

## **CHALLENGES FACED BY BANKS IN PROVIDING MOBILE BANKING SERVICES TO THE CUSTOMERS**

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***Abstract:** Technology plays an important 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 individual in the information era. Mobile Banking is an emerging 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. This paper provides an overview on challenges faced by banks in providing mobile banking services to the customer. This paper also reveals the present's statistics on usage of mobile banking in last three year. Several measures and recommendation on providing mobile banking services to the customers are discussed.*

***Keyword:** Mobile Banking, Mobile Phone, Banking Services, Technology, Customer.*

### **1. INTRODUCTION**

The Payment and Settlement Systems Act, 2007 empowers the Reserve Bank of India to authorize and regulate entities operating payment systems in the country. The Vision Document for Payment and Settlement Systems of the RBI has, over a period of time, placed importance on the move towards electronic payments and thereby a 'less-cash' society. Towards this end, the Bank has been promoting and nurturing the growth of various modes of electronic payments including the prepaid payment instruments, card payments, mobile banking etc. Mobile payments were trialed in 1998 in Finland and Sweden where a mobile phone was used to pay for a Coca Cola vending machine and car parking. Commercial launches followed in 1999 in Norway. The first commercial payment system to mimic banks and credit cards was launched in the Philippines in 1999 simultaneously by mobile operators Globe and Smart.

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## **2. MOBILE BANKING IN INDIA**

Banks are constantly adopting technology to expand its business and to reach different level 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. Astonishing growth in telecommunication sector, its penetration including rural population 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), Union Bank of India (UBI), Punjab National Bank (PNB), HDFC, ICICI, Axis Bank, etc.

### **2.1. Mobile Banking: Regulatory Framework and Current Status**

The potential of mobile as a channel for offering financial services in the country, the Reserve Bank issued the first set of guidelines on mobile banking in October 2008. The bank-led model was considered suitable for the country with a mandate to banks such that all transactions should originate from one bank account and terminate in another bank account. At this time, a few banks had already started offering information based services like balance enquiry, stop payment instruction of cheques, transactions enquiry, location of the nearest ATM/branch etc. through this medium. The guidelines issued by RBI in October 2008, permitted banks to facilitate funds transfer from one bank account to another bank account, both for personal remittances and purchase of goods and services. Banks were directed on the regulatory/supervisory issues, registration of customers for mobile banking, to ensure technology standards, interoperability, interbank clearing and settlement arrangements for fund transfers, customer grievance and redressal mechanism and transaction limits in an attempt to ensure safe, secure transfer of funds.

In line with these guidelines, banks have been offering mobile banking services to their customers through various channels such as SMS, USSD channel, mobile banking application etc. However, real time inter-bank mobile banking payments has been facilitated through the setting up of the Interbank Mobile Payment Services (IMPS), now termed as Immediate Payment Service, and operated by the NPCI with the approval of the Reserve Bank of India. The IMPS has enhanced the efficiency of mobile banking by enabling real time transfer of funds between bank accounts and providing a centralized interbank settlement service for mobile banking transactions. The IMPS has also been enhanced to support merchant payments using mobile phones to promote less cash society. The committee considered options of using mobile for the merchant payments whereby the merchants on initiating the payment request completes the transaction by accepting an OTP generated by customer on his mobile. The committee also considered a standard and simple process to generate OTP across all banks.

In recent years, the mobile banking has been reflecting a growing trend (albeit the low volumes) with the volume and value increasing by 108.5% (53.30 million in 2012-

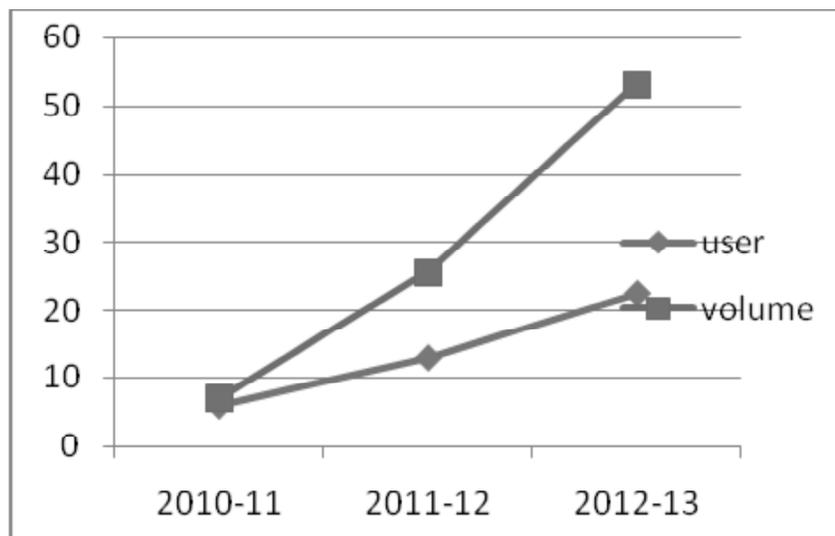
13 vis-à-vis 25.56 million in 2011-12) and 228.9% (Rs.59.90 billion in 2012-13 vis-à-vis Rs.18.21 billion in 2011-12) respectively.

