PalArch's Journal of Archaeology of Egypt / Egyptology

ANALYZING THE FACTORS UNLOCKING MOBILE COMMERCE ADOPTION AMONG WOMEN

Syed Habib ur Rahman[1], *Asim Rafiq*[2]

[1]Institute of Business & Health Management, Dow University of Health Sciences, Karachi,

[2]Assistant Professor, Hamdard University, Karachi, Pakistan

Syed Habib Ur Rahman, Asim Rafiq Analyzing The Factors Unlocking Mobile Commerce Adoption Among Women-- Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(4), 5776-5786. ISSN 1567-214x

Keywords: Mobile Commerce, Tam, Perceived Risk, Perceived Cost, Ict Adoption Process, Behavioural Intention

ABSTRACT

The objective of this study is to explore the factors that influence the adoption of mobile commerce by female users in Karachi. Systematic sampling is used and data collected through the questionnaire using seven Likert scaled. Three twenty-seven females took part in filling the survey questionnaire. Chronbach's alpha is used to measure the reliability of the instrument. The result shows that Perceived Risk has a negative impact on females' intentions to adopt mobile commerce. Whereas, perceived cost, perceived usefulness, and perceived ease have positive influence to adopt mobile commerce by female users and they have no issue in understanding it. Findings suggest that researchers can do cross-cultural studies with the same variables and they could also use the sustainability mix model after incorporating it with the same variables to identify the behavior.

INTRODUCTION

Mobile commerce (M-Commerce), this concept was initiated in 1997 by (Keving Duffey, M-Commerce is defined as direct and indirect transactions taken place with having a monetary value and people can perform that transaction connecting through wireless devices. M-commerce is an extension of traditional business, used only because of its convenience, usability and that further leads towards economic benefits. Recently, consumers spend too much time on their smartphones. The affirm usage of M-Commerce started recently (Crowe, Rysman, & Stavins, 2012; Shirazi & Iqbal, 2017). Mobile commerce usage would involve different categories, like, M-Commerce Retail, M-Commerce applications and for searching (Du & Li, 2019). Many customers use M-payment as a means of payment because its excitement varies from the methods of conventional payments. For e.g. Personalization,

the flexibility of usage, and distribution (Wasiq, 2016). M-Commerce has widely been used for different applications in which, Mobile ticketing, Mobile ATM, Mobile content, Mobile information, Money transfer, and specifically in banking (Wasiq, 2016). M-Commerce is redefining Entrepreneurship, Marketing, and Innovation. Consider the example of Chinese brand "Ali Baba", that after the evolution in China through that brand now 80 percent of villagers are connected to the international markets and 600 million people's life's get changed. Furthermore, perceptive mobile customers tend to increase by 125 million mobile subscribers in 2015 (Rind, M. M., et al., 2017).

In Pakistan M-Commerce is an evolving phenomena and users has started transactions through mobile phones (E-Payments) through different applications provided and installed in Mobiles or Smart phones. In those applications, the widely used are banking applications and you should have a bank account to get open to M-Commerce. Thus, the role of M-Commerce is evolving and increasing, which shows that people, devices and software's are not properly working to maximize the usage of M-Commerce. Particularly, awareness of product usage, easiness, the connection between the services and network providers, and security of the account, these are the basis for not getting maximum output from M-Commerce (Kale & Mente, 2018).

According to Past researches it is easier for a male to tap the technology rather than a female (Agren & Barbutiu, 2018). When it comes to developing countries like Pakistan, it is a big challenge to enhance literacy, there are only 43 percent of people in Pakistan effectively using the internet, of which, 21 percent are male and 12 percent are female. Generally, female in Pakistan is contributing a lot in terms of running home but a significant image because of cultural barriers cannot be seen. The women from developed cities of Pakistan are more dynamic and pertaining to working experiences, but are those females aware of M-Commerce? Do they have an easy understanding of using M-Commerce, and to start trading? Hence, the primary goal of this research is to know which factor has more impact among female users when adopting M-Commerce.

