

Integrating Technology Acceptance Model And M-banking Adoption: A Conceptual Framework

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Abstract

Even with the rapid expansion of information technology and M-banking services in India, M-banking adoption has not seen that tremendous growth. Still there has been a lot more potential market to connect with online banking services. "Presently M-banking services have seen a light growth of 13% in volume of transactions and value. The number of registered customers rose by 54 per cent to 251 million at end-March 2018 from 163 million at end-March 2017", as per the notifications issued in the Reserve Bank of India's (RBI) annual report 2017-18 (Economic Times, 2018). M-banking can be regarded as a provision and accessibility to banking and financial transactions and services with the assistance of mobile communication devices (Sinha, 2011). M-banking has been developed as a new channel to the existing traditional channels of banking that provides reliable and cost efficient financial services anytime and anywhere. It has been observed that India has great potential for M-banking but very less customer base is registered as users of mobile banking. Finding the new m-banking customers may not be an easy task than retaining the existing one (Chul gu, 2009). Therefore, this current research focuses on the prominent factors influencing actual usage of m-banking services. The TAM (Technology Acceptance Model) proposed by Davis (1989) modified to include customer's perceived risk, perceived compatibility and perceived trust has been used to analyze factors influencing intention to use and actual usage of m-banking services.

1. INTRODUCTION

M- Commerce is connected wirelessly in a mobile environment by use of mobile devices like online commerce (Wei et al., 2009). Mobile commerce is relatively as it does not require heavy investments like that of online commerce requirements like computers and fixed line network for online commerce. Hence mobile commerce offers larger potential for business industries than any other mode.

Mobile phones are now a days regarded as suitable medium to carry out financial transactions due to

its ease, interactivity and every time and everywhere use. Nowadays, bank customers are able to conduct banking services from anywhere within fraction of seconds. M-banking can be regarded as a provision and accessibility to banking and financial transactions and services with the assistance of mobile communication devices (Sinha, 2011). M-banking not only helps the individual customers for their day to day banking services but also provides the easy and quick accessibility of the banking information as

and when required. M-banking is based on wireless networking using protocols such as GPRS and CDMA. In mobile banking, mobile phones are used as terminals for banking customers to check their account balances, make fund transfers, payment of utility bills and various other banking transactions (Brown et al, 2003). M-banking was started in India in the year 2002 by using smart phones or other cellular phones with the help of sending and receiving messages. One of the biggest advantage of using M-banking is works within fractions of a second. The required information is available to the account holder. The verification of accounts, requests for other services is also accepted at a finger touch. Also, when customers facing problems like plastic money theft or frauds, various services hot list facilities are also provided by the mobile banking. One of the most noteworthy advantage of m-banking is that it provides to the banking customer's equipped with omnipresent and real-time services (Zhou et al, 2011), also it provide immediate and interactive banking facilities (Chul gu et al., 2009).

M-banking has entirely revived the nature and concept of traditional banking and has set the mindset of customers from "nice to have" to "need to have" approach. M-banking has a lot more to do as far as banking industry in India is concerned-banking has lot of potential in India, which is obvious from the studies showing comparative statistics of ratio of M-banking customers to bank branches across different countries of the worlds (Marakarkandy and Daptardar, 2011). TRAI (Telecom Regulatory Authority of India) (2011) shows the penetration rate of mobile phone subscribers to be 851.7 million during 2011, which has reached 893.84 million in 2012 (India today,

2012). It has been observed that India has great potential for m-banking but only 5% of mobile subscribers are registered as users of mobile banking. (Reji kumar and Sudharani., 2012; Ketkar et al., 2012).

Maintaining a banking customer is more important than acquiring new customer (Bhattacharjee, 2001); Attracting the new customers may not be easy than retaining the existing m-banking customers (Gefen et al, 2003; Devaraj et al., 2002). Therefore, the current research focuses on the factors that influence the M-banking user's actual usage in India.