**Table 1**  
**Trends in the usage of Mobile Banking**

Year	No. of Users (Million)	Volume (Million)	Value (Billion Rs.)
2010-11	5.96	6.85	6.14
2011-12	12.96	25.56	18.21
	(-117.45%)	(-273.14%)	(-196.58%)
2012-13	22.51	53.3	59.9
	(-73.69%)	(-108.53%)	(-228.94%)

Note: figures in brackets indicate the growth over the previous year.

**Chart 1: Mobile User & Volume**



Mobile telephony in India has a huge potential with 873.4, Million mobile connections as on 30.06.2013 in the country, of which about 350 Million are in rural areas. The number of subscribers who access Internet by wireless phones has grown to about 143 Million. With sizeable proportion of households (41.3%) not having a bank account and large unbanked sections of population residing in the villages (as per Census 2011, only 54.4% of rural households had access to banking services), mobile banking offers a huge opportunity for banking industry to leverage upon the mobile density in the country. The country has a subscriber base of 870 Million, and around 450 Million bank accounts. The estimates for active SIMs vary, but there are only 22 Million active mobile banking customers. In terms of per-transaction or per-branch

costs, mobile banking transaction is economical compared to the traditional banking channels and hence there is need for banks to encourage the mobile banking channel in a big way keeping in mind the long term economic gains. The committee has deliberated the ways and means to make mobile as preferred, convenient and economical channel for accessing the banking service for all the banking customers.

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• Unique mobile subscribers	350 to 550 million
• Aadhaar numbers issued	510 million
• Bank account holders	589 million
• Bank account holders using ICT based channels	182 million
• Number of mobile banking customers	22 million

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Evidently, the large mobile subscriber base has not been leveraged for financial inclusion.

### **3. CHALLENGES FACED BY BANKS IN PROVIDING MOBILE BANKING TO THE CUSTOMERS**

Despite the potential for mobile banking and the regulatory provisions enabling greater use of mobiles as a channel for financial services in general, and for financial inclusion in particular, banks are facing some challenges in taking mobile banking to the desired level.

These challenges are essentially in two fronts –

- (A) Customer enrollment related issues and
- (B) Technical Issues.

#### **3.1. Customer Enrollment Related Issues**

##### ***3.1.1. Mobile Number Registration***

For a customer, in order to conduct a mobile payment transaction, his/her mobile number needs to be registered with the bank. The process for mobile number registration is implemented differently across banks. Currently, the process for mobile number registration involves the following:

- (a) Customer mandatorily needs to go to the bank branch for most of the banks to register his number and fill in the application form (paper-based). After verification, his number gets registered in the CBS and in the bank's Mobile Banking system.
- (b) Some leading banks have provided the facility for customer to register mobile number at their bank's ATMs using 2FA authentication of ATM card + ATM PIN

### ***3.1.2. M-Pin Generation***

M-PIN is the second factor of authentication that customer needs to use in order to conduct mobile banking transaction. Customer needs M-PIN from his respective bank in order to get started with mobile payments. Currently, the process for M-PIN generation is implemented differently across banks, and involves the following:

- (a) Some leading banks have provided the facility for generating and changing M-PIN from the handset itself using the mobile banking application and providing the authentication parameters as required by the bank (e.g. Debit card details such as Debit card number, ATM PIN, expiry date). These inputs are captured and sent through registered mobile number, for the purpose of M-PIN generation.

### ***3.1.3. Concerns Related to Security***

One of the major factors affecting customer on-boarding and usage of mobile banking services is the concern relating to security of transactions effected using the mobile phone. While mobile banking application is an end-to-end encrypted channel, the other access channels viz. SMS, USSD, IVR, are not end-to-end encrypted. However, in order to enjoy the higher level of security available in the application-based mobile banking, the customer's handset has to be GPRS-enabled. Since SMS facility is available on all handsets, the issue of security can be addressed if the SMS can be encrypted end-to-end, thus allaying any concerns relating to lack of security in this channel.

