



MOBILE BANKING ADOPTION ISSUES AND CHALLENGES AN INTRODUCTION

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Abstract

A strong banking industry is important in every country and can have a significant affect in supporting economic development through efficient financial services (Salehi and Azary, 2008, Salehi et al. 2008). In India the function of the banking industry needs to change to keep up with the globalization movement, both at the informational level and at the procedural level. This change will include moving from traditional distribution channel banking to electronic distribution channel banking. Given the almost full adoption of mobile banking in developed countries, the reason for the lack of such adoption in developing countries like India is an important research that will be addressed in this study.

INTRODUCTION

The rapid growth of information technology has affected the banking industry globally. An effect of information technology in the banking sector is the introduction of mobile banking. Earlier researches have indicated the utility of mobile banking in facilitating the financial transactions between banks and their customers (Kleijnen *et al.*, 2004; Saini, 2014; Mattila, 2003; and Luarn and Lin, 2005). Banks globally extended to invest heavily in information technology and over recent years have started to use the wireless internet access to support a range of innovative banking services with the aim of improving service relationships (Scornavacca and Hoehle, 2007; Saini, 2014). Mobile banking services allow the ability to perform banking transactions and dealings online on portable mobile devices via Short Messaging Services (SMS) or Wireless Application Protocol (WAP). The invention of the mobile phone marked the beginning of a revolution in the ways people communicate and transact. It has revolutionized the communication and has reshaped the manner services are provided. The mobile phone has added a paradigm shift, affecting both the lives of people and the business world. It has permeated the experiences of billions of individuals around the world; becoming for many an indispensable device (Laukkanen, 2007a). The mobile phone is also an ever-evolving device getting increasingly slimmer, sophisticated, and multifunctional. It allows for doing several activities such as money transfers, communicating, connecting to the internet, obtaining services and effecting payments. These distinctive features have made the mobile phone originate into a channel conducive for the provision of many services. Numbers of banks are increasingly realizing that there are indeed huge opportunities to be tapped with the mobile phenomena. The soaring and big mobile phone user base is pushing banks more and more towards "mobile" strategies. The financial services sector, in particular, has responded quickly to this mobile era with numerous financial institutions beginning to offer mobile services (Laukkanen, 2007b). Number of banks globally has launched mobile banking services in an effort to provide ubiquitous access to banking services. The subject has been thoroughly researched by academics to understand why take-off is slow. Various researches on mobile banking adoption have combined the technology acceptance model of Davis, (1989) and diffusion of innovation theory of Rogers (2010) (Riquelme and Rios, 2010).

With rapid advance of Internet technologies and diffusion of mobile phones, mobile banking has gained attention as a viable option in delivering financial services. Mobile banking provides financial transactions services such as fund transfer, balance check, and bill payment via a mobile device such as cell phone, tablet, PDA, and smart phone (Sripalawat, Thongmak and Ngarmyarn, 2011). Mobile Banking is making magical changes for the banking industry. Mobile Banking is a system that permits customers of a financial institution to carry a number of financial transactions by a mobile device such as a mobile phone or Personal Digital Assistant (PDA). Mobile banking assists consumers in carrying fast and convenient financial transaction activities (Saini, 2014). In many nations, Mobile banking has achieved wide acceptance and India is no onlooker to this phenomena. Indian banks started embracing technology in a big way in the 2000's, led in particular by public, private and multinational banks. The raising competition and growing expectations led to increased awareness amongst Indian banks on the role and importance of technology in banking, forcing Indian banks to go in for the latest technologies so as to address the threat of competition and retain their customer base.

MOBILE BANKING AND ITS EMERGENCE

Mobile banking is the recent approach used by financial institutions for the provision of financial services through information and communication technology. Mobile banking is a service whereby clients use a mobile phone or mobile device to access banking services and perform financial transactions (Anderson, 2010). Goswami and Raghavendran (2009) argue that the broad objective of mobile banking is to fit a financial institution on a mobile phone. Crosman (2011) reinforces this by asserting that mobile banking enables their users to have a bank branch in their pocket and to be able to

bank "anytime and anywhere". Laukkanen and Kiviniemi (2010) examined mobile banking as an interaction through which a customer is connected to a bank via a mobile device. The interaction does not necessarily involve doing transactions such as paying bills and transferring money but can, in its simplest way, be the sending of an SMS (Short message system) for account balance inquiry. Steadman (2011) explored that technology is the enabling factor that allowed mobile banking to emerge. The "always-on" connectivity demand by clients coupled with the fact the internet has developed from fixed wired through wireless to mobile connection, meant that financial institutions had to pursue alternative channels to provide their services in order to meet customers' expectations (Puschel *et al.*, 2010).

