

RESEARCH INSIGHTS IN M-COMMERCE ADOPTION

Mohammed Bakhtawar Ahmed
Amity University, Chhattisgarh

ABSTRACT

Tremendous growth in the sales of mobile phones and outburst in number of Mobile phone users have paved the way for new business opportunities. Few decades back E-commerce had created sensation by starting new trend of online businesses, now it's an era of Mobile phone services. New mobile technologies have sprouted new business model known as Mobile Commerce. Mobile commerce can be seen as an extended version of e-commerce. Many research studies have been done so far to understand the mobile commerce users' adoption readiness, intention to use, factors affecting adoption and many more. This paper is an attempt to give research insights in the mobile commerce adoption behaviour.

Keywords: Mobile Commerce, TAM, TPB, Perceived Ease of Use, Perceived Usefulness

1. INTRODUCTION

Today's business is customers centric. Technology has enabled marketers to provide more than what customers are expecting from products and services. With the passage of time business has been transformed from organised retailing to organised retailing and electronic commerce was invented. Electronic commerce was popularised due to its "anytime" feature among customers. Further with technological advancement of mobile phones in to smart phones paved the way for mobile commerce. Mobile commerce is considered as an extension of electronic commerce. Many researchers opined that mobile commerce is the next phase of electronic commerce (Ngai and Gunasekaran, 2007, Smith, 2006, O'Connell, 2005, Matthew, et al, 2004, Urbaczewskj, et al, 2003). Mobile commerce is gaining popularity on the part of customers due to "anytime" and "anywhere" access to products and services. Today's consumers use their smart phones as an essential tool, which function as an all-in-one wallet, organizer, Internet connection, jukebox, game console, messaging device, camera, and phone.

Mobile commerce emerged as a new business model with expectation to generate more revenue, create more loyal customers and provide more differentiated services in comparison to traditional business models (Rajabion, 2015). Mobile commerce is defined as the use of wireless terminals, smart phones, personal digital assistant (PDA) and system of network which results into value added services. United Nations Conference on Trade and Development defined Mobile commerce as sum total of all the business

transactions including selling and purchasing of goods and services with the help of wireless devices (UNCTAD, 2004). Mobile Commerce is also known as mobile electronic commerce or wireless electronic commerce as its transactions are done through electronic devices with the help of internet (Chang-tseh Hsieh, 2007). Mobile commerce transaction can be defined as any type of transaction carried out through mobile devices with the help of wireless telecommunication (Tsgatidou et al., 2000). There are various features of mobile commerce. Most of the researchers identified ubiquity, personalization, dissemination, flexibility as unique features of mobile commerce that differentiate it from the traditional e-commerce. Promising information needs, timely and readily availability of the information, localization, personalised services and accessibility of internet from anywhere are the major issues solved by the mobile commerce services (Siau et al., 2011). Mobile commerce services can be classified into following categories as depicted in figure 1.

