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FACTORS AFFECTING ADOPTION OF MOBILE BANKING IN INDIA: AN EMPIRICAL STUDY

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Abstract : The rapid pace of technological development has changed the way people communicate and interact with each other within their social circle. This has created opportunities for financial services companies to meet customer expectations through various alternative channels. Mobile banking is one of the channels which offer various multiple services to the customers in order to bypass the traditional branch-based retail banking. This study aims at identifying the factors affecting the adoption of mobile banking innovations by existing individual banking customers. Seven adoption factors viz. Perceived Usefulness, Perceived Credibility, Attitude, Social Influence, Facilitating Condition, Compatibility and Perceived Ease of Use are identified based on principal component method of exploratory factor analysis. The empirical findings not only prioritize different parameters of mobile banking adoption but also provide guidelines to banks for focusing on important factors that affect perception of individual mobile banking users related to adoption of mobile banking.

Keywords: Mobile Banking, Adoption, Usefulness, Credibility, Attitude, Social Influence, Facilitating Condition, Compatibility and Ease of Use.

Introduction

Technology adoption has changed the face of banking in India. The rapid growth of high-tech communication media has pushed many service providers including financial institutions to explore new ways of delivering services to their customers. Indian Banks in the early-90's has moved on and get the routine work processes automated by culminating banking services branchless, anytime and anywhere, facilitating new product development and enabled near real time service delivery. Technology helped banks to reach the doorsteps of the customer by overcoming the limitations of geographical/physical reach in branch banking and easing the resource and volume constraints posed by the brick and mortar model. The bank during the last one decade has gone beyond the usual domains of technology in terms of platform, solution, operational details and service content in a very aggressive manner to serve the excluded common citizen at minimal costs. Adoption of innovative technology has not only changed the face of banking in India by

minimizing the operational cost of the bank but also created satisfied customers by serving them anytime and anywhere at minimal costs.

The growing trend throws up a number of electronic channels used by banks. Some of them are telephone, internet, mobile phone or interactive computer through which banks receives instruction and delivers their products and services to their customers. In India, people using mobile phone is more than using a bank account and from bank's perspective using mobile phone for banking is a very conveninet and timely way of providing banking services to the customers. Despite the benefits, in India, mobile banking is still marginally adopted. Therefore, banks are looking for an increase

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customers base with more number of mobile banking users. Also banks cannot take risk of losing customers to competitors within the aggressive competition in the banking industry around the world. The focus of the current study is to explore and highlight the main potential factors that affect the adoption of mobile banking services.

Sullivan and Drennan (2007) defined M-services as "enhanced information services accessed while mobile". The Federal Reserve survey defines mobile banking as "using a mobile phone to access your bank or credit union account. This can be done either by accessing your bank or credit union's web page through the web browser on your mobile phone, via text messaging, or by using an app downloaded to your mobile phone." The M-Banking architecture is based on the specific requirements and this facility is provided through GPRS, GSM, CDMA, 3G, 4G, etc. enabled mobile phones. The services can be provided to customers either directly by the banks or through a third party vendors.

M-banking offers a great deal of prospect by providing various value added services to the individuals thereby expecting to increase its usage in future (Karjaluoto et al., 2002). M-banking allows consumers to perform various financial transactions through their mobile device. Some of the financial transaction offered by banks to perform electronically are obtaining mini statement, checking of account history, getting an alert of any account activity, access to loan and card statements, mutual funds/equity statements, managing insurance policy and pension plans, ordering and getting status of cheques, getting reminders of due dates of payment, change of pin over the internet, blocking of lost/stolen cards, transferring of domestic and international fund, handling of micro-payment, mobile recharging, commercial payment, bill payment processing, peer to peer payments, withdrawal and deposit at banking agent and many more. Also, M-banking set up a basis for delivering many innovative future product and services.

According to Reserve Bank of India mobile banking is a cost effective service delivery channel for both banks and customers. Banks has appreciated the operational efficiency of mobile banking by adopting mobile banking as an integrated channel. It is found that the cost of processing a transaction via mobile phone, costs 2 per cent of branch banking, 10 per cent of ATM and 50 per cent of internet banking. From the consumer's perspective, the combination of data and technology helps them to manage their money in a better and quicker way and the use of newer channel such as mobile devices helps to deliver banking services as and when customers need them. Mobile phone banking or M-banking unlike traditional banking is considered to be one of the best platforms among the other wireless financial service delivery channels for providing "anytime, anywhere" access to banking services (Lee and Chung, 2009).

