Analyzing the Factors Influencing Acceptance of Mobile Banking Services

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Abstract: With the ongoing digital revolution in India, along with e-commerce, m-commerce has also taken the important position in day-to-day business activities and banking services are not behind. The banks are connecting to their customers using internet and online banking users are increasing by leaps and bounds. With the advent of smartphones, mobile banking is becoming increasingly popular and has changed the way people used to do banking. The past few years have seen some major innovations in the sector, leading to a shift in the way people use the financial services provided by the banks. Entry of Mobile banking services have enabled customers to virtually do banking from anywhere at any time. The present study analyzes the factors influencing acceptance of Mobile Banking Services.

Keywords: Mobile Banking Services, Perceived Usefulness, Perceived Ease of Use, Behavioral Intention, Attitude

I. INTRODUCTION

In the last two decades, mobile banking has evolved from being mere SMS-based support service – wherein you get updates about your transactions – to a full-fledged banking service. Wireless application protocol/WAP-supported smartphones, now enables customer to get all those services that he could once get only from physical bank branch. Technically, all bank transactions that involve accessing credit/debit through a mobile device (phone or handheld tablet) are considered as mobile-banking transactions. These services, currently offered by many banks in India, are available to mobile customers irrespective of their mobile network or service provider. A customer may simply register with their respective bank and download a specific application on their smartphone. Licensed banks with the provision of core banking solutions (CBS) are permitted to offer mobile-banking services to their customers after obtaining necessary permissions from the Department of Payments and Settlement Systems, Reserve Bank of India.

Typically, mobile-banking services include Account information, Mini statements and Account History, Alerts on account activities, Monitoring term deposits, Access to loan and/or card statements, Insurance policy management, Funds transfer, Fund transfers between customer-linked accounts, Fund transfers to other accounts, Bill payments, Credit card payments, Investment Portfolio management, Real-time stock quotes, Personalized alerts and notifications on security prices, Chequebook and card requests, Complaint filing and tracking, ATM location finder.

The e-commerce industry in India has seen unprecedented growth over the last few years, largely because of a higher level of internet penetration among the population. Perhaps the biggest change in banking in recent times has been the introduction of mobile banking. The RBI issued its first set of regulatory guidelines to do with mobile banking in 2008, where banks were permitted to transfer funds from one bank account to another through the mobile platform. From 2010 to 2016, the number of users of mobile banking services grew at a very high rate.

The RBI clearly recognized the potential for a widespread increase in mobile banking as well as the opportunity of increasing financial inclusion in the country, and made recommendations for “addressing the consumer acquisition challenges as well as the technical aspects”. Recommendations such as alternate channels for mobile registration such as ATMs, uniformity in the mobile registration process across banks, and standardization and simplification of the MPIN generation process were made by the RBI. Despite the potential in mobile banking as a channel for financial services, and financial inclusion, the RBI identified several challenges with the platform, which were of two types – customer enrolment related issues, and technical issues.

Customer Enrolment Issues identified by the RBI:

Mobile Number Registration: In order to avail mobile banking services, the customer needs to go to a branch of the bank or an ATM of that bank to register their mobile number. The RBI recommended that registration be made possible through other channels as well, and that registration forms be made uniform to ease the customer experience.

MPIN Generation: The process for MPIN generation is different across banks, and requires a visit to the bank branch in some cases. The RBI recommended that the process be standardized and that the MPIN be intimated to the customer through their handset without necessitating a visit to the bank.
Major Technical Issues identified by the RBI

One of the major technical issues identified by the RBI was the fact that there is a large disparity in the type of mobile handset, and consequentially, the technology most customers have. The majority of handsets in the country are GSM or CDMA enabled, and a comparatively small number have GPRS technology. The RBI identified three major ways of mobile banking utilized by most banks as SMS, USSD, and application based banking. The problems the RBI identified with the SMS method were that the service is not encrypted, and that it may become inconvenient for customers to remember the syntax required for the commands. The USSD system solves the complexity issue, as it presents an interactive menu and is much faster than SMS. However, it is still not a secure means of communication. A big step forward for the USSD system has been the implementation of the National Unified USSD Platform by the National Payments Corporation of India with a single short code (*99#) to utilize the common USSD channel for mobile banking for all banks.

The RBI conceded that application based mobile banking is the best way to offer the service both in terms of user friendliness as well as security, but stated that developing these applications requires a large amount of research and development due to the extremely high number of permutations and combinations of handsets and operating systems available on the market, and that smartphones are in the minority as far as type of handsets go. To resolve these issues, the RBI suggested that banks continue offering all three services, so that the largest number of people can take advantage of mobile banking services. The RBI also recommended that all banks implement a uniform mobile banking system across all three architectures (SMS, USSD, and applications) for the ease of consumers.