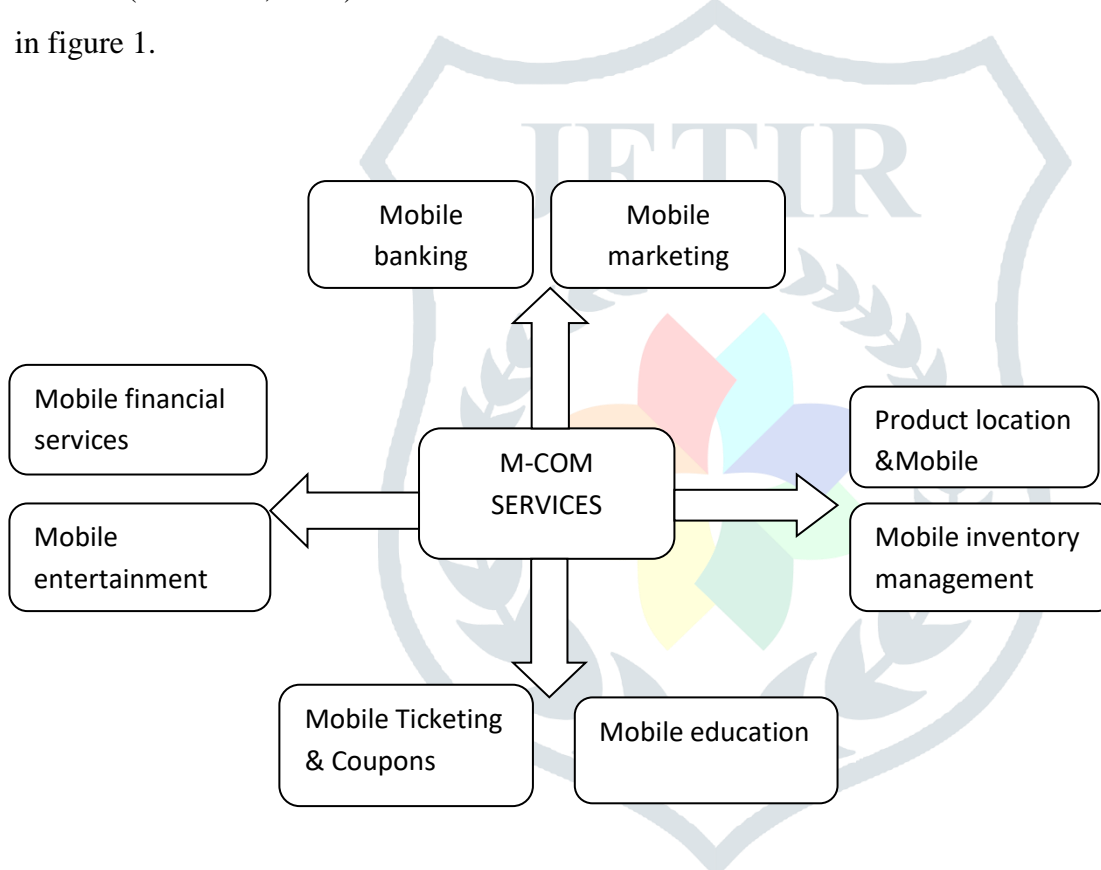


Figure 1: Types of Mobile Commerce Services

2. MOBILE COMMERCE ADOPTION

Mobile Commerce adoption studies deals with the factors that influences customers' intention to use/intention to adopt mobile commerce services. Technology Acceptance Model (TAM), Davis, F.D. (1989, 1993) and Theory of Planned behaviour (TPB) model of Ajzen I. and Madden, T.J. (1986) forms the basis of Mobile commerce adoption behaviour. TAM model investigates the end-users requirements regarding usefulness and user friendliness whereas TPB is a theory that links one's beliefs and behaviour. The simplified TAM contains the three basic relationships affecting Behavioral Intention (BI) to adopt

Information Technology: 1) Perceived Ease of Use (PEOU) leads to Perceived Usefulness (PU), 2) PEOU leads to Behavioral Intention (BI), and 3) PU leads to BI. (Francisco et al.,) Researchers have identified various factors that affects adoption of mobile Commerce by customers which are mentioned in table 1, and table 2 presents research insights of mobile commerce adoption studies in nut shell.

Table 1: Variables Affecting M-commerce Adoption

Factors	Researchers
Perceived ease of use	(Venkatesh and Davis 2000);(Dr. Jay P.Trivedi 2014); (Jen Her Wu et al. 2003); (Safeena et al. 2011); (A.H.M. SaifullahSadi et al. 2011; Emad Abu-Shanab 2012;Rakhi and Mala 2013
Perceived usefulness	Venkatesh and Davis, 2000; Hua Dai et al., 2009; Safeena et al., 2011; Sadi et al., 2011; Emad Abu-Shanab 2012; Rakhi and Mala 2013; Dr. Jay P.Trivedi 2014; Emad Abu-Shanab 2012
Perceived cost	Sadi et al. 2011; Wei et al. 2009; Chong et al. 2011
Perceived trust	Dr. Jay P.Trivedi 2014
Social influence	Sadi et al. 2011; Alkhunaizan et al. 2012;Rakhi and Mala 2013
Variety of services	Hsu et al., 2009; Lee et al., 2011
Personal Innovativeness	Bhatti, 2007; Li <i>et al.</i> , 2007
Subjective norms	Venkatesh and Davis 2000; Dr. Jay P.Trivedi 2014
Perceived Behavioral Control	Ajzen 1991.
Facilitating Conditions	A.H.M. SaifullahSadi and MohamadFauzanNoordin, (2011)
Attitude towards Use	A.H.M. SaifullahSadi and MohamadFauzanNoordin, (2011)
Security Concerns	Thakur and Mala, 2014; Wu & Wang, 2005; Chen, 2008; Al-Alak&Alnawas, 2010; Zhou, 2011
Privacy Concerns	Thakur and Mala, 2014; Wu & Wang, 2005; Chen, 2008; Al-Alak&Alnawas, 2010; Zhou, 2011
Effort Expectancy	Alkhunaizan et al. 2012

