impact of trust on the attitude of consumers towards online shopping. For consumers of a developing country like Pakistan, traditional shopping is perceived to be an enjoyable task as it constitutes an experience of going out with friends and family. Thus, traditional shopping experience could act as a barrier to adoption of online shopping. Future studies in developing countries should explore this variable and incorporate it in empirical studies.

## REFERENCES

1. Bhattacharjee A (2001) Understanding Information Systems Continuance: An Expectation-Confirmation Model. *MIS Quarterly* 25: 351-370.
2. eMarketer (2015) Worldwide Retail Ecommerce Sales: Emarketer's Updated Estimates and Forecast through 2019, URL: [www.emarketer.com](http://www.emarketer.com), accessed on May 15, 2016
3. Dutta S, Geiger T, Lanvin B (2015) The Global Information Technology Report. World Economic Forum, Geneva.
4. Internet Users by Country (2016) URL: <http://www.internetlivestats.com/internet-users-by-country/>, accessed on June 25, 2016
5. Ashraf AR, Thongpapanl N, Razzaque M (2015) Adoption of Online Shopping: A Technology Acceptance Perspective. In *Ideas in Marketing: Finding the New and Polishing the Old*. Springer International Publishing 826-826.
6. Calantone RJ, Griffith DA, Yalcinkaya G (2006) An Empirical Examination of a Technology Adoption Model for the Context of China. *Journal of International Marketing* 14: 1-27.
7. McCoy S, Galletta DF, King WR (2007) Applying TAM across Cultures: The Need for Caution. *European Journal of Information Systems* 16: 81-90.
8. Wu J, Lu X (2013) Effects of Extrinsic and Intrinsic Motivators on Using Utilitarian, Hedonic, and Dual-Purposed Information Systems: A Meta-Analysis. *Journal of the Association for Information Systems* 14: 153-91.
9. Yamin M., Sinkovics RR (2006) Online Internationalisation, Psychic Distance Reduction and the Virtuality Trap. *International Business Review* 15: 339-360.
10. Davis FD (1989) Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly* 13: 319-340.
11. Kim J, Forsythe, S (2008) Adoption of virtual try-on technology for online apparel shopping. *Journal of Interactive Marketing* 22: 45-59.
12. Celik H (2010) Influence of social norms, perceived playfulness and online shopping anxiety on customers' adoption of online retail shopping. *International Journal of Retail & Distribution Management* 39: 390-413.
13. Hernandez B, Jimenez J, Martin MJ (2010) Age, gender and income: Do they really moderate online shopping behaviour? *Online Information Review* 35: 113-133.
14. Tong X (2010) A cross-national investigation of an extended technology

- acceptance model in the online shopping context. *International Journal of Retail & Distribution Management* 38: 742-759.
15. Lim WM, Ting, DH (2012) E-shopping: An analysis of the technology acceptance model. *Modern Applied Science* 6: 49-62.
  16. Porter CE, Donthu N (2006) Using the technology acceptance model to explain how attitudes determine Internet usage: The role of perceived access barriers and demographics. *Journal of business research* 59: 999-1007.
  17. Cheung CM, Lee MK (2001) Trust in internet shopping: instrumental development and validation through classical and modern approaches. *Advanced topics in global information management* 1: 25-41.
  18. Al-Maghrabi T, Dennis C (2011) What drives consumers' continuance intention to e-shopping? Conceptual framework and managerial implications in the case of Saudi Arabia. *International Journal of Retail & Distribution Management* 39: 899-926.
  19. Premkumar G, Bhattacharjee A (2008) Explaining information technology usage: A test of competing models. *Omega* 36: 64-75.
  20. Monsuwé TP, Dellaert BC, Ruyter K (2004) What Drives Consumers to Shop Online? A Literature Review. *International Journal of Service Industry Management* 15: 102-121.
  21. Walugembe A, Mubiru P, Sserwanga A, Ngoma M (2015) The relationship between customer awareness and trust in e-shopping acceptance. *Journal of Educational Policy and Entrepreneurial Research* 2: 35-43.
  22. Yang K, Li X, Kim H, Kim YH (2015) Social shopping website quality attributes increasing consumer participation, positive eWOM, and co-shopping: The reciprocating role of participation. *Journal of Retailing and Consumer Services* 24: 1-9.
  23. Bart IY, Shankar V, Sultan F, Urban GL (2005) Are the Drivers and Role of Online Trust the Same for All Web Sites and Consumers? A Large Scale Exploratory Empirical Study. *Journal of Marketing* 69: 133-52.
  24. Gefen D, Karahanna E, Straub DW (2003) Trust and TAM in online shopping: An integrated model. *MIS Quarterly* 27: 51-90.
  25. Chen YF, Lan YC (2014) An empirical study of the factors affecting mobile shopping in Taiwan. *International Journal of Technology and Human Interaction* 10: 19-30.
  26. Pavlou P (2003) Consumer acceptance of electronic commerce: Integrating trust