2. THEORETICAL BACKGROUND

TAM (Technology Acceptance Model) is one of the most widely accepted and prominent extension of Ajzen and Fishbein's research work known as theory of Reasoned Action (Suh and han 2002) was developed by Davis in 1986. It was specially tailored to predict the individual's information technology acceptance behavior (Davis, 1989) and its explanatory power was ranging between 40-60% of the total variation in an individual's intention to use technology (Chul gu et al., 2009). Technology acceptance model need to be integrated with appropriate situation related variables for improved understanding of IT (Information Technology) acceptance (Lung Hsu and Peng Lu (2004). Researchers like Brown et al (2003), Lurn and Hui-lin (2005), Riquelme and Rios (2010), Puschel et al (2010), Wessels and Drennen (2010), Islam et al (2011), Sangle and Awasthi (2011), Rejikumar and Sudharani.,(2012) integrated and used TAM in M-banking context in various countries. As per TAM, behavioral intention is influenced by a user's attitudes towards any service or a product which in line is affected

by the perceived usefulness and perceived ease of use of the product (Davis, 1989). Perceived usefulness can be understood as the degree to which a person agrees that using a particular system would augment his or her job performance. Perceived ease of use is defined as the degree to which a person believes that would be free of effort (Davis, et al., 1989).

TAM's basic constructs do not completely replicate the multiplicity of user task environments and should be improved and extended (Wessels and Drennen, 2010). Hence, current research incorporated user's Perceived Trust, Perceived Compatibility and Perceived risk as additional constructs along with TAM's fundamental constructs. Researchers like Brown et al., (2003); Wessels and Drennan, (2010); Riquelme and Rios, (2010) considered risk as one of the factor that influences the mobile user's acceptance. Schierz et al (2011), Herwu and Chingwang (2005) considered users perceived compatibility as important factor in M-banking acceptance. Since m-banking is an emerging channel in India, the customers may perceive this channel is risky to perform financial transactions. The customer may also perceive M-banking channel is incompatible to their lifestyle, profession style and their current banking needs. The perception of risk may be higher than offline depending on their experience, skill of the customers. The current research specifically considers the risk related to user's perceived security and privacy. Therefore the m-banking user's Perceived Trust, perceived risk and compatibility are incorporated along with perceived usefulness and ease of use to explore the M-banking user's actual usage in India.

3. REVIEW OF LITERATURE

In the field of technology adoption, the TAM (Technology Acceptance Model) has gained a very significant position worldwide. Therefore, the prominent variables along with some from various researches conducted have been used for framing the conceptual model.

3.1. PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE

Chul-gu et al., (2010), and Fenlin (2011) confirms that M-banking user's perceived usefulness and ease of use were strong determinant of M-banking acceptance in Korea and Taiwan which is also confirmed by Lung Hsu and Peng lu (2004) in the context of usage of online games. In the Indian context, Rejikumar and Sudharani (2012) have concluded in line with earlier findings for continuous usage of M-banking services in India. Hence the following proposition is framed

"Proposition 1: Perceived usefulness will have a significant effect on people's intention to use mobile banking."

Perceived ease of use is defined as accessing a system with less effort (Davis, 1989). Studies like Al-somali et al., (2009) and Mouakket (2009) have found positive influence of perceived ease of use on intention to use online banking technology. Therefore, extending this to M-banking context we test the influence of ease of use on behavioral intention to use M-banking services. Akuturn and Tezcan (2012) found that, perceived usefulness of M-banking technology influences perceived ease of use which in turn influences their adoption. In contrary to that, Her Wu and Ching Wang (2005) found that, the mobile commerce usage is not directly influenced by the user's perceived ease of

use but indirectly through perceived usefulness. Riquelme and Rios (2010) found that M-banking users perception of ease of use leads to perception of usefulness of the technology to conduct banking services which indirectly influences the intention and usage of M-banking services in Singapore. If the customers feel comfortable with particular technology, they would fully utilize the technology and realize its benefits which may make them to feel it as useful. Hence, to identify the influence of users perceived ease of using m-banking technology on their perception towards usefulness the following proposition is proposed.

"Proposition 2: Perceived ease of use will have a significant effect on people's intention to use mobile banking."

3.2 PERCEIVED COMPATIBILITY

Compatibility as one of the attribute of Innovation can be viewed as "The degree to which an innovation is perceived as being consistent with the existing values, past experiences and the need of potential adopters" (Roger, 1995). It is explained as "higher the compatibility of any innovation, higher the adoption rate". User's compatibility is found to have positive influence on intention, adoption and acceptance of a variety of online applications such as e- nursing course (Cheng tung, 2007) M-shopping (Peng Lund Jen Su, 2009) e-shopping (Crespo, 2008) m-banking(Fen Lin, 2010; Wessels and Drennan, 2010). Therefore the following proposition is proposed to verify whether m-banking is compatible in provisions with the user's past experiences and banking needs and its influence on intention to use m-banking services.

"Proposition 3: Perceived Compatibility will have a significant effect on people's intention to use mobile banking."