(Source: Authors own)

Table 2: Research Insights from M-commerce Adoption Studies

Factors	Definition	Researchers Insights
Perceived ease of use	<i>It is defined as “the degree to which a person believes that using a particular system would be free from efforts” (Davis, 1989).</i>	Significant relationship between Perceived ease of use and intention to adopt mobile commerce were found by Hsu et al. (2009); Lee et al., (2011) where asRajan et al., (2015)contradicted it.
Perceived usefulness	<i>Perceived usefulness is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989).</i>	Perceived usefulness is found to be an important variable to predict mobile-commerce adoption by (Lewis et al., 2010; Sharma and Govindaluri, 2014; Hanafizadeh et al., 2014; Rajan et al., 2015).
Perceived cost	<i>The cost is defined as the extent to which a user perceives that using m-commerce is costly (Zhang et al., 2012).</i>	Negative relationship between Perceived cost and adoption of mobile-commerce were found by

		(Luran and Lin, 2005; Khalifa and NingShen, 2008; Rajan et al., 2015).
Perceived trust	<i>The trust in this study is defined as a person's feeling or belief that the processes, systems and environment in which he/she transacts has appropriate safeguards and measures (Vance et al., 2008).</i>	Positive significant relationship between perceived trust and intention to adopt mobile-commerce was found by (Luran and Lin, 2005; Hanafizadeh et al., 2014).
Social influence	<i>Social influence is defined as the degree to which an individual user's perception is affected by the belief of most others who are important to him/her toward the use of an innovation (Fishbein and Ajzen, 1975).</i>	Positive significant relationship between Social influence and adoption of mobile-commerce were found by (Wei et al., 2009; Sharma and Govindaluri, 2014; Rajan et al., 2015).
Variety of services	<i>Variety of services can be understood in two categories as entertainment-oriented services and value added services (Chong et al., 2012).</i>	Significant relationship is found between Variety of services and adoption of mobile-commerce is found (Hsu et al., 2009; Lee et al., 2011).
Personal Innovativeness	<i>Personal Innovativeness is defined as the willingness of an individual to try out any new information systems.</i>	Significant relationship is found between personal innovativeness and mobile commerce adoption (Bhatti, 2007; Li et al., 2007).
Subjective norms	<i>A person's subjective norm is determined by his or her perception that salient social referents think he/she should or should not perform a particular behavior (Ajzen and Fishbein, 1980).</i>	Subjective norm plays importance role in the use of technology directly or indirectly (Taylor and Todd, 1995; Venkatesh and Davis, 2000).
Perceived Behavioral Control	<i>According to the theory of planned behavior, perceived behavioral control is defined as individual perceptions of how easy or difficult it is to perform a specific behaviour.</i>	Significant relationship between Behavioral control and mobile commerce adoption is by (Ajzen 1991).
Facilitating Conditions	<i>Facilitating conditions is defined as the external environment of helping users overcome barriers and hurdles to use a new IT or M-commerce (J.C. Gu et al., 2009).</i>	Positive significant relationship between Facilitating Conditions and intention to adopt mobile-commerce was found by A.H.M. SaifullahSadi and MohamadFauzanNoordin, (2011).
Attitude towards Use	<i>Attitude towards using the system is defined as 'the degree of evaluative affect that an individual associate with using the target system in his job'. (Davis et al., 1989)</i>	Positive significant relationship between Attitude towards Use and intention to adopt mobile-commerce was found by A.H.M. SaifullahSadi and MohamadFauzanNoordin, (2011)
Security Concerns	<i>Security threat is defined as "a circumstance, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification of data, denial of service, and fraud, waste, and abuse" (Kalakota&Whinston, 1996, p. 224).</i>	Significant relationship between Security concern and mobile commerce adoption is found by (Wu & Wang, 2005; Chen, 2008; Al-Alak&Alnawas, 2010; Zhou, 2011),
Privacy Concerns	<i>Privacy risk happens when an individual loses control over his personal information when he/she provides information to other entities for completing a specific transaction like online purchasing (Featherman&Pavlou, 2003).</i>	Significant relationship between Security concern and mobile commerce adoption is found by (Wu & Wang, 2005; Chen, 2008; Al-Alak&Alnawas, 2010; Zhou, 2011),
Effort Expectancy	<i>"The degree of ease associated with the use of the system"(Venkatesh et al., 2003)</i>	Significant relationship between Security concern and mobile commerce adoption is found by Alkhunaizan et al., (2012)