The benefits of M-banking helps the banks to reach the doorsteps of the customer without considering the geographical/physical reach of branches and thereby reducing the volume and resources restrictions posed by traditional branch banks. Since, mobile banking offers products and services at an affordable cost; it gives a huge opportunity for all the banked and unbanked section of the society to extend these services and act as a catalyst to users in the universal goal of financial inclusion shared by all the stakeholders. Despite of all the efforts made by banks in getting mobile banking noticed by all the section of the society, it still remained unnoticed by the bank customers, leaving a great deal of room for its establishment in India. The mobile banking service market is still in its early life stage in

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India with a very low adoption by existing banking consumers.

Literature Review

Pousttchi & Schurig (2004) identified mobile banking as among the most recent electronic delivery channels to be offered by banks. It is one of the growing branchless banking distribution channels providing increased facilities to customers in performing banking transactions. Hence, there have been repeated calls for the investigation of factors that predict or explain the adoption, acceptance, and use of M-banking (Kim et al., 2007; Laforet and Li, 2005; Luarn and Lin, 2005) among the users. Recent literature (Sanayei et al., 2011; Liisa, 2010; Puschel and Mazzon, 2010; Hernan et al., 2010; Cruz and Laukkanen, 2010; Singh et al., 2010) has investigated the feasibility of incorporating mobile banking with various methods and conceptual frameworks. Among them, the Technology Acceptance Model (TAM) has been used more in comparison to others in studying the adoption behavior of innovation. TAM model developed by (Davis 1985) stated that when a system is used by any individual it determines user's behavioral intention for using the system, which in turn is influenced by users' attitudes and then by Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) of the system.

Many researchers have supported the TAM model in studying the user's adoption behavior towards mobile technology. Yang (2005) while determining the factors affecting the adoption of mobile commerce found a positive effect between perceived usefulness and attitude. Luarn and Lin (2005), in their study at Taiwan found ease of use and usefulness as important constructs in increasing the user's intention towards adopting mobile as a tool for performing banking transactions. Similarly, Lu et al. (2005) found a positive relation between perceived usefulness and perceived ease of use with adoption rates of online services via mobile technology. Over the years, many studies have been conducted by adding additional constructs to the TAM model to explain the adoption of online banking (including mobile as well as Internet banking) since the fundamental construct of TAM do not explain the variety of online banking task environment (Legris et al., 2003; Mathieson, 1991; Venkatesh and Davis, 2000; Her Wu and Ching Wang, 2005; Curran and Meuter 2005; Wessels and Drennan, 2010; Hernan et al., 2010).

Curran and Meuter (2005) subsequently added need for interaction and risk as the two additional antecedent beliefs to TAM and developed a Self-Service Technology (SST) Attitude/Intention Model. Chiou & Shen (2012); Kesharwani & Bisht (2012); Wang et al. (2014); Shen, Huang, Chu, & Hsu, (2010) have included factors like trust and security concerns in the extended version of TAM model. Wang et al. (2014) and Chiou and Shen (2012) have considered different aspects of perceived risk (including financial risk, performance risk, time risk, and psychological risk) in their study based on TAM model whereas in a study by Kalaiarasi and Srividya (2012), perceived risk and compatibility were incorporated along with perceived usefulness and ease of use to explore the mobile banking user's actual usage in India. In order to improve the predictive power of TAM, Luarn and Lin (2005) in their study of mobile banking adoption incorporated perceived cost along with self-efficacy and perceived credibility whereas Schierz et al. (2010), Her Wu and Ching Wang (2005) in their study have incorporated perceived compatibility of the user as an additional construct. In a similar vein, Amin (2009) further suggested perceived credibility, perceived enjoyment and social norm as an additional construct for assessing the customers' plan to use online banking in the future.

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Kleijnen et al. (2004) have incorporated perceived cost, system quality and social influence as antecedents in the TAM model along with some effect of moderating variables to study the relevance of these constructs in mobile service adoption. Malik et al. (2013), have incorporated individual characteristics of the consumer like self-efficacy, personal innovativeness, product involvement along with one behavioral control construct, perceived financial risk with TAM model for greater understanding of user acceptance of m-commerce in Indian context. Further, Venkatesh and Davis (2000), suggested a TAM2 model by broadening TAM and adding social influence and cognitive instrumental processes. They also added experience and voluntariness as moderators to the new model. Venkatesh (2000), further added computer self-efficacy, computer anxiety, computer playfulness and facilitating condition as the determinants of PEOU in TAM2. TAM3 model was then proposed by Venkatesh and Bala (2008) by combining model of TAM2 and the determinants of PEOU proposed by Venkatesh (2000).

