



CONSUMER ADOPTION OF MOBILE COMMERCE- A LITERATURE REVIEW

Dr. Gomathy Thyagarajan

Faculty-General Management, N.L. Dalmia Institute of Management Studies and Research, Mumbai.

Abstract

This study succinctly reviews literature on recent studies carried out globally on consumer adoption of mobile commerce. The paper has also made an attempt to synthesize the results from several primary and secondary literature papers to identify the factors that affects consumer acceptance and adoption of M-Commerce at large. The recommendations made for the Indian M-Commerce sector is based on the implications of the resulting review and the typology for future research is also outlined. This review will also help the Indian mobile service providers to get a more focused insight into the research on Indian consumer acceptance and adoption of this service to make better judgments and decisions in their offers to the mobile service users. From the study it can be seen that M-Commerce is influenced significantly by perceived usefulness, perceived ease of use, social influence, cost, security and privacy, trust and consumer attitude as significant determinants for adopting M-commerce.

Keywords: *Mobile Commerce, Adoption, Technology Acceptance Model, Perceived Ease Of Use, Perceived Use, Trust, Price, Security And Privacy.*

1. INTRODUCTION

With the development of the online ecosystem, the online shopping landscape in India is drastically changing effectively putting India on the global map. The government's support along with the development of national infrastructure has further helped this sector flourish. An interesting trend in the making however is mobile commerce or M-Commerce. The M-Commerce (MC) is an emerging, vibrant, and unique service which is gaining significant traction with smart phones, tablets and other hand-held devices getting affordable by the day.

M-Commerce is rapidly surpassing e-commerce as the de facto method for online transactions. In fact, envisaging the potential M-Commerce has, every e-marketplace / e-commerce player has launched their mobile app to facilitate ease of shopping. Mobile consumption of services including banking, money transfer and purchases of goods and services has gone up tremendously in recent times. Many first-time e-commerce users are also accessing their mobile devices for transactions. The annual mobile commerce usage is increasing rapidly; it is estimated to reach \$38 billion, in a report by International Business times. Researchers have been projecting that with converging technology and expanding application base M-Commerce will be a powerful channel. The global mobile market at large is growing at a strong and steady pace.

Mobile commerce has been a huge success in terms of individuals' adoption in countries like America and Japan. In India, growth is explosive, and competition among vendors is intense. Mobile data network expansion especially with rising middle classes and the increased adoption of smart phones is expected to fuel the growth of M-Commerce in India. According to Vizury's¹ report on "The State of Mobile Commerce in India 2015", Mobile Commerce (M-Commerce) has grown over 130 per cent within a year and companies have been assessing the revenue potential of the M-Commerce market and developing models to take advantage of the huge profit potential of this new market. However the level of M-Commerce adoption is low compared to the mobile devices penetration. Understanding the reasons for this slow adoption is the need of the hour. This growing need has attracted the attention of many researchers and numerous studies have been carried out to understand the consumer adoption behavior in the field of M-Commerce.

Giaglis et al. (2002) in his study has suggested that it is vital to understand M-Commerce market adoption and value network created by this new business platform. Although M-Commerce has huge potential in India, there is scarcity of research about the consumers' willingness to adopt this platform. As there is a lot of scope for further research and applications, this paper aims to succinctly review literature on recent studies carried out globally on consumer adoption of mobile commerce. The paper has also made an attempt to synthesize the results from several primary and secondary literature papers to identify the factors that affects consumer acceptance and adoption of M-Commerce at large.

¹ "The State of Mobile Commerce in India 2015" report released by Vizury, a leading performance marketing and remarketing company based out of Bangalore, India.



The recommendations made for the Indian M-Commerce sector is based on the implications of the resulting review and the typology for future research is also outlined. This review will also help the Indian mobile service providers to get a more focused insight into the research on Indian consumer acceptance and adoption of this service to make better judgments and decisions in their offers to the mobile service users.

OBJECTIVES

The purpose of this study is to review and examine the recent studies on factors that influence consumers' adoption of M-Commerce. To achieve this stated purpose, the following objectives will be reviewed.