Therefore, this study includes four independent variables to identify that how behavioral intention leads to the adoption process of consumers and how collateral those independent variables are with the dependent variable (Behavioral Intention of Female M-Commerce usage). The independent variables include in his study are, Perceived Risk, Perceived cost, perceived usefulness and perceived ease of use .

Furthermore, no previous study has been conducted to cover the factor affecting m-commerce using particular gender data such as females. So, this becomes the motivation for this study to explore these factors using the data from the women.

LITERATURE REVIEW

To understand the behavior of the people towards acceptance of technology, many researchers did establish models and Theoretical frameworks through which they did explain the role of different factors in building understanding.

This section is about establishing those concepts with the help of a literature review for explaining the role of independent & dependent variable.

Perceived Risk & Behavioral Intention

Risk means that you are uncertain about the investment you are going to do. The term Perceived risk was coined by Bauer in 1960, in which he claimed that consumer purchases are sometimes insignificant to assume and predict (Maziriri & Chuchu, 2017).

Many previous studies found an inverse relationship between Perceived risk & behavioral intention. This inverse relationship is a barrier to M-Commerce. Furthermore, it is also claimed that it negatively affects the shopping behavioral Intention on the Internet to adopt E-commerce, Perceived risk negatively influences customer attitude and intention to purchase (Park, Lee, and Ahn, 2004). In comparison, mobile purchases are rising but are viewed as risky and have a negative effect on the purpose of using m-commerce. The results showed that a lack of knowledge of m-commerce reduces the behavioral intent to use (Chang, Sun, Pan, & Wang, 2015).

Perceived risk determines buying intent by taking into account the privacy and trust factors. As noted earlier, the perceived risk's adverse consequence on individuals with behavioral intent is due to several factors. One of these explanations is protection and the other is privacy.

Most individuals become neutral to test the system if knowledge of the system is Inadequate (Ramaraj & Subramaniam, 2016; Snoj, Pisnik Korda, & Mumel, 2004). Consequently, the higher the perceived risk the less successful a transaction would be. Therefore, from the above discussion, we can infer that perceived risk has a negative impact on the decision to buy online.

Amirtha, R., Sivakumar, V. J., & Hwang, Y. (2021) the link between behavioral intention and perceived risk in the context of the family life cycle in e-shopping. Likewise, Jain, S. (2021) conducted a similar study related to luxury goods but in the context of emerging markets. Parry, M. E., Sarma, S., & Yang, X. (2021) did the same but the link was explored between perceived risk and switching intention.

Perceived Ease Of Use & Behavioral Intention

Perceived ease of use promotes positive the expected application of behavior (Davis, Fred D., Ricard Bagozzi, 1989). Ease of use is also reported to stimulate the behavioral intention to use mobile banking. This implies that online transaction processes need to be fast, quick, and simpler for customers (Jeong & Yoon, 2013).

Furthermore, Perceived ease of use on mobile internet services has a strong positive influence. Mobile users commonly believe that acquiring the skills to use mobile data services is a user-friendly and learning experience. Perceived ease of use enhances the mobile user’s interest and consequently, it promotes

behavioral intention to use the technology (Faziharudean & Li-ly, 2011). Referring to past studies, it is also mentioned that Perceived Usability is a prominent element in adopting new technologies. Perceived ease of use will have easy navigation, accessible anywhere and anytime qualities to capture customers (Susanto & Aljoza, 2015).