Study Objective

Technological development has created opportunities for financial services companies like banks to meet customer expectations through various alternative channels to increase customer ease, decrease cost and maintain profitability. It is argued that technology has changed the whole working nature of banking products. Telephone, ATM, internet and mobile phone are the various new delivery channels launched by banks to offer various multiple services to the customers in order to bypass the traditional branch-based retail banking. This has lifted up the practitioners and academics alike to better understand adoption of banking innovations by customers as the adopters. However, Telephone banking, ATM banking, and internet banking has been subjected to many scholarly researches, mobile banking has been neglected in this respect. This might partly be due to the fact that mobile banking services are yet very marginally adopted in India. Hence, banks need to influence their customers towards performing of mobile banking transactions. Knowing the factors that may influence customers' perception towards mobile banking can help to enhance banks' present system and attract more customers. Hence the objective of present study is as follows:-

- To explore the factors affecting perception of mobile banking users towards their mobile banking adoption.

Research Method

The Study: The research is exploratory in nature and based on survey of banking customers related to their mobile banking experience. It aims to explore the factors of mobile banking adoption on the basis of perception of individual mobile banking users of public or private sector banks.

The Sample: The population under investigation includes existing individual banking customers who use their mobile devices for accessing mobile banking either through web browser or by app downloaded. In the absence of sampling frame non-probability judgmental sampling has been used in the present study to select sample from the population. According to Bryman and Cramer (2001), differences between random and non-probability convenience / judgmental samples in terms of their representativeness are not as significant as have often been implied. E-mail invitations were sent to a number of well-judged respondents for filling up the questionnaire and they were also requested to forward the same to others with similar profile. Respondents were also approached personally for filling up the questionnaire. The sample of the study was drawn from major cities and towns of India like Indore, Mumbai, Pune,

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Jaipur, Ahemdabad, Lucknow, Chandigarh, Jabalpur, Bhopal, Raipur, Ujjain, Dewas, etc. Finally a total of 433 participants completed the survey successfully out of 500 targeted respondents. The sample of 433 covered 71.59% male and 28.41% female respondents. 33.03% respondent have a per month family income of above Rs. 75000, 27.94% respondents lie in the range of Rs. 26000-50000 while 20.79% and 18.24% lie in the range of Rs. 51000-75000 and up to Rs. 25000 respectively. Most of the participants in this study are young working professionals (285) and business men (77) with less number of students (50) and very few housewives (21). According to the study done by KPMG and UBS (2015), India has the youngest population of mobile banking users across the globe at a median age of 30 years.

Tools for Data Collection: Primary data of the study have been collected through a self-structured and self-administered questionnaire comprised of 39 valid items. After rigorous literature review initially 43 items were finalized by the researchers and sent to 21 judges/experts of industry and academia for face validity process. Out of 43 items 39 were finalized by the judges. These items were presented on five point Likert scale range from 'Strongly Agree (5)' to Strongly Disagree (1)' and administered on the sample of 433 respondents. General demographic information of the respondents has also been collected using separate section in the questionnaire.

Tools for Data Analysis: Collected data was analyzed using Statistical Package of Social Science (SPSS 21.0) and MS Excel 2007 to arrive at meaningful conclusion. The internal consistency of measuring instrument has been evaluated initially through item-total correlation method. Out of 39 items, the values of correlation coefficient between 38 items and total were found to be more than standard value of 0.1946 (for greater than or equal to 100 respondents). Only one item number 24 was found with correlation coefficient value of 0.163 which is less than 0.1946 and therefore dropped (Annexure A). The reliability of the remaining 38 items of the scale was determined by Cronbach's alpha method. The reliability coefficient alpha (α) was found to be 0.940 showing high reliability of the 38 items' scale (Annexure B). The Principal Component method of factor analysis using Varimax rotation with Eigen value greater than one was applied on the 38 items/variables to explore the factors. The extraction values of communalities for 37 variables were found greater than 0.4 (i.e. 40%) but for the variable number 16 it was 0.383 (less than 0.4). Thus the variable number 16 was dropped. Remaining 37 variables were again subjected to factor analysis. In the final process of factor analysis the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was found to be 0.935 (Annexure C) which is adequate (>0.5). To ensure significant correlations among input variables, Bartlett's test of sphericity was done and the P value (sig.) was found 0.000 (less than 0.05) which is indicating that there is significant correlation among the selected variables (Annexure C). Finally, the seven factors were explored and discussed in the next section.