There is a convergence of thoughts that the main driver of mobile banking is the widespread development, availability and acceptance of mobile or smart phones and devices (Halime, 2010). Skeldon (2011) affirms that the general and widespread acceptance of mobile applications, the increasing application of mobile phones as a tool and means for paying bills, and lifestyle are the factors driving the adoption of mobile banking. Coelho and Easingwood (2003) indicated that the fact that today's customers are less willing to visit traditional bank branches, are more and more receptive to new electronic channels and demand better service quality.

REVIEW OF LITERATURE

Innovation adoption has been obtained a countable attention in the previous researches (Davis, 1986; Davis, 1989; Rogers, 1983; Moore and Benbasat, 1991; Davis, 1993; Premkumar and Potter, 1995; Agarwal and Prashad, 1997; Taylor and Todd, 1995; Agarwal and Prashad, 1998; Tan and Teo, 2000; Kendall *et al.* 2001; Agarwal and Prashad, 1999; Sathye and Diana, 2001). Many studies are still being initiated to explore the adoption of newly innovated technologies both in individual and organizational perspective (Ramayah *et al.* 2003; Wang and Tasi, 2002; Molla and Licker, 2005a; Ramayah, Jantan and Aafaqi, 2003; Azam, 2004; Budhiraha, 2004; Ramayah, Ignatius and Aafaqi, 2005; Azam, 2006a; Ramaya *et al.* 2006;). The previous studies utilized different models to address innovation adoption particularly technology adoption, mostly derived from Rogers innovation diffusion theory, Theory reasoned action by Ajzen Feishbein, Theory of Planed Behaviour or Technology Acceptance Model (TAM). Although Rogers theory is the oldest theory among these four and TAM is the newest, every theory has the utility and currently are being used, many times replicated, in different adoption studies. Other researchers proposed the competing approach to effectiveness of adoption that comprises of three dimensions, focus, structure and time. Furthermore they also proposed a format to determine organizational cultural change. There is a growing body of academic research analyzing the determinants of mobile banking acceptance and its utilization (Luarn and Lin, 2005; Mattila, 2003; Donner and Tellez, 2008; Gu, Crabbe, Standing, Standing and Karjaluoto, 2009; Lee and Suh, 2009; Riquelme and Rios, 2010; Saini, 2014). Studies have been carried in various countries to better understand consumers' attitudes toward this emerging mobile technology. For example, Mattila (2003) centered on the drivers and inhibitors of mobile banking services. The author highlighted that complexity, compatibility, relative advantage, observability, and trialability are the significant factors influencing consumer decision making in mobile banking adoption. As well, security and confidentiality of information are fundamental pre-requisites for any mobile banking services to be productive. While Mattila primarily centered on Finnish market which was already gearing up for mobile banking, Luarn and Lin (2005) carried a survey in Taiwan where mobile banking was still at an infant stage. The traditional Technology Acceptance Model (TAM) framework was extended by adding one trust-based construct (perceived credibility) and two resource-based constructs (perceived self-efficacy and perceived financial cost) in mobile banking context. They indicated that all factors have a significant effect on behavioral intention, and the perceived credibility is the utmost contributing factor to intention. Later, the researcher extended their study to mobile service context to validate whether their earlier mobile banking acceptance model can be generalized to examine overall mobile service acceptance (Wang, Lin and Luarn, 2006). Cheong and Park (2008) explored the reluctance factors of Koreans to use mobile banking for mobile payment. In addition to the traditional TAM factors, they included two additional factors: facilitating conditions and switching barriers. Facilitating conditions mention to the lack of inter operatability and market de-facto, and switching barriers refer to high switching costs, and attractiveness of various alternatives. The results highlighted that facilitating conditions are positively related to the intention to use mobile payment while switching barriers are negatively related. Another research by Gu *et al.* (2009) examined the determinants of behavioral intention to mobile banking in Korea. The authors suggested an integrated model by introducing trust as another key construct of behavioral intention. In addition, social influence, facilitating conditions, self-efficacy, system quality, situational normality, familiarity with bank, structural assurances, and calculated-based trust were inserted as determinants of key constructs. They explored that perceived usefulness is the most important construct to explain the behavioral intention. Also, all the determinants excluding familiarity with bank were found to be significant to measure key constructs.