The Road Ahead

In the two years since these recommendations were published, smartphones and GPRS connections (both required for application-based mobile banking) have become a lot cheaper and have permeated a larger section of the Indian society. Hopefully, this trend will gradually reflect in the banking sector and lead to a boom in application-based mobile banking. The next challenge that the RBI will face in the coming years in the field of mobile banking is the replacement of credit cards with smartphones. Both Apple and Google (with Apple Pay and Android Pay) are utilizing NFC technology in smartphones to enable customers to store their credit card information on their smartphone and simply tap it onto a terminal to complete the transaction, and even though it is available in a small number of countries presently, it is only a matter of time before it is introduced in India.

The RBI has announced its intention to review the guidelines for mobile banking to address issues relating to customer registration, safety and security of transactions, risk mitigation, and customer grievance redressal measures, with the intention of promoting mobile phones as access channels to payment and banking services. The policy efforts will also focus on ensuring that mobile banking services are provided to non-smartphone users across the country as well.

In a study it was revealed that customers are quickly adopting mobile banking technology amid security concerns. Adewoye (2013) carried out a study which established that mobile banking improves banks’ service delivery in a form of transnational convenience, savings of time, quick transaction alerts and savings of service cost which recuperates customer relationship and satisfaction. Tiwari, Buse and Herstatt (2006) acknowledge that financial institutions have to embrace mobile banking in congregation of customer needs. The present study tries to examine the effect of mobile banking services on customer satisfaction so as to find out whether further changes are required to be made in order to provide the customers with superior banking experience.

II. LITERATURE REVIEW

Mobile phones provide point-to-point communication and let one stay connected even when one is mobile. Mobile internet has even more simplified the day to day activities of human life. Availability of the internet on-the-go has provided lot of flexibility and capability to the users.

Anyasi and Otubu (2009) describe diffusion as the process of communicating an innovation through definite channels over an assured period of time among the group of a social organization. They also characterize the communication as a process where individuals create and distribute information between one another to reach a common understanding. Porteous (2011) argues that, there are four stages in innovation diffusion process: invention, diffusion through the social arrangement, time and consequences. The easiness of use and newness of an innovation can determine the way an individual responds to an innovation. Some factors have been highlighted to be a determinant of adoption of an innovation and they are: complexity, relative advantage and compatibility. This is believed that, an innovation with relative advantage, with less complexity and compatibility is adopted easily and rapidly by an individual.

Technology Acceptance Model (TAM) has been considered the most useful for predicting the usage of new technology. The model explains the factors influencing acceptance of new technology by the users Davis, Bagozzi, and Warshaw (1989).
Adams, D. A, Nelson, R. R & Todd (1992) in their study found that Perceived Usefulness, Ease of Use, and Usage of Information Technology play important role in accepting new technology. A. Parasuraman, V. A. Zeithaml, and L. L. Berry (1985) provides with a gap analysis model to analyze the gaps and then deal with these gaps to improve the various dimensions of service quality. Woodruff and Robert B (1997) emphasized the importance of providing value to the customers as it can prove to be a competitive advantage to the organization.

Chau, P. Y. K., & Hu, P. J. (2001) found that behavioral intention (BI) of using a particular technology depends on the two factors, which are perceived usefulness and perceived ease of use. M. S. Norazah, T. Ramayah, and M. S. Norbayah (2008) mentioned that perceived ease of use influences behavioral intention to use indirectly through perceived usefulness. L. R. Vijayasarathy (2004) noted that customers may have an attitude towards using newer technologies pertaining to favorable or unfavorable conditions. Among the issues related to information technologies, cost is an important factor affecting user’s behavioral intention (Hung et al., 2003; Luarn & Lin, 2005; Wu & Wang, 2005).

**Objectives of the Study**

The objective of this study is to know the users’ experience of using mobile banking service. The study attempts to analyze the underlying factors affecting acceptance of Mobile Banking service and explore the existence of relationship among them so as to fine tune them in turn to increase the number of mobile banking users.

**III. RESEARCH METHODOLOGY**

The study was conducted with the sample size of 150. Convenient sampling method was used to collect the responses through structured questionnaire. Secondary data were collected from Research papers, Websites and other online sources.