Result and Discussion

As a result of the factor analysis 37 items were finally classified into seven factors namely Perceived Usefulness, Perceived Credibility, Attitude, Social Influence, Facilitating Condition, Compatibility and Perceived Ease of Use. These factors explain 57.06% of the total variance. The study empirically explored these seven factors of mobile banking adoption keeping track of the literature related to Technology Acceptance Model (TAM) and other models for providing better criteria of adoption of mobile banking services in India. All the

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factors are individually discussed in the following manner.

The first factor entitled Perceived Usefulness consists of 11 items. The total load of this factor is 6.52. The reliability of the factor was evaluated by assessing the internal consistency of the eleven items that contributed to this factor using Cronbach's Alpha. The alpha coefficient for this subscale was evaluated to be 0.881 (N = 11). The factor explained highest 13.792 percent of variance. Table 1.1 summarizes the details of this factor.

Table 1.1: Details of the Factor 'Perceived Usefulness'

FACTOR	RELIA-BILITY	PERCENT OF VARIANCE	ITEMS	ITEM LOAD	FACTOR LOAD	EIGEN VALUE
Perceived Usefulness	0.881	13.792	Using mobile banking services, I am having latest information updates about my bank account	0.725	6.52	12.296
			Using mobile banking I can access my bank account from anywhere	0.673		
			Mobile banking makes me free from standing in a bank queue for long time.	0.667		
			I can pay my utility (electricity, etc.) bills, as well as purchase goods (Mobile, TV) and services (air tickets, hotel stay) through mobile banking.	0.653		
			I find mobile banking to be useful in performing daily bank activities	0.646		
			Mobile banking gives me 24 X 7 hrs accessibility of my bank account	0.636		
			Mobile banking enables me to accomplish all required banking transactions smoothly.	0.583		
			Using mobile banking I can carry all banking transactions with more ease	0.548		
			While banking through mobile I can conveniently get information about all the services offered by bank.	0.478		
			It is easy to learn and operate mobile banking.	0.459		
			My interaction with the mobile banking systems is clear and understandable.	0.452		

Perceived Usefulness factor is relatively strong indicator of users' perception towards mobile banking adoption in the developing country like India. The useful values of mobile banking like mobility and control over the routine banking transactions are found to have a great impact towards mobile banking adoption. Practically, mobile banking is found to be useful to the users as it provides latest information updates about their account along with anywhere accessibility thus preventing them standing in a bank queue for a long time. It gets well integrated into the daily activities of the consumer thus providing a unique benefit of getting all the latest banking updates anywhere and at anytime in comparison to any other existing technologies. Schierz et al. (2010) similarly observed that users are willing to adopt the technologies if those provide unique benefits compared to the existing technologies.

Mobile banking is found to be one of the best alternatives with a well designed, clearer and understandable user interface. The clearer and understandable interaction with mobile banking helps the users to accomplish their task easily

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and definitely result in the ongoing implementation of an underused innovation. The above results are consistent with the finding of Cooharojananone et al. (2011) and Ndubisi and Sinti (2006) who have documented the importance of well designed user's interface and recognized the importance of clear and understandable procedural information to any technology usage.

The second factor entitled *Perceived Credibility* consists of four items. The total load of this factor is 2.6. The reliability of the factor calculated using Cronbach's Alpha which is 0.807 (N=4). The factor explained 8.660 percent of variance. Table 1.2 summarizes the details of this factor.

Table 1.2: Details of the Factor 'Perceived Credibility'

FACTOR	RELIA-BILITY	PERCENT OF VARIANCE	ITEMS	ITEM LOAD	FACTOR LOAD	EIGEN VALUE
Perceived Credibility	0.807	8.660	Privacy of my personal information is insured in mobile banking.	0.697	2.6	2.818
			Bugs and viruses are less likely to threaten mobile banking because its technology is reliable.	0.671		
			Mobile banking offers good security for all the transactions performed	0.649		
			There is less risk of online fraud like phishing, hacking, etc. when using mobile banking	0.583		

Perceived Credibility also named as perceived risk in many studies that significantly affects behavioral intention to use mobile banking. That is consumer's confidence in the capability of online banking to protect consumer's privacy and personal information appeared as important factor. Credibility seems to draw lot of importance in technologies involving financial transactions owing to the risk perception of the users. Howcroft et al. (2002); Wang et al., (2003); Pikkarainen et al. (2004) identified security and privacy to be important characteristics of credibility from a consumer's perspective in the adoption of innovation related to banking studies. One's the consumer develop an assurance over the security and privacy issues, he/she will develop a positive attitude on the behavioral intention to use online banking (Luarn and Lin, 2005). For constant growth of online banking, Yang (1997) strongly recommended that the security and the privacy aspects need to be improved.