(Source: Authors own)

3. CONCLUSION

On the basis of research studies considered in this paper it can be concluded that there exists significant relationship between the variables such as Perceived ease of use, Perceived usefulness, Perceived cost, Perceived Trust, variety of services, Personal innovativeness, Subjective norms, Attitude towards use, Security Concerns, Privacy Concerns, Effort Expectancy and adoption of mobile commerce users. In which variety of services, social influence, perceived usefulness, cost and perceived trust play a positive significant role in adoption of m-commerce whereas Perceived cost and security concerns play negative role in the adoption of mobile commerce. This study indicate that future researchers can undertake research to identify some other variables which may affect the adoption of mobile commerce, usage behaviour of customers' with respect to mobile commerce, factors responsible for satisfaction and loyalty.

generated by the marketers as customers are inclined towards entertainment services but are sceptic towards using value added services.

REFERENCES

- Abu-Shanab, E., Ghaleb, O., 2012. Adoption of Mobile Commerce Technology: An Involvement of Trust and Risk Concerns. *International Journal of Technology Diffusion* 3(2), 36–49.
- Abdul Mohsin Alkhunaizan and Dr Steve Love, (2012) “What drives mobile commerce? An empirical evaluation of the revised UTAUT model” *International Journal of Management and Marketing Academy*, Vol. 2, No. 1, pp. 82-99
- A.H.M. Saifullah Sadi and Mohamad Fauzan Noordin, (2011) “Factors Influencing The Adoption Of M-Commerce: An Exploratory Analysis” *Proceedings of the 2011 International Conference on Industrial Engineering and Operations Management Kuala Lumpur, Malaysia, January 22 – 24, 2011*
- Ajzen I. and Madden, T.J. (1986). “Prediction of goal directed behavior – Attitudes, intentions and perceived behavioral control”, *Journal of Experimental Social Psychology*, Vol. 22, No. 5, pp. 453-474.
- Al-Alak, A. M., & Alnawas, A. M. (2010). Mobile marketing: Examining the impact of trust, privacy concern and consumers' attitudes on intention to purchase. *International Journal of Business and Management*, 3(5), 28–41.
- Bhatti T., (2007), Exploring Factors Influencing the Adoption of Mobile Commerce, *Journal of Internet Banking and Commerce*, vol. 12, no.3
- Chen, J.V., Ross, W., and Huang, S.F., (2008), *Privacy, Trust and Justice Consideration for Location-Based Mobile Telecommunication Services*, Emerald Insights, Vol.10, No.4, 2008, pp.3045
- Chong, A.Y.L., Chan, F.T.S. and Ooi, K.B. (2012), “Predicting consumer decisions to adopt mobile commerce: cross country empirical examination between China and Malaysia”, *Decision Support System*, Vol. 53 No. 1, pp. 34-43.
- Dai, H. and Palvi, P.C., (2009). Mobile commerce adoption in China and the United States: a cross-cultural study. *ACM SIGMIS Database*, 40 (4), 43-61.
- Davis, F.D. (1989), “Perceived usefulness, perceived ease of use, and user acceptance of information technologies”, *MIS Quarterly*, Vol. 13 No. 2, pp. 319-340.