**Hypothesis**

- **H₀₁**: There is no significant relationship between Perceived Usefulness (PU) and Behavioral Intention (BI) to accept Mobile Banking Service.
- **H₀₂**: There is no significant relationship between Perceived Ease of Handling (PEH) and Behavioral Intention (BI) to accept Mobile Banking Service.
- **H₀₃**: There is no significant relationship between Attitude and Behavioral Intention (BI) to accept Mobile Banking Service.

**IV. ANALYSIS & DISCUSSION**

Out of the 150 questionnaires collected, 140 were found to be valid. The data collected was summarized and it was found that out of valid 140 questionnaires, 84 (60%) were Male respondents and 56 (40%) were Female respondents. Majority (112/ 80%) was from the age-group of 20-35 years, 119 (85%) were having Graduation or Post-Graduation degree.

**Reliability Analysis**

Reliability refers to the extent to which a scale produces consistent results, if the measurements are repeated a number of times. Reliability Analysis is performed. Cronbach's Alpha is used as estimate of the reliability. If Cronbach’s Alpha is found between 0.7 and 1, the internal consistency is said to be acceptable.

<table>
<thead>
<tr>
<th>Factors (No. of Items - 120)</th>
<th>Mean</th>
<th>Cronbach's Alpha</th>
</tr>
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<tbody>
<tr>
<td>Perceived Usefulness</td>
<td>3.728</td>
<td>0.856</td>
</tr>
<tr>
<td>Perceived Ease of Handling</td>
<td>3.253</td>
<td>0.802</td>
</tr>
<tr>
<td>Behavioral Intention</td>
<td>2.136</td>
<td>0.721</td>
</tr>
<tr>
<td>Attitude</td>
<td>2.823</td>
<td>0.779</td>
</tr>
</tbody>
</table>

It can be inferred that for all the factors under study i.e. Perceived Usefulness, Perceived Ease of Handling, Behavioral Intentions and Attitude the Cronbach’s Alpha is >0.7 which means that items under factors are consistent.

**Multiple Regression Analysis**

The relationship among variables was analyzed using Multiple Regression Analysis.
From the model summary R which indicates the quality of the prediction of the dependent variable; Behavioral Intention has value of 0.649. The R Square, coefficient of determination which is the proportion of variance in the dependent variable that can be explained by the independent variables and is found to be 0.421. The F-statistics (F = 38.526) was found to be significant i.e. <0.05, which confirmed the good fit of the model.

It can be inferred that statistically significant relationship among Perceived Usefulness, Perceived Ease of Handling, Attitude adoption and Behavioral Intentions exists towards acceptance of the Mobile Banking Service.

H_01: It can be observed that standard coefficient is 0.216 and p-value is 0.025<0.05. That is null hypothesis that there is no significant relationship between Perceived Usefulness (PU) and Behavioral Intention (BI) to accept Mobile Banking Service is rejected and there exists statistically significant relationship between Perceived Usefulness (PU) and Behavioral Intention (BI) towards acceptance of Mobile Banking Service.

H_02: It can be observed that standard coefficient is 0.345 and p-value is 0.004<0.05. That is null hypothesis that there is no significant relationship between Perceived Ease of Handling (PEH) and Behavioral Intention (BI) to accept Mobile Banking Service is rejected and there exists statistically significant relationship between Perceived Ease of Handling (PEH) and Behavioral Intention (BI) towards acceptance of Mobile Banking Service.

H_03: It can be observed that standard coefficient is 0.381 and p-value is 0.013<0.05. That is null hypothesis that there is no significant relationship between Attitude and Behavioral Intention (BI) to accept Mobile Banking Service is rejected and there exists statistically significant relationship between Attitude and Behavioral Intention (BI) towards acceptance of Mobile Banking Service.

V. FINDINGS AND SUGGESTIONS

The respondents of the study were found very exciting about using mobile banking services, as it offered ease of use and utmost flexibility to do banking on the go. However, they were also concerned about safety and security of the transactions they were doing with the bank or any third party. They were of the strong opinion that along with the offering of new features and simplicity banks should also focus on constantly updating and upgrading the online banking infrastructure so that users can be at rest and no longer feel vulnerable to the online security threats. The data analysis revealed that there exist statistically significant relationship among the factors under study and that Perceived Usefulness, Perceived Ease of Handling and Attitude influence Behavioral Intention of the users towards acceptance of the Mobile Banking Service. If banks can take necessary actions to safeguard the online banking environment, it can definitely make the most of the investment done in setting up the infrastructure, and at the same time can strengthen the customer-base.

VI. REFERENCES