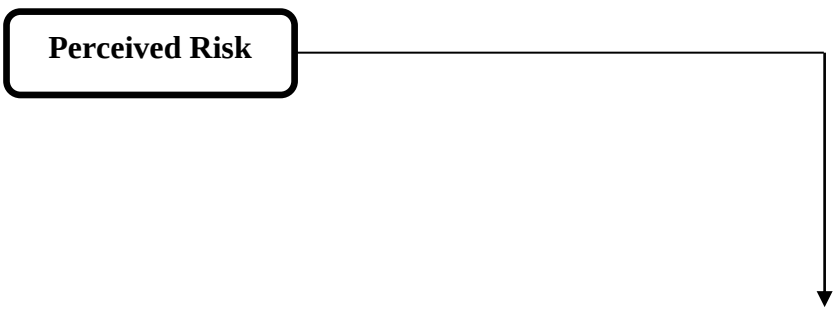
Perceived Cost & Behavioral Intention

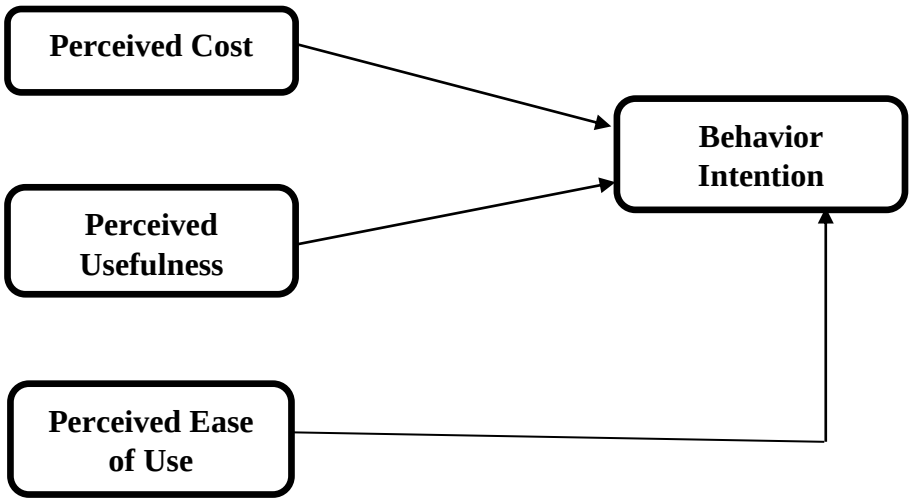
Perceived cost for M-Commerce is defined as "overall cost impacted from the product (Smartphone) purchase till expense for the usage of internet package". Due to this many researchers concluded that it indirectly influences the behavioral intention to use mobile banking (Abu-Salim, Onyia, Harrison, & Lindsay, 2017). In contrast to past studies, these unusual findings signal that the drivers of m-banking broadly vary across the borders. It is, therefore, the determinants including infrastructure, culture, and economic/political prevailing in various regions that need careful examination (Jeong & Yoon, 2013). As per the author, Perceived price sometimes is more than a monetary term, because it's based on consumer perception toward product feasibility and its value (wan and chen 2016). In the literature, it was also discussed that the Perceived cost is not only related to monetary value, perhaps, but it also has a relationship with services provided. The more the services will be good, the more customers you can get (Abu-Salim, Onyia, Harrison, & Lindsay, 2017).

Perceived Usefulness & Behavioral Intention

The researcher considered Perceived Usefulness as a component through which consumers could use the product because of their perceived usage (Davis, Fred D., Ricard Bagozzi, 1989). Moreover, to capture the intention of consumer towards new technological advanced product some sub-factors needs consideration. In which, complete information, reduce cost, energy saver, time saver and useful information requirements should be a part of attention (Susanto & Aljoza, 2015). Similarly, Perceived Usefulness is the major variable to identify the behavioral intention of consumers when it comes to advance technology adaption (Shin, 2009).

Theoretical Framework





METHODOLOGY

The quantitative research approach used to analyze the data collected from the people of Karachi, to analyze the factors affecting their behavior towards using Mobile Commerce. Total of 350 questionnaires distributed among the females who are using their mobile for doing mobile transactions. A total of 327 questionnaires found filled, correctly. Statistical software used in the quantitative analysis of data obtained from Mobile Commerce female users using a systematic random sampling technique.

Reliability test for testing items, Factor analysis for grouping the items and Regression analysis for analyzing the impact was perform.