1. The first area of review covers the studies related to consumer behaviour in context of M-Commerce
2. Understanding the factors that influence the consumers acceptance and adoption of commerce comprises the second area of review.

3. SIGNIFICANCE

The significance of this research paper can be divided into two parts. First is for Indian M-Commerce industry, to give an insight to the service providers about the factors that influence the customers for M-Commerce adoption. Second for government to understand the industry better and bring out regulations to protect the interests of the consumers.

4. SCOPE OF THE STUDY

Research area mainly focuses upon the factors that affect influence and prevent consumers' from accepting and adopting M-Commerce. Research is emphasized upon the hurdles faced by the consumers.

5. REVIEW OF LITERATURE

Consumer adoption behavior and acceptance is still the emerging field of mobile commerce. Adoption is an individual's decision to become a user of a product or a service. The following section reviews prior literature on this topic and examine the findings and future research directions. The review is primarily of peer-reviewed or edited publications.

According to (Stafford et al., 2003), M-Commerce is believed to be the next gold rush after e-commerce. Small, medium and large organizations of different sectors are rushing to stake a claim in this new platform. M-Commerce is not only expected to play an important role in economic and social development of a country but also believed to be bringing about changes in business operations in many sectors (Krishnamurthy, 2001).

According to (Gupta & Vyas, 2014) M-Commerce is at an emerging level in India. Mobile phones in India are not only used for making calls but are also used for accessing web, surfing, chatting and online shopping. He has also discussed the benefits and drawbacks of M-Commerce. The issues faced by M-Commerce industry has been analysed by (Batra & Juneja, 2013). The success of M-Commerce in India will depend on the adoption/acceptance of the platform by the consumers. This section will review the related literature and explore the directions for future research.

5.1 Review of consumer behavior studies in the context of M-Commerce

Schiffman and Kanuk (2003), in his explanation about consumer behavior has said that the concept is all about how people make their decisions on personal or household products, with the use of their available resources such as time, money and effort. Vrechopoulos (2001) conducted a study in Finland, Germany and Greece and compared adoption rates and consumer behavior toward M-Commerce. He found out that consumers' were high in adoption and diffusion due to better quality mobile devices, user-friendly shopping interfaces, more useful applications and services, lower prices, better security, better coverage and higher speed.

Another study by Kini and Bandyopadhyay (2006) conducted in Thailand indicates "good pricing" and "quality of service" of mobile device as critical success for higher usage for mobile commerce. The most interesting study in this category was that of Kisielowska-Lipman (2009) on 'Pocket Shopping: International consumer experience of buying goods and services on their mobile phones' gives insight in to the consumer focus across European Union, Asia and North America regions. The major findings of the study are as follows:

1. Technological Constraints limit the availability of information during M-Commerce transactions.
2. Consumers experienced difficulties seeking redressal or accessing dispute resolution mechanisms.
3. M-Commerce transactions are susceptible to fraud and unauthorized payments.



5.2 Review of factors that influence the consumers' adoption of M-Commerce

Review of related literature shows that a number of factors influence consumers' adoption of M-Commerce (Users). Perceived usefulness (PU) and perceived ease-of-use (PEOU) are the two factors proposed by Technology Acceptance Model to predict the behavioral intention to adopt a technology. According to (Davis, 1989) PU refers to the extent of individual's expectation to use a technology, whereas PEOU is the belief that using the technology will be free of effort (Davis, 1989). This theory thus proposes two important constructs, Perceived Usefulness and Perceived Ease of Use. A number of empirical studies support these constructs as primary predictor of M-commerce adoption.