Consumers are always concern about inappropriate use of personal information by online banking invading the consumer's privacy. It may be possible that the bank may share their customer profiles with other companies in the banking group and they use this information to sell additional products. It is a threat that creates a circumstance, condition, or event with the potential to cause monetary suffering to data or network resources in the form of destruction, disclosure, and modification of data, denial of service, and/or fraud, waste and abuse (Kalakota and Whinston, 1997). Similarly, there is a fear that bugs and viruses may threaten mobile banking by tracking the information which the users enter into the system such as password and access details, and send the information to criminals.

Henceforth, confidence to bank online has to be increased by maintaining strictest level of security. Private information are supplemented

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by combination of different unique identifiers, for instance, a password, mother's maiden name, a memorable date, or a few minutes of inactivity automatically logs users off the account. Various encrypted technologies are offered by banks at all their websites aimed to secure information privacy and protect users from risk of fraud, hacking or phishing. Security, which involves the use of above all technical advancement certified aimed at protecting user from risk and develop a significant influence on the intention to perform financial transaction online (Lian and Lin, 2007).

The third factor titled Attitude consists of four items. The total load of this factor is 2.352 with reliability value of 0.779 (N=4). The percent of variance of this factor is 7.850. Table 1.3 summarizes the details of Attitude factor.

Table 1.3: Details of the Factor 'Attitude'

FACTOR	RELIA-BILITY	PERCENT OF VARIANCE	ITEMS	ITEM LOAD	FACTOR LOAD	EIGEN VALUE
Attitude	0.779	7.850	I have a positive attitude towards mobile banking.	0.668	2.352	1.509
			I intend to use mobile banking in the future.	0.642		
			I have no anxiety while using mobile banking.	0.529		
			Mobile banking fits well with my self-image.	0.513		

Individual's attitude towards using the technology is considered to be the main mediator between various other influential variables and the intention to use any technology. It is considered to degree to which a person has a favorable or unfavorable evaluation of the behavior in question (Grandon et al., 2011). Positive attitude of user towards adoption of mobile banking, influence the behavior intention which in turn leads to the adoption of mobile banking. The notion that attitude influence behavioral intention have been researched extensively over past few years and have been well established in the literature regarding the adoption of technology (Dabholkar, 1996; Kuo and Yen, 2009). Many studies, however, have concluded that user's attitude towards the technology is affected by perceived usefulness of the technology and its perceived ease of use (Davis, 1989). Impact of both perceived usefulness (Cheong and Park, 2005; Nysveen et al. 2005) and perceived ease of use (Al-somali et al., 2009; Mouakket, 2009) proved to be significant for developing initial willingness to use mobile banking. The possible explanation to this is that convenience and simplicity or ease factor of mobile banking build a positive attitude among the individual and at the same time their intention to use these service increases.

However, user's experience with other alternative of online banking will lessen the anxiety if the likelihood of a new system is similar to the old system. Services offered by mobile banking are very basic and are similar to the old system. One's the user get familiar with its usage he will use, or continue to use mobile banking. Similar reaction was echoed by Moore and Benbasat (1991), Jackson et al. (1997) where the study found that one's the user are exposed with similar technology they find familiarity with new system thus increasing a positive attitude about the system. This will ultimately increase the user's ability and personality towards the continued use of mobile banking.

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Normally usage of mobile banking services is personal. The users who have opted for online and mobile banking options over visiting local branches will undergo the experience of digital banking and will continue to adopt the same if it gets well suited to their self image. Self image is an idea that one has of one's abilities, appearance, and personality. And once the user's perceives that adoption of mobile banking fits well with his abilities and personality he will use, or continue to use mobile banking. The above finding of our study gets a relevant support in a research made by Puschel et al. (2010) where they found friendly usage of mobile services in an individual's life-style to be one of the important factors representing a possible peculiarity of mobile phone technology.

The fourth factor named Social Influence consists of five items. The total load of the factor is 3.164 with reliability 0.801 (N=5) and 7.767 percent of variance. Table 1.4 summarizes the details of Social Influence factor.