Another stream of studies on mobile banking is to understand the socio-economic and technological impacts of mobile banking adoption in developing nations. For consumers in developed nations, mobile banking can be a complementary

service (additional platform for managing financial transactions) offered by financial institutions in addition to ATMs and Internet banking. Therefore, factors such as ease of use and convenience may become importance criteria when they consider adopting mobile banking. However, consumers in the developing nations, the appeal of mobile banking may be less about convenience, but more about affordability and accessibility due to network coverage, quality connection, and costs (Donner and Tellez, 2008). Laforet and Li (2005) examined consumer behavior, attitude, cultural influence, and motivation on online/mobile banking adoption in China. Their study suggests that there are large discrepancies between China and western countries in terms of users' demographic characteristics and attitudes towards online/mobile banking. Perceived risks (hackers and fraud) and technological skills were the most important factor influencing Chinese adoption of online and mobile banking. However, consumers in China do not attach much importance on convenience, ease of use, and free access to a wide range of services. A research by Sripalawat et al. (2011) investigated positive and negative factors affecting mobile banking acceptance in Thailand. Subjective norms, perceived usefulness, perceived ease of use, and self-efficacy were considered as the positive factors, and device barrier, lack of information, perceived risk, and perceived financial cost as the negative factors. They indicated that the positive factors have more influence than negative factors towards the acceptance of mobile banking. Among the positive factors, subjective norm is the most significant factor in mobile banking adoption in Thailand. Crabbe et al. (2009) highlighted the impact of social and cultural characteristics on mobile banking adoption in Ghana. They examined that social and cultural factors in the form of perceived credibility, facilitating conditions, perceived utilization and demographic factors played a significant role in influencing adoption and sustained usage. In addition, perceived credibility and facilitating conditions also influence attitudes towards the technology.

Researchers have examined mobile banking adoption factors in Singapore market. Yang (2005) indicated that perceived usefulness and perceived ease of use influence attitude toward using mobile banking. Another research by Riquelme and Rios (2010) indicated the factors influencing adoption of mobile banking among current users of Internet banking in Singapore. They examined that perceived usefulness, social norms, and social risks are the factors that influence the intention to adopt mobile banking services. The research also showed that ease of use has a stronger influence on females while relative advantage influences more on perceived usefulness for males. And social norms have a significant role influencing the adoption of mobile banking among female respondents than male.

Barnes and Scornavacca (2004) ; Barnes and Corbitt (2003) indicated that recent innovations and developments in telecommunications have enabled the launch of modern access methods for banking services, one of these is mobile banking; whereby a customer interacts with a bank via a mobile device such as a mobile phone or personal digital assistant. Rugimbana (1995) and Karjaluoto *et al.* (2002) explored that there is huge market potential for mobile banking services due to its always-on functionality and the option to do banking virtually anytime and anywhere. Unnithan and Swatman (2001) analyzed the drivers for change in the evolution of the banking sector, and the act towards electronic banking including mobile banking by focusing on two economies, India & Australia and suggested firm growth potential of new banking channel in India. Clark (2008) examined that as a channel the mobile phone can augment the number of channels accessible to consumers, thereby providing consumers more low-cost self-service options by which to access funds, banking information, data and make payments. Mobile as a channel delivers convenience, immediacy and choice to consumers. Rao et al. (2003); Vyas (2009) suggest banks will need to expand their thinking about mobile banking beyond online banking and should start to view mobility as its own powerful tool and compelling delivery channel that can help them deliver to end users new value such as immediate access and additional control of personal finances. According to Vyas, (2009) banks will target non-online banking users who may lack regular access to desktop Internet but are very likely to own a mobile device. Gupta, 1999; Saini, 2014; Pegu 2000; Dasgupta, 2002 also affirms future of mobile banking in India in their studies. Suoranta (2003) examined that the average mobile banking user is married, 25 to 34 years old, has intermediate education and average income in clerical work. And also found that education and age have a major influence on the use of the mobile phone in banking services. The adoption theories assume that role of Internet banking precedes the adoption of the mobile phone in banking. However, Suoranta (2003) examined that some mobile banking customers omit Internet banking adoption when adopting the mobile phone for banking actions. Polatoglu et al. (2001); Goyal et. al. (2012); Al-Ashban and Burney (2001); Karjaluoto *et al.* (2002); Black *et al.* (2002) supports findings of Suoranta in their respective studies. Mas (2008); Lyman et al. (2008) indicated that there are a large number of different mobile phone devices and it is a critical challenges for banks to offer mobile banking solution on any type of device. Some of these devices support J2ME and others support WAP browser or only SMS; presetting a serious challenge to speedy adoption. Aslam (2009) suggests that for a banking regulator it is significant to ensure economic stability, provide adequate protection for consumers, provide interoperability of electronic systems and guarantee security of transactions and Anti-Money Laundering and Know-Your-Customer principles must also be imposed to mobile payments. Comminos et al. (2008) analyzed that unbanked will only transact electronically (online/mobile banking) if there is convenience and security. Sharma and Singh (2009) explored that Indian mobile banking users are specially concern with security issues like account misuse and user friendliness issue, financial frauds, difficulty in remembering the different codes for different types of transaction, application software installation & updation due to lack



of standardization. Banzal (2010) explored that another major issue is the revenue sharing agreements between mobile service providers, banks, content providers, aggregators and other service providers like utilities, travel agencies, hotel industry, retailers etc.