HerWu and Ching Wang (2005) found that, the mobile commerce customers perceived compatibility influences perceived usefulness in turn it influence behavioral intention and usage of mobile commerce services. To verify the influence of compatibility on perceived usefulness following hypothesis is proposed.

3.3 PERCEIVED RISK

Though the M-banking channel is useful, compatible and easy to use, the degree of usage is determined by the level of risk associated with performing financing transactions on this channel. Empirical studies found that, customers perceived risk of M-banking channel negatively influence their attitude, intention, adoption and usage of online and M-banking services (Sathye, 1999; Zhao et.al., 2008; Safeena et al., 2011; Wessels and Drennan, 2010; Brown et al., 2003). Since m-banking is a emerging channel in India the users intention to use in spite of risk associated with M-banking channel needs to be investigated. Customer's perception of risk in M-banking involves security system of banks, authentication procedures and privacy guarantee provided by the bank. Hence the current research proposes the following proposition to verify the influence of risk on actual usage of M-banking services.

"Proposition 4 : Perceived Risk will have a significant effect on people's intention to use mobile banking."

3.4 PERCEIVED TRUST

Trust is very important for any kind of business relationship. (Palvia, 2009; Wang, Gamsiriudom,

Hsieh, 2015) and plays a vital role in m-commerce, as it decreases the risk of uncertainty (Gu et al., 2009; Li & Yeh, 2010; Wang et al., 2015). Similarly, building customers trust is also necessary for the M-banking service providers (Zhou, 2012). Kim and Benbasat (2006) stated that "the adequate construction of trust-assurance arguments, which are disclosed on websites, is another factor that affects customers' trust". The same assumptions are applied in case of mobile banking. Banks need to have strong and robust technological advancements so that the customers can establish trust over online services and facilities provided by the banks. Trust has been proved as one of the most important antecedent of engagement in online banking services (Shen et al., 2010, Vatanasombut et al., 2008).

"Proposition 5 : Perceived Trust will have a significant effect on people's intention to use mobile banking."

TAM explains that perceived usefulness and ease of use of any technology influences the actual usage through behavioral intention which in turn influences actual use of any technology. Extending this context to m-banking usage, the following proposition is framed:

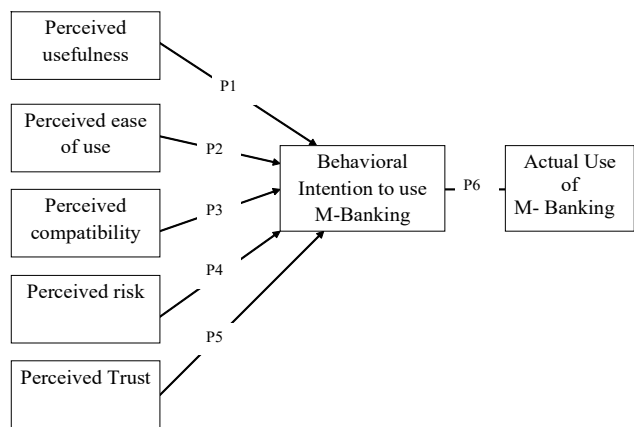
"Proposition 6 : Behavioral Intention will have a significant effect on people's Actual Use of Mobile Banking."

4. PROPOSED FRAMEWORK

The study proposes a research model to examine the influence of Technology acceptance model constructs such as perceived usefulness and perceived ease of use along with construct of Innovation diffusion theory, Perceived Compatibility, Perceived Risk and Perceived Trust

on intention to use and actual usage of M-banking services in India. In specific, the objective of the study is to examine the influence of Perceived Risk, Perceived Trust, Perceived compatibility, Perceived usefulness and Perceived ease of use on behavioral intention of using M-banking and on actual usage of m-banking services.

Figure 1 : Conceptual Research Framework



5. CONCLUSION

This conceptual framework is build on the restrictions of the Technology acceptance Model as a medium that does not highlight the important factors like risk and trust which are the key elements for the M-banking usage by the customers. The main aim of this research is to recognize the factors influencing the M-banking usage in India. The increasing numbers of mobile phone users are not proportionate with the number of M-banking users in India.

The conceptual model limited to M-banking users and cannot be generalized to other electronic banking channel users in India. This integrated TAM model can be further extended to other technological services a such as E-banking ,social media usage , self servicing technologies (SST) incorporate variables like service quality; social influence and facilitating condition in future

research to get a broader perspective on factors that may influence other areas also.

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