Apart from these two constructs, the other constructs are also discussed in the following paragraphs. Thakur & Srivastava (2013) in their study in India examined the factors that influence the acceptance of mobile commerce based on constructs derived from the technology acceptance model and innovation resistance theory. The results indicate perceived usefulness, perceived ease of use and social influence as significant determinants for adopting this new technology platform for conducting business. The study also indicates risks pertaining to security and privacy negatively affects the usage of mobile commerce. Zheng (2012) studied the determinants of M Commerce acceptance in china and suggested that consumers' attitude toward using M Commerce is influenced significantly by perceived usefulness, perceived cost, perceived entertainment, especially by the factor of perceived usefulness.

According to Park (2007), effort expectancy, performance expectancy and social influence majorly affects consumers' adoption of M-Commerce in China. The effect of demographical factors (gender, age, education level) influence on mobile commerce usage in Saudi Arabia was studied by Alkhunaizan and Love (2013). Findings of the study indicate that internet usage experience has no influence on M-Commerce adoption.

Sreenivasan & Noor (2010) in their study used the UTAUT (unified theory of use and acceptance of technology) model to combine views from eight different acceptance theories (performance expectancy, effort expectancy, social influence, facilitating conditions, gender, age, experience, and voluntariness of use). For this they designed questionnaires which inquired privacy sensitivity and factors Influencing Customer Acceptance of M-Commerce Services in Malaysia. They concluded that if country specific model is developed, M-Commerce will receive more attention but it has to be well tailored and communicated.

Yogesh K. Dwivedi; Kuttimani Tamilmani; Michael D. Williams; Banita Lal(2014), in their study investigated factors that affects Indian consumers mobile commerce adoption through development of a conceptual model. The technology adoption model with slight modification with additional factors such as trust, perceived enjoyment, perceived self efficacy and perceived cost along with perceived ease of use and perceived usefulness were used to test the behavioral intention. The proposed model was then empirically tested in Mumbai region through the data collected from 186 respondents of mobile commerce. The findings of the study indicate that perceived enjoyment was found to be the most important significant factor in determining consumer behavioral intention towards adoption of mobile commerce applications

Ankar (2003) studied the factors affecting consumer adoption decisions and intents in M commerce. The results show that there are more drivers than perceived ease of use, perceived usefulness. Drivers like limitation of networks and high initial costs and operating costs were influencing adoption of mobile services and in turn M-Commerce. Perceived cost construct can be defined as the extent to which an individual believes that using a technology is costly.

The Consumers' choice criterion in mobile phone markets in Finland was investigated by Karjaluo (2005). He focused both on intention to acquire new mobile phones and consumers' choice criteria in mobile phone markets. Focus group interviews were carried out 79 graduate students in one study, followed by another survey of 196 respondents. The findings indicate that although the choice of a mobile phone is a subjective choice situation, there are some general factors that seem to guide the choices. They are innovative services, multimedia, design, brand and basic properties, outside influence, price and reliability. The most important factors that affect choice of mobile phone as per the findings of the study are innovative services and factor multimedia. The students study indicates technical problems were the basic reasons to change mobile phone among students followed by price, brand, interface, and properties.

Harter (2001) in his study has indicated that Consumers' purchase decisions are based on a range of product attributes, such as price, wireless carrier, phone functions, phone design, brand, usage, phone size, carrier flexibility and purchase location. All these decision factors can directly or indirectly affect the M-Commerce decisions.



Islam, Khan, Ramayah & Hossain (2011) have suggested that security and privacy is a crucial factor that affects the adoption of M-Commerce services followed by price. Another important finding of this study is perceived usefulness which according to him is not an important factor in influencing people to adopt M-Commerce services.

According to (McKnight 2002), Trust is vital because it helps consumers to overcome uncertainty and risk and helps build suitable favorable expectations of performance and other desired benefits (Gefen, 2000). Perceived Trust therefore is an important factor which affects consumer behavior and determines the success of M-commerce adoption (Wei et al., 2009).

A similar study carried out by Mashagba et al, (2013) revealed that trust, risk and security had an effect on M-commerce adoption. This study therefore adopts it as a key factor influencing the adoption of M-commerce by online consumers and includes it in the model.

6. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

In summary, the review is a sample, rather than a census. However, the sample represents many of the current/major theoretical and empirical discussions about the Mobile Commerce adoption. From the reviews discussed above, it can be distinctly seen that M-Commerce is evolving rapidly and has opened up new avenues. The studies show how this new service has been adopted/experienced/appropriated depending on their objectives. The literature not only gives an insight in to the technological constraints that limit the availability of information during M-Commerce transactions but also identifies numerous factors affecting consumers' adoption.

From the study it can be seen that M-Commerce is influenced significantly by perceived usefulness, perceived ease of use and social influence as significant determinants for adopting this new technology platform for conducting business. The study also indicates risks pertaining to security and privacy negatively affects the usage of mobile commerce. The study has also found cost as a very important factor so cost reduction should be an important strategy of players to attract more price-conscious customers. Trust, consumer attitude and behavior, social influence and demographic variables influence the adoption of M-Commerce. Further, the results show intention to be significantly and positively related with behaviour. Thus, if service providers are able to create positive attitude towards M-Commerce in consumers' mind it will lead to higher intention and finally adoption behaviour.

To encourage adoption of M-Commerce, social influence can also be used as a major tool to encourage the adoption of M-Commerce. M-Commerce can be a huge success for the Indian market but this requires a consumer friendly environment and synchronized benefits to ensure and restore consumers' confidence. As M-Commerce services expand and diversify, the challenges of this industry will also increase manifold. So it is important for the players to address the pitfalls. The Indian government should not only formulate policies focusing on trust and security, to encourage M-Commerce adoption by online consumers but also ensure that consumers' rights are protected when making m-payments.

Few recommendations for further research are outlined below. More studies can be carried out by researchers to integrate consumer, marketing, and business influences and conduct longitudinal researches for better understanding of the issue. Future work can also examine whether the gender difference play any major role in influencing M-Commerce adoption level.

Since India is witnessing collaborations between different category of players and service providers, a region specific model can be developed based on the demographic profile of the consumers. More empirical studies on trust and risk factors can be conducted in order to come up with more reliable and practical recommendations for relevant stakeholders. Thus it can be seen that many important research areas are still unexplored and more research is required in order to elucidate various facets concerning the adoption of m-commerce in India. It can be concluded that as Mobile Commerce races ahead, a specific model for India well-tailored and communicated as per the consumers' preferences will contribute to (or stall) economic development and will represent (or reframe) the modernization.

7. REFERENCES

1. Alkhunaizan, A., & Love, S. (2013), " Effect of Demography on Mobile Commerce Frequency of Actual Use in Saudi Arabia", *Advances in Information Systems and Technologies*, 206, 125–131
2. Ankar, B. (2003), "Drivers and Inhibitors to E-Commerce Adoption: Exploring the Rationality of Consumer Behavior in the Electronic Marketplace", *Proceedings of the 11th European Conference on Information Systems (ECIS)*, Naples, Italy, June 18-21.