Table 1.4: Details of the Factor 'Social Influence'

FACTOR	RELIA-BILITY	PERCENT OF VARIANCE	ITEMS	ITEM LOAD	FACTOR LOAD	EIGEN VALUE
Social Influence	0.801	7.767	Mobile banking is fashionable and trendy.	0.812	3.164	1.375
			Using mobile banking increases my social esteem.	0.732		
			References of colleagues/peers using mobile banking had a great influence on my perception towards its adoption.	0.621		
			My exposure towards various mobile apps promoted me to accept mobile banking	0.541		
			Innovative functions/ features of mobile banking app motivated me to adopt it.	0.458		

Social Influence represented as subjective norm in Theory of Reasoned Action (TRA), social factors in the model of PC utilization (MPCU) and image in innovation diffusion theory (IDT), is the perceived social pressure from others who are important for individual in deciding whether to adopt the new system or not. Adoption of mobile banking unlike other IT innovation is less observable activities. No one except close peers/colleagues know whether an individual is a mobile banking user or not. The reason for this is banking through mobile is highly personal matter and it requires privacy.

However an individual using mobile banking can get easily identified by their peers/colleagues. The adoption of mobile banking has become a trend among the group and if they haven't adopted the same they may feel down upon. It has become a social esteem or a status symbol for an individual. The study by Cheung et al. (2004), Sripalawat et al. (2011) found that once Internet banking becomes a trend among peers it will have a strong impact on the way people intend to use technologies related to internet, online purchases, online banking, mobile chat and mobile banking (Amin, 2008; Kleijnen et al., 2004). Also the study had found that exposure to various innovative function and features of mobile banking influenced the users to get shift from traditional banking to mobile banking. This will bring a success to information system acceptance. The same sentiment was echoed by Nysveen et al. (2005).

The fifth factor i.e. Facilitating Condition consisted of five items. The total load of this

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factor is 2.856 with reliability 0.736 (N=5) and 7.499 percent of variance. Table 1.5 summarizes the details of Facilitating Condition factor.

Table 1.5 Details of the Factor 'Facilitating Condition'

FACTOR	RELIA-BILITY	PERCENT OF VARIANCE	ITEMS	ITEM LOAD	FACTOR LOAD	EIGEN VALUE
Facilitating Condition	0.736	7.499	Advices of personal bankers influenced me to adopt mobile banking	0.681	2.856	1.297
			Mobile banking awareness practices of banks had positive effect on my intention to adopt it	0.631		
			I think I would get good support from bank in recovering my loss caused due to careless mistakes made by me while operating mobile banking.	0.593		
			Ads of mobile banking in various media influenced me to adopt it.	0.542		
			Availability of proper network connectivity/ speed (2G/3G/4G) on mobile phone encouraged my adoption of mobile banking	0.409		

Facilitating Condition is acknowledged to be a core component of perceived behavioral control in TPB/DTPB by Taylor and Todd (1995). The construct is accustomed to include aspects of the technological and/or organizational environment that are designed to remove barrier to use the innovation. Facilitating condition in a number of technology acceptance studies (Davis, 1989; Moore and Benbasat, 1991; Thompson et al., 1994; Taylor and Todd, 1995; Agarwal and Prasad, 1998 ; Jiang et al., 2000; Venkatesh, 2000) is believed to include the availability of training and provision of support by the organization. This study has considered the impact of advices from personal bankers, various promotional activities and awareness programs conducted by banks to be significant parameters for measuring consumer's intention towards adopting the mobile banking technology. In general, it is found that although consumer confidence level for their bank is strong but in the bank's technology it is weak. Necessary action taken by banks in this regard will obviously increase the confidence level of the consumer and they will be able to use mobile banking without any doubts. This will also help in educating the basic skills of consumers that are required by them in conducting mobile banking.

Also, support from bank in recovering the loss caused due to the careless mistakes made by the users while operating mobile banking is considered to be important for continuing the adoption of mobile banking. If consumers are not given any solution to handle their financial loss by the bank, it is obvious that a fear of uncertainty to get the loss compensated will get develop. And this will result in a negative belief towards the adoption. This uncertainty was also noted by Littler and Melanthiou (2006) who reported that British consumers were unsure about bank guarantees, particularly in relation to new bank brands. Indeed, with the limited knowledge associated with mobile banking services and its attributes, concerns related to redress act as a barrier to adoption.