Technology plays a crucial role in banking sector. Banking is one of the largest financial institutions constantly explores the opportunity of technology enabled services to provide better customer experience and convenience. Mobile phone is a common technology device that became part of every person in the information era. Mobile Banking is an rising alternate channel for providing banking services. India is the second largest telecom market in the world, which is having high potential for expanding banking services using mobile phones. However, mobile banking has not become the choice of millions of people. Bamoriya and Singh (2011) examined that the mobile banking has the challenges like mobile handset compatibility, privacy & security, standardizing, software downloading. Banks are constantly adopting technology to expand its business and to reach different levels and types of customers. Apart from ATM, Internet banking and other technology enabled services Mobile Banking is one of the services provided by banks to its customers (Devadevan, 2013; Bamoriya and Singh, 2011; Saini, 2014; Goyal et. al. 2012). Astonishing development in telecommunication sector, its penetration including rural masses and technology feasibility are the major factors for the introduction of Mobile banking services. Some banks in India are started providing the mobile banking service to their customers that include State Bank of India (SBI), Punjab National Bank (PNB), Union Bank of India (UBI), ICICI, HDFC, Axis Bank, etc. Devadevan (2013) identified six major challenges of mobile banking in India (1) mobile compatibility, (2) mindset about mobile banking acceptance, (3) comfort level with existing system, (4) availability of facilities, (5) security issues, (6) willingness to adopt mobile banking service. Inam and Islam (2013) examined that handset operability, security, application distribution are the major challenges before the banks in Bangladesh. With the advent of technological development banks customized applications (software's) for mobile phones in the initial stage, now the introduction of Smart phones changed the traditional mobile software into Mobile Applications. Devadevan (2013) identified the major challenges in applications are it has to be developed for different mobile Operating Systems. The mobile is a tiny device, which has the risk of theft. This will be the major challenge on security issues to the customer who are using or willing to use mobile banking. The awareness how to use mobile banking and what are the security mechanisms to be followed by the customer has to be addressed for effective usage of mobile banking. India is a nation where different languages are used in different parts. The mobile banking facilitates to access banking service to the rural community and villages. This requires customer friendly banking software that can be used in their local language. Islam (2013) examined the eight key challenges of mobile banking in Bangladesh (1) Interest in Mobile Banking, (2) time saving, (3) Cost, (4) Trust, (5) Convenience, (6) Infrastructure support, (7) Security, (8) Regulatory constraints. Mobile banking technology, the latest generation of electronic banking transactions has become one of the most familiar banking features, opened up new ways of opportunities to the existing banks and financial institutions. So in the commercial sectors like banking, mobile banking technology will bring banking facilities in hand's grip which will make life easier, flexible and robust. It is an urgent need to set policies and strategies to reverse gaps in terms of regulatory and legal issues (Islam, 2013 b; Donner & Tellez, 2008).

CONCLUSION

In other words, despite this growth and development of information technology worldwide, Indian banks continue to conduct most of their banking transactions using traditional methods. Understanding the reasons for the deficiency of such technological innovation in developing countries such as India will develop a fruitful research. Indian banks have rapidly introduced innovative banking technologies and mobile banking services in recent years. Almost all banks have invested in expanding and improving the IT systems and a number of new mobile banking services have been developed.

All major banks have announced mobile banking as one of the core strategies for the future developments. One of the main reasons for the growth of mobile banking is that, if handled correctly, it can significantly lower the cost of delivering products and services. There are not many inventions that have changed the business of banking as quickly as the mobile banking revolution. World over banks are reorienting their business strategies towards new opportunities offered by mobile banking. Mobile banking has enabled banks to scale borders, change strategic behaviour and thus bring about new possibilities. Mobile banking has moved real banking behaviour closer to neoclassical economic theories of market functioning. Due to the absolute transparency of the market, clients (both business as well as retail) can compare the services of various banks more easily. As discussed by Turner (2009), progress in information technology has slashed the costs of processing information, while the internet has facilitated its transmission, thus facilitating change in the very essence of the banking business. Around the world, mobile banking services, whether delivered online or through other mechanisms, have spread quickly in recent years. The adoption of mobile banking in everyday transaction of customers has made it more than just a complement to traditional banking but has resulted in customers perceiving mobile banking as a modern way of doing banking. Mobile banking is strongly promoted to bring about a change in consumers' banking behaviour.

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