- and risk with the technology acceptance model. *International Journal of Electronic Commerce*. 7: 101-134.
27. Nepomuceno MV, Laroche M, Richard MO (2014) How to reduce perceived risk when buying online: The interactions between intangibility, product knowledge, brand familiarity, privacy and security concerns. *Journal of Retailing and Consumer Services* 21: 619-629.
  28. Dennis C, Merrilees B, Jayawardhena C, Wright LT (2009) E-Consumer Behavior. *European Journal of Marketing* 43: 1121-1139.
  29. Mosteller J, Donthu N, Eroglu S (2014) The fluent online shopping experience. *Journal of Business Research* 67: 2486-2493.
  30. Chiu CM, Chang CC, Cheng HL, Fang YH (2009) Determinants of customer repurchase intention in online shopping. *Online Information Review* 33: 761-784.
  31. Akhlaq A, Ahmed E (2014) Online shopping A Global Perspective .*Journal of Basic and Applied Scientific* 4: 153-160.
  32. Chaparro-Peláez J, Agudo-Peregrina ÁF, Pascual-Miguel FJ (2016) Conjoint analysis of drivers and inhibitors of e-commerce adoption. *Journal of Business Research* 69: 1277-1282.
  33. Alam SS, Bakar Z, Ismail, HB, Ahsan MN (2008) Young consumers online shopping: an empirical study. *Journal of Internet Business* 5: 81-98.
  34. Delafrooz N, Paim L, Khatibi A (2009) Developing an instrument for measurement of attitude toward online shopping. *European Journal of Social Sciences* 7: 166-77.
  35. McKinney V, Yoon K, Zaheda FM (2002) Detailed Record Title: The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach. *Information Systems Research* 13: 296-315.
  36. Limayem M, Khalifa M, Frini A. (2000) What makes consumers buy from internet? A longitudinal study of online shopping. *IEEE Transactions on Systems, man and Cybernetics – Part A: Systems and Humans* 30: 421-432.
  37. Cao X, Xu Z, Douma F (2012) The interactions between e-shopping and traditional in-store shopping: an application of structural equations model. *Transportation* 39: 957-974.
  38. Hartono E, Holsapple CW, Kim KY, Na KS, Simpson JT (2014) Measuring perceived security in B2C electronic commerce website usage: A respecification and validation. *Decision Support Systems* 62: 11-21.

39. Sim L, Koi S (2002) Singapore's internet shoppers and their impact on traditional shopping patterns. *Journal of retailing and consumer services* 9: 115-24.
40. Lim Y, Yap C, Lee T (2011) Intention to shop online: A study of Malaysian baby boomers. *African Journal of Business Management* 5: 1711-1717.
41. Fornell C, Larcker DF (1981) Evaluating structural equation models with unobservable and measurement error. *Journal of Marketing Research* 18: 39-50.
42. Nunnally JC, Bernstein IH (1994) *Psychometric Theory* (3rd edn) New York: McGraw-Hill.
43. Bentler PM (1989) *EQS Structural Equations Program Manual*. BMDP Statistical Software, Los Angeles.
44. Childers T, Carr C, Peck J, Carson S (2001) Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing* 77: 511-535.
45. Davis FD, Bagozzi RP, Warshaw PR (1989) User acceptance of computer technology: a comparison of two theoretical models. *Journal of Management Science* 35: 982-1003.
46. Ha S, Stoel L (2008) Consumer E-shopping Acceptance: Antecedents in a Technology Acceptance Model. *Journal of Business Research* 62: 565-571.
47. Ashraf AR, Thongpapanl N, Auh S (2014) The Application of the Technology Acceptance Model Under Different Cultural Contexts: The Case of Online Shopping Adoption. *Journal of International Marketing* 22: 68-93.
48. Burke RR (1997) Do you see what I see? The future of virtual shopping. *Journal of the Academy of Marketing Science* 25: 352-360.
49. Chung J, Tan FB (2004) Antecedents of perceived playfulness: an exploratory study on user acceptance of general information-searching websites. *Information & Management* 41: 869-881.