Facilitating Condition, in a study by Terry (1993) is viewed as an external control related to environment and according to Triandis (1980) the behavior cannot occur if objective condition in the environment prevents it. In line with this, present study also confirms the importance of

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availability of proper network connectivity/speed (2G/3G/4G) on mobile phone for encouraging the user's adoption towards mobile banking.

The sixth factor named Compatibility consists of five items having the factor load 2.714 with reliability 0.765 (N=5) and 6.924 percentage of variance. Table 1.6 summarizes the details of Compatibility factor.

Table 1.6: Details of the Factor 'Compatibility'

FACTOR	RELIA-BILITY	PERCENT OF VARIANCE	ITEMS	ITEM LOAD	FACTOR LOAD	EIGEN VALUE
Compatibility	0.765	6.924	Using mobile banking I can transfer/submit my banking related data faster.	0.735	2.714	1.081
			Using mobile banking I can retrieve/access any banking information instantly.	0.668		
			Mobile banking is compatible with my work style.	0.491		
			Using mobile banking I can manage my finance in the way I want.	0.419		
			Mobile banking provides transparent operations	0.401		

Compatibility is another important factor which studies the compatibility of user's values and their working with the innovation. It is considered to be a significant factor by Tan and Teo (2000) as it promote the users of online banking to adopt such services consistently. This study claim that using mobile banking one can transfer and download banking related information instantly. Transferring and downloading information represents the amount of data one can send/receive in a given second and thus this has an obvious impact on task of performing banking through mobile which will ultimately affect the user's working style. Speed of transactions is considered to be an important element in encouraging mobile baking adoption Yang (2009). In today's era, customers view mobile banking as an expeditious tool that allows customers to better manage their finance and is suitable to their working and lifestyle. As there are many financial products and services available, and an individual's are having more than one financial accounts, it becomes convenient for users to get the things managed without going anywhere.

The seventh factor titled Perceived Ease of Use consists of three items. The total load of this factor is 1.78 with reliability 0.544 (N=3) and 4.569 percentage of variance. Table 1.7 summarizes the details of Perceived Ease of Use factor.

Table 1.7: Details of the Factor 'Perceived Ease of Use'

FACTOR	RELIA-BILITY	PERCENT OF VARIANCE	ITEMS	ITEM LOAD	FACTOR LOAD	EIGEN VALUE
Perceived Ease of Use	0.544	4.569	I can use mobile banking by reading user's manual provided by the bank	0.721	1.78	1.037
			Mobile banking is cost effective as compared to branch banking.	0.589		
			I am not having any body ache like headache, back ache, etc. while performing banking transactions through mobile.	0.470		

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Perceived Ease of Use (PEOU) is the degree to which the prospective users expect the potential system to be free of effort (Davis et al., 1989). According to TAM, PEOU is a major factor that affects the acceptance of information system (Davis et al., 1989). But in the present study the factor load of PEOU is 1.78 which is lowest among all the factors. This shows that effect of PEOU is less than any other factor. The reason for this could be that the data on which the analysis is done are collected from the users who are already using mobile banking in their daily routine; no matter whatever the percentage of their usage is. And once the users get experience about mobile banking and learn the necessary skills, they are likely to develop more favorable perception of its ease of use.

The theory is consistent with the studies of Hackbarth et al., 2003; and Igbaria et al., 1995 who argued that as the users becomes familiar with the technologies their worries and stresses related to the usage of system is lessen as compare to that which may be caused when facing a new technologies. Although, the user's manual provided by bank in a way that can be easily understood by the potential users, is one of the options offered by banks to make the use of mobile banking easy. In addition to this, cost effective feature of mobile banking compared to branch banking is also found to have a significant effect on PEOU.

Conclusion and Implications

Knowledge about the diffusion of mobile banking is somewhat in its infancy in India. In concurrence with the comment made by Yang (2005); Luarn and Lin (2005); Venkatesh and Davis (2000) the TAM along with some incorporated construct is seen as a good starting point in studying the user's adoption behavior towards mobile technology. The present study explored the seven factors which were found to be the characteristics of mobile banking adoption in India. Usefulness of the technology and perceived credibility as defined in the study is a major concern for creating a positive attitude towards user's usage intention. The result indicates that the financial marketers must promote the usefulness features of mobile banking services like convenience, ubiquity and flexibility among the users so as to attract more customers. By addressing the key motivators mention in the study to the customers, the promoters may develop positive attitude and consumer intention towards mobile banking services. Furthermore, the findings suggest that even if customers find mobile banking to be useful, their values will become inconsistent if a bank does not provide a secured and a safe environment. Hence focus on risk reduction is essential for the successful establishment of mobile banking services. There is a need for financial institution to invest in systems that develop an assurance over the security and privacy issues of the consumers, avoid exploitation of personal information and assure reliable and secure data transmission to consumers. Also, banks must make their customers aware about the efforts taken by them in providing a safe and error free technology so as to heighten perceived value and develop a positive intention towards mobile banking services.