Likert scaled questionnaire was used, with seven choices. This scale was adapted from (Likert, 1932) to classify factors that most affected Mobile Commerce users' adaptive behavior.

Regression Model

The Regression model used for this study is:

$BI = \propto + \beta_{1\,PR} + \beta_{2\,PC} + \beta_{3\,PU} + \beta_{4\,PEU} + \varepsilon$

Whereas, **BI** stands for Behavioral intention, **PR** as perceived risk, **PC** as Perceived cost, **PU** as perceived use and **PEU** as perceived ease of use.

RESULTS

Reliability

The questionnaire consisted of 22 questions and its reliability was analyzed using Cronbach's alpha which should not be less than 50% (0.50). In this research paper, the overall reliability value is 84% (0.84) which shows that the instrument is reliable.

Table 1: Reliability Statistics

S.No	Variables	No of Items	CronBachh's Alpha
1	Buying Intention	3	0.846
2	Perceived Risk	6	0.845
3	Perceived Cost	4	0.838
4	Perceived Usefulness	4	0.839
5	Perceived Ease of Use	5	0.757
All	Overall	22 Items	0.848

Factor Analysis

Factor analysis is an empirical tool used to organize data according to functions to describe the likely important possible cause.

TABLE 2: Kmo & Bartlett's Test

Kaiser- Meyer-Olkin Measure of Sampling Adequacy	0.888
Bartlett's Test of Sphericit, approx. Chi-Square	2348.772
Df	325
Sig	0.000

Results in the above table, the value of KMO is 0.888, which shows 80% adequacy for dependent and independent variables.

Regression Analysis

In this Research paper, we used Regression analysis for understanding that which factor has more influence on behavioral intention of female mobile users.

Table 3: Regression Coefficient

Model	B	t-value	P-value
(Constant)	2.110	6.021	0.000
Perceived Risk	0.065	1.293	0.197
Perceived Cost	0.199	3.381	0.001
Perceived Usefulness	0.215	3.222	0.001
Perceived Ease of Use	0.142	2.166	0.031
Adj. R^2	0.197		
Sig	0.000		
F-statistics	21.006		

The statistical findings (beta, t-stats and probability) of independent and dependant variables showed in above table. The beta values in the regression model are as follows:

Behavioral Intention = 2.110 + 0.065 (Perceived Risk) + 0.199 (Perceived cost) + 0.215(Perceived usefulness) + 0.142 (Perceived ease of use)+ ε

The beta value of a constant is 2.110, whereas, independent variable, Perceived Risk, beta value is 6.5% , Perceived cost beta value is 19.9%, moreover, Perceived usefulness has a 21.5% contribution in developing the sense of purchasing through mobile commerce and perceived ease of use has a 14.2% beta value.

Behavioral Intention = 2.110 + 0.065 (0.197) + 0.199 (0.001) + 0.215(0.001) + 0.142(0.031) + ε

In the above table, T-statistics demonstrates how powerful each independent variable is in this analysis. Whereby, Perceived Risk has (1.293), the Perceived cost has (3.381), perceived usefulness is (3.222) and Perceived Ease of use has (2.166) t-values. According to the P-values stated in the above table, the independent variable, Perceived Risk has an insignificant impact on behavioral intention in the adoption of Mobile Commerce with the P-value of (0.197) which is greater than the settled significant value (0.05), error margin. The other independent variables are having positive significant results with the P-Values, likewise. Perceived Cost is (0.001), Perceived Usefulness is also (0.001) and Perceive ease of use is (0.031). Therefore, except Perceived Risk, other independent variables have a significant positive relationship with the dependent variable Behavioral Intention. The value of Adjusted R^2 shows the more modified results extracted from R-Squared. Here, the value of is (0.197) which means all the independent variables contributes 19.7% in the model preparation and there are other variables which in other studies can be taken or included as further research. The value of significance in the ANOVA table is (0.000), which is significant.