- Davis, F.D. (1993). "User acceptance of information technology: system characteristics, user perceptions and behavioral impacts". *International Journal of Man-Machine Studies*, Vol. 38, No. 3, pp. 475-487.
- Fishbein, M. and Ajzen, I. (1975), *Beliefs, Attitudes, Intention, and Behavior: An Introduction of Theory and Research*, Addison-Wesley, Reading, MA.
- Hanafizadeh, A., Behboudi, M., Koshksaray, A.A. and Tabar, M.J.S. (2014), "Mobile-banking adoption by Iranian bank clients", *Telematics and Informatics*, Vol. 31 No. 1, pp. 62-78.
- Hsieh, Chan-tseh (2007) "Mobile Commerce: Assessing New Business Opportunities," *Communications of the IIMA*: Vol. 7: Iss. 1, Article 9.
- Hsu, C.I., Shih, M.L., Huang, B.W., Lin, B.Y. and Lin, C.N. (2009), "Predicting tourism loyalty using an integrated Bayesian network mechanism", *Expert Systems with Applications*, Vol. 36 No. 9, pp. 11760-11763
- Luran, P. and Lin, H.H. (2005), "Towards an understanding of the behavioral intention to use mobile banking", *Computer in Human Behavior*, Vol. 21 No. 6, pp. 873-891.
- Lee, Y.K., Park, J.H., Chung, N. and Blakeney, A. (2011), "A unified perspective on the factors influencing usage intention towards mobile financial services", *Journal of Business Research*, Vol. 65 No. 11, pp. 1590-1599.
- Li Y., Fu Z.T. & Li H. (2007), Evaluating factors affecting the adoption of Mobile commerce in agriculture: an empirical study, *New Zealand Journal of Agricultural Research*, Vol. 50: 1213-1218.
- Lila Rajabion, (2015) " Critical Factors for Adoption of Mobile Commerce Services", *International Journal of Business and Social Science*, Vol. 6, No. 12; December 2015
- Mohamed Khalifa, Kathy NingShen, (2008) "Explaining the adoption of transactional B2C mobile commerce", *Journal of Enterprise Information Management*, Vol. 21 Issue: 2, pp.110-24, <https://doi.org/10.1108/17410390810851372>
- Ngai, E.W.T. and Gunasekaran, A. (2007), "A review for mobile commerce research and applications", *Decision Support Systems*, Vol. 43 No. 1, pp. 3-15
- RajanYadav, Sujeet Kumar Sharma, Ali Tarhini, (2016) "A multi-analytical approach to understand and predict the mobile commerce adoption", *Journal of Enterprise Information Management*, Vol. 29 Issue: 2, pp.222-237
- Rakhi, T. and Mala, S. (2013), "Customer usage intention of mobile commerce in India:an empirical study", *Journal of Indian Business Research*, Vol. 5 No. 1, pp. 52-72.
- Safeena et al. (2011), "Customer's Adoption of Mobile-Commerce-A Study on Emerging Economy", *International Journal of e-Education, e-Business, e-Management and e-Learning*, Vol. 1, No. 3, August 2011
- Sharma, S.K., Chandel, J.K. and Govindaluri, S.M. (2014), "Students' acceptance and satisfaction of learning through course websites", *Education, Business and Society: Contemporary Middle Eastern Issues*, Vol. 7 Nos 2-3, pp. 152-166.
- Shirley Taylor and Peter A. Todd (1995) *Understanding Information Technology Usage: A Test of Competing Models*. *Information Systems Research*, Vol. 6, No. 2 (JUNE 1995), pp. 144-176
- Trivedi, J. & Kumar, S. (2014). Determinants of mobile commerce acceptance amongst Gen Y. *Journal of Marketing Management*, Vol 2, No. 2, pp. 145-163.

- Tsalgaidou, A., Veijalainen, J. and Pitoura, E. (2000) ‘Challenges in mobile electronic commerce’, *Proceedings of IeC 2000, 3rd International Conference on Innovation through E-commerce*, Manchester, UK, November, pp.14–16.
- UNCTAD 2004, E-commerce and development report 2004, United Nations conference on trade and development New York.
- Venkatesh, V. and Davis, F.D., (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, 186-204.
- Wei, T.T., Marthandan, G., Loong, A.Y., Boon, C.K. and Arumugam, O.S. (2009), “What drives Malaysian m-commerce adoption? An empirical analysis”, *Industrial Management and Data System*, Vol. 109 No. 3, pp. 370-388.
- Wu, J.H. and Wang, S.C. (2005), “What drives mobile commerce? An empirical evaluation of the revised technology acceptance model”, *Information & Management*, Vol. 42 No. 5, pp. 719-729
- Zhou, T. (2011). The impact of privacy concern on user adoption of location-based services. *Industrial Management & Data Systems*, 111(2), 212–226. doi:10.1108/02635571111115146