3. Batra, D.S., & Juneja, D. (2013), "M-Commerce in India: Emerging Issues", International Journal of Advanced Research in IT and Engineering, 2(2), 54-65.
4. Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", MIS Quarterly, Vol. 13 No. 3, pp. 319-39.
5. Gefen, D., Straub, D.W. (2003), "Managing user trust in B2C e-services" E-service Journal.2(2): 7-24.
6. Giaglis, G.M., Kourouthanassis, P. and Tsamakos, A. (2002), "Towards a classification framework for mobile location services", Mobile Commerce Technology, Theory, and Applications, pp.67-85.
7. Gupta, D. S., & Vyas, M. (2014), "Benefits and Drawbacks of M-Commerce in India: A Review", IJARCCCE, 3(4), 6327, 6328,6329.
8. H. Karjaluoto, J. Karvonen, M. Kesti, T. Koivumaki, M. Manninen, J. Pakola, A. Ristola and J. Salo (2005), "Factors affecting consumer choice of mobile phones: Two studies from Finland", Journal of Euromarketing, 14(3) , 59-82.
9. Harter, B. 2001, "Merging Markets", Wireless Review, 1 September 2001.
10. Hershey, PA. Kini, R. B. (2009)," Adoption and Evaluation of Mobile Commerce in Chile", The Electronic Journal Information Systems Evaluation, 12(1), 75 – 88.
11. Islam, Khan, Ramayah & Hossain (2011)," The Adoption of Mobile Commerce Service among Employed Mobile Phone Users in Bangladesh: Self-efficacy as a Moderator", International Business Research 4 (2), p80.
12. J. Sreenivasan, M. Noor (2010), "A conceptual framework on mobile commerce acceptance and usage among Malaysian consumers", WSEAS Transactions on Information Sciences and Applications 7.
13. Kini, R. & Bandyopadhyay, S. (2006)," Adoption and Diffusion of M-Commerce", Encyclopedia of Mobile Computing and Commerce, IDEA Group Inc.
14. Kisielowska-Lipman, M. (2009), "Pocket Shopping: International consumer experience of buying goods and services on their mobile phones". Consumer Focus, United Kingdom, December 2009.
15. Krishnamurthy, S. (2001), "NTT DoCoMo's i-Mode Phone: A Case Study", Retrieved from http://www.swlearning.com/marketing/krishnamurthy/first_edition/case_updates/docomo_final.pdf.
16. M. Islam, M. Khan, T. Ramayah, M. Hossain (2011), "The adoption of mobile commerce service among employed mobile phone users in Bangladesh: Self-efficacy as a moderator", International Business Research 4.
17. Mashagba (2013), "Exploring Technological Factors Affecting the Adoption of M-Commerce in Jordan", Australian Journal of Basic and Applied Sciences, 7(6): 395- 400.
18. McKnight, D.H., Choudbury, V., Kacmar, C. (2002)," Developing and validating trust measures for e-commerce: An interactive typology", Information Systems Research,13(3): 334- 359.
19. Park, J., Yang, S., & Lehto, X. (2007), " Adoption and Usage of Mobile Technologies for Chinese Consumers, Journal of Electronic Commerce Research, 31(3), 196-206.
20. Schiffman, L. and L. Kanuk (2003), "Consumer Behaviour" (8th Ed.). Prentice Hall: New Jersey.
21. Stafford, T., Gillenson, M. (2003), "Mobile Commerce: What It Is and What It Could Be, Communications of the ACM", December, Vol. 46 Issue 12, pp. 33-34.
22. Thakur,R. & Srivastava,M. (2013),"Customer usage intention of mobile commerce in India: an empirical study", Journal of Indian Business Research, 5(1), 52 – 72.
23. Vrechopoulos, Constantiou, Sideris, Doukidis, and Mylonopoulos (2003), "The Critical Role of Consumer Behavior Research in Mobile Commerce", International Journal of Mobile Communications, Vol. 1, No.3, pp. 329-340.
24. Vrechopoulos, Siomkos and Doukidis (2001), "Internet shopping adoption by Greek consumers", European Journal of Innovation Management, Vol.4, and No.3:142-152.
25. Wei, T.W., Marthandan, G., Chong, A.Y.L., Ooi, K.B. and Arumugam, S. (2009), "What drives Malaysian mcommerce adoption? An empirical analysis", Industrial Management & Data Systems, Vol. 109 No. 3, pp.370-388.
26. Yeo. & Huang, W. (2003)," Mobile E-Commerce", Outlook, International Journal of Information Technology & Decision Making, June, Vol. 2 Issue 2, pp. 313-332.
27. Yogesh K. Dwivedi; Kuttimani Tamilmani; Michael D. Williams; Banita Lal (2014), " Adoption of M-Commerce: examining factors affecting intention and behaviour of Indian consumers", Int. J. of Indian Culture and Business Management, Vol.8, No.3 > pp.345 – 360.
28. Zheng Hua, Li Ying and DanDan (2012), "Empirical Study and Model of User's Acceptance for Mobile Commerce in China",China IJCSI International Journal of Computer Science Issues, Vol. 9, Issue 6, No 2.