Table 4: Rotated Component Matrix Analysis

	PU	**EU**	**PC**	**PR**	**BI**
I feel productive with the use of M-Commerce services	.622				
M-Commerce services aid me in achieving my set targets and goals	.584				
It gives me more control over the activities in my life.	.505				
It saves me time when I use it.	.747				

I generally find m-commerce services easy to use		.601 .690		
It requires the fewest steps possible to accomplish what I want to do with it.		.628 .739		
I can use most services without looking for instructions		.617 .513		
I learned to use most m-commerce services quickly				
It is convenient to memorize the usage method of these services				
Usually premium-priced services have greater value attached				
I am satisfied with the general M-Commerce services pricing			.705 .703 .698	
M-Commerce provides cheaper prices than the traditional business outlets			.544 .628	
Mobile Banking helps me save costs				
M-Banking supply precise , relevant and latest information				
I depend on the power of M-Banking to guard my privacy				

MB will permit unauthorized person to retrieve private information		.677 .631 .663	
MB has the chance of data loss and fraud		.758	
MB needs expertise and training			
MB has limited information on the website and less operational reliability			
If I have access to mobile services, I intend to use it.			.840 .511

CONCLUSION

M-Commerce is increasing and business activities through this have taken place. In Pakistan, mobile commerce is in a growth period and people started doing business through this, from a business activity like retail to personal grooming like hair cutting it's been using everywhere (Raja Irfan Sabir, Muhammad Shahnawaz, Batool Zaidi, Husnain Kamil, & Naeem Akhtar, 2014). TAM model has been used and identified as a useful model, in past studies. In this Research TAM has used two other variables, Perceived Risk and Perceived cost to identify which factor has more influence on the behavioral intention of females living in Karachi. As per the findings, the first hypothesis gets rejected and results show that perceived risk is inversely related to behavioral intention. With reference to the past studies through literature, it has confirmed that perceived risk issues are not get resolved yet and need to be considered from businesses to modify their products though which consumers should feel comfortable. Perceived cost and perceived usefulness have a significant positive impact on female M-commerce adoption behavior with the 0.001< 0.05 probability value. Perceived ease of use is also significant with a probability value of 0.031<0.05. i.e. Females living in Karachi knows how to use mobile commerce and are satisfied with the cost intact with its benefits and they are having a positive behavior towards using M-Commerce.

In this study, only four variables were used. Hence, in further studies, researchers can use the sustainability mix model and the UTAUT model to identify the behavior of females. Also, this study been done in a specific city Karachi, researchers can do cross-cultural study, and as well as they can select other cities for their research.

REFERENCES

Abu-Salim, T., Onyia, O. P., Harrison, T., & Lindsay, V. (2017). Effects of perceived cost, service quality, and customer satisfaction on health insurance service continuance. *Journal of Financial Services Marketing*, *22*(4), 173–186. https://doi.org/10.1057/s41264-017-0035-4.

Agren, E. S., & Barbutiu, S. M. (2018). Barriers in the adoption of E-commerce in Pakistan with the focus on gender. *International Journal of Scientific and Technology Research*, *7*(1), 23–31.

Amirtha, R., Sivakumar, V. J., & Hwang, Y. (2021). Influence of Perceived Risk Dimensions on e-Shopping Behavioural Intention among Women—A Family Life Cycle Stage Perspective. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(3), 320-355.

Chang, S. C., Sun, C. C., Pan, L. Y., & Wang, M. Y. (2015). An Extended TAM to Explore Behavioural Intention of Consumers to Use M-Commerce. *Journal of Information and Knowledge Management*, *14*(2), 1–16. https://doi.org/10.1142/S0219649215500148.

Crowe, M. D., Rysman, M., & Stavins, J. (2012). Mobile Payments in the United States at Retail Point of Sale: Current Market and Future Prospects. *SSRN Electronic Journal*, (10), 1–39. https://doi.org/10.2139/ssrn.1615500.

Dadhich, P., & Kumar, R. (2019). *MOBILE COMMERCE : MARKETING*. *8*(9), 11–17.