The study found that respondents are adopting mobile banking as a social status and were highly influenced by the references given by their colleagues and peers for adopting the services. Awareness programmes conducted by banks had also shown a considerable importance especially for the potential users as they can clear their doubts and lower down their fear while adopting mobile banking services. The awareness programmes must be conducted on a routine basis so that the users are updated with the latest feature of mobile banking services. Bankers must use multiple

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channels (like ATM, email, branch communication, etc.) for communicating the advantages of mobile banking services to the users. This will not only attract the new users but will also increase the average adoption rate of mobile banking services among the customers. However, the study concluded that behavior cannot be occurred or increased if the objective condition in the environment prevents it. Henceforth various techniques must be implemented by the marketers to enhance the communication capacity of mobile data. Transferring and downloading banking related information instantly with hassle free connectivity will ultimately increases the user's intention towards mobile banking services.

Further the study concludes that if the consumer's living and working styles are compatible with the mobile banking services they build a positive attitude towards it. Hence there is a need to show to the consumers that how mobile banking fits well and can be useful within their lifestyle. is essential for the bankers in order to increase the adoption rate. Although the users in the current study were having the some skills to work with wireless banking hence the study found to have respondents with more favorable perception towards ease of use. But addition of any new technology that increases ease of use must be communicated to the existing customers on timely manners. The importance of this study is to understand what all factors influence the adoption of mobile banking services in India. The study addresses the primary concerns of the user on which the bankers can work for designing mobile banking services more effectively targeting the broader segment of potential customers. It will help the bankers to understand the psyche of the Indian banking customers towards mobile banking. Moreover, the outcomes are beneficial for banks in setting up the policies for increasing adoption of mobile banking which in turn will help them to remain competitive.

Annexure A : Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	145.2910	299.781	.602	.936
VAR00002	145.2587	302.553	.494	.937
VAR00003	145.2494	303.692	.501	.937
VAR00004	145.1617	301.821	.544	.937
VAR00005	145.0046	305.301	.425	.938
VAR00006	145.2448	301.838	.526	.937
VAR00007	145.5358	300.680	.572	.936
VAR00008	145.2933	301.560	.593	.936
VAR00009	145.0346	302.918	.544	.937
VAR00010	145.0254	304.029	.496	.937
VAR00011	145.2933	301.175	.572	.936
VAR00012	145.5381	297.309	.644	.936
VAR00013	145.6490	299.191	.567	.936
VAR00014	145.7898	298.277	.612	.936
VAR00015	145.4319	302.176	.570	.937
VAR00016	145.3164	303.800	.485	.937
VAR00017	145.3418	302.850	.536	.937
VAR00018	145.4088	304.617	.492	.937
VAR00019	145.9261	298.569	.521	.937

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VAR00020	145.9238	300.279	.492	.937
VAR00021	145.6328	300.525	.518	.937
VAR00022	145.4573	298.689	.636	.936
VAR00023	145.3256	305.137	.415	.938
VAR00024	**145.5266**	**310.778**	**.163**	**.940**
VAR00025	145.6443	304.174	.390	.938
VAR00026	145.3510	303.839	.454	.937
VAR00027	145.5543	300.544	.517	.937
VAR00028	145.6836	299.897	.496	.937
VAR00029	145.5866	299.891	.488	.937
VAR00030	145.9885	298.748	.473	.938
VAR00031	146.1039	300.246	.437	.938
VAR00032	145.4503	299.355	.607	.936
VAR00033	145.3279	301.485	.564	.937
VAR00034	145.4296	299.783	.592	.936
VAR00035	145.9076	298.061	.511	.937
VAR00036	145.6166	300.339	.556	.937
VAR00037	145.3926	302.364	.462	.937
VAR00038	145.1039	301.473	.653	.936
VAR00039	144.9931	302.354	.595	.936

Annexure B : Reliability Statistics

Conbach's Alpha	N of Items
.940	38

Annexure C: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**0.935**
Bartlett's Test of Sphericity	Approx. Chi-Square	6999.014
	Df	666
	Sig.	**0.000**

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