Davis, Fred D., Ricard Bagozzi, and P. W. (1989). No TitleUser Acceptance of Computer Technology: A Comparison of Two. *Management Science*, *35*, 982–1003.

Du, S., & Li, H. (2019). The knowledge mapping of Mobile Commerce Research: A visual analysis based on I-Model. *Sustainability (Switzerland)*, *11*(6). https://doi.org/10.3390/su11061580.

Faziharudean, T. M., & Li-ly, T. (2011). *Consumers ' behavioral intentions to use mobile data services in Malaysia*. *5*(5), 1811–1821.

Jeong, B., & Yoon, T. E. (2013). *An Empirical Investigation on Consumer Acceptance of Mobile Banking Services*. *2*(1), 31–40. https://doi.org/10.5430/bmr.v2n1p31.

Jain, S. (2021). Examining the moderating role of perceived risk and web atmospherics in online luxury purchase intention. *Journal of Fashion Marketing and Management: An International Journal*.

Kale, A., & Mente, R. (2018). *M-Commerce : Services and applications M-Commerce : Services and applications*. (March).

Maziriri, E., & Chuchu, T. (2017). The Conception of Consumer Perceived Risk towards Online Purchases of Apparel and an Idiosyncratic Scrutiny of Perceived Social Risk: A Review of Literature. *International Review of Management and Marketing*, *7*(3), 257–265.

Park, J., Lee, D., & Ahn, J. (2004). Risk-focused e-commerce adoption model: A cross-country study. *Journal of Global Information Technology Management*, *7*(2), 6-30.

Raja Irfan Sabir, Muhammad Shahnawaz, Batool Zaidi, Husnain Kamil, & Naeem Akhtar. (2014). Adoption of e-commerce amongst Pakistani consumers : A case of mobile banking. *International Review of Management and Business Research*, *3*(1), 385–396. Retrieved from http://irmbrjournal.com/papers/1394276181.pdf

Ramaraj, R., & Subramaniam, R. (2016). Review of Privacy Issues Associated with Mobile Commerce Based Applications. *International Journal of Scientific & Engineering Research*, *7*(11), 1285–1292. Retrieved from http://www.ijser.org.

Parry, M. E., Sarma, S., & Yang, X. (2021) the Relationships among Dimensions of Perceived Risk and the Switching Intentions of Pioneer Adopters in Japan. *Journal of International Consumer Marketing*, *33*(1), 38-57

Rind, M. M., Hyder, M., Saand, A. S., Alzabi, T., Nawaz, H., & Ujan, I. (2017). Impact Investigation of Perceived Cost and Perceived Risk in Mobile Commerce: Analytical Study of Pakistan. *International Journal of Computer Science and Network Security*, *17*(November), 124–130.

San Park, T., Li, W., McCracken, K. E., & Yoon, J. Y. (2013). Smartphone quantifies Salmonella from paper microfluidics. *Lab on a Chip*, *13*(24), 4832-4840.

Shettar, S. R. M. (2016). *Services and Applications of Mobile Commerce in India : an Empirical Study*. *4*(11), 94–100.

Shin, D. H. (2009). Towards an understanding of the consumer acceptance of mobile wallet. *Computers in Human Behavior*, *25*(6), 1343–1354. https://doi.org/10.1016/j.chb.2009.06.001

Susanto, T. D., & Aljoza, M. (2015). Individual Acceptance of e-Government Services in a Developing Country: Dimensions of Perceived Usefulness and Perceived Ease of Use and the Importance of Trust and Social Influence. *Procedia Computer Science*, *72*, 622–629. https://doi.org/10.1016/j.procs.2015.12.171.

Wasiq, M. (2016). Future of M-Commerce Services in India. *International Journal of Marketing & Financial Management*, *4*(5), 1–10.

ya hui Wang and Li Yan Chen. (2016). *An Empirical Study of the Effect of Perceived Price on Purchase Intention Evidence from Low-Cost Carriers Department of Business Administration*. *7*(4), 97–107.