### ***3.1.4. Bank Staff Training***

The committee feels for effective and efficient implementation of providing mobile banking facilities to the customers it is imperative that the banks staff is well versed and thoroughly trained in various aspects of the mobile banking. For this workshop may be conducted for top officials including the chief executive of the banks; training program may be conducted during induction programs and probationary officer courses. Banks may also periodically conduct refresher courses to ensure staff is abreast with latest developments in these fast paced technology areas in mobile banking.

### ***3.1.5. Customer Education***

The committee also feels banks must continue to invest in handholding and educating customers to increase the awareness of various aspects of mobile banking. Banks collectively may invest in marketing and advertising for widespread promotion of mobile banking.

## **3.2. Technical Aspects**

### ***3.2.1. Access Channels for Transaction***

Once the customer mobile number is registered and M-PIN is generated, customer may use any of the access channels provided by the bank for conducting mobile banking

transactions. Currently, while most banks have provided mobile banking application and SMS facility as access channels, a few banks have also provided other access channels such as USSD, WAP, IVR, etc. some banks also provide a combination of a few of these channels (application + SMS, application + USSD) for offering better security.

### ***3.2.2. Cumbersome Transaction Process***

In the present scenario, with various banks offering various channels for their customers to undertake mobile banking transactions, the user experience is certainly not uniform across banks / channels. The customer is required to provide different set of inputs (authentication parameters) for each type of access channel, thus making the entire transaction process cumbersome.

### ***3.2.3. Coordination with MNOs in Mobile Banking Eco-system***

In order to offer a more secure and better user experience to their customers through their mobile banking channels, banks need a greater level of coordination with the telecom service providers. Some of these areas are:

- (a) For better authentication of the transaction by the bank, MNOs could facilitate the mobile banking transaction by providing the mobile number from where transaction is originated when customers transact using mobile banking application (Currently the mobile number in the header is suppressed).
- (b) Greater extension of support by MNOs to all banks for providing USSD services.
- (c) Facilitation by the MNOs for banks to offer a more secure mobile banking to their customers through SIM Took Kit (STK) application on SIM card for securing the mobile banking transactions.

## **4. RECOMMENDATIONS**

In order to address the above challenges, a multi-pronged approach with concerted involvement of all stakeholders is necessary. In this context, the following solutions are recommended for addressing the customer acquisition related challenges as well as the technical aspects.

- (a) The customer may not be required to visit the bank branch for mobile number registration. Alternate channels for mobile number registration may be made available, such as ATM network across banks as well as the BC / agent network using biometric authentication, so that the customer can register the mobile number conveniently. In the case of first time registration of mobile number, appropriate security safeguards may be put in place by the banks.
- (b) The mobile number registration process, including the registration form may be made uniform, across all banks, so it helps with uniform customer experience.

- Social media propagation of the registration process will bring more customers to this channel.
- (c) The process of M-PIN generation may also be simplified and standardized without necessitating a visit to the bank branch by the customer, so that the customer can be on-boarded in an easy manner and start transacting using mobile payments, and reduce barriers to entry.
    - The customer may be able to set and change his M-PIN from the handset itself using authentication parameters defined by the banks permissible by their security guidelines.
    - The customer may have the facility to set or change the M-PIN from at least one additional channel (apart from mobile handset itself as mentioned in point a above) such as Phone Banking, IVR, ATM, Internet Banking.
  - (d) M-PIN may be generated from the registered mobile number through secure access channels such as mobile application, SIM STK application by using authentication parameters such as debit card credentials (debit card number, ATM PIN, expiry date) required by bank.
  - (e) For customers using other channels, M-PIN may be generated through bank's phone banking facility or IVR, or even the ATM channel, after verification of credentials (e.g. mobile number, debit card number, ATM PIN, account number, date of birth, PAN number, details of last transaction, etc). Further, these channels may also be offered as additional channels to those customers who use the mobile application or SIM STK application.

#### **4.1. Recommendations for Technical Issues**

- (a) Banks may implement multiple channels (application, SMS, USSD etc.) for mobile banking so that options are available to all types of customers with any type of handsets with suitable level of security.
- (b) In case of application-based mobile banking, encrypted SMS facility may be provided to all customers as an additional channel so as to enable them to perform transactions in a secured manner, including high value transactions, irrespective of whether data connectivity is available or not.
- (c) For facilitating funds transfer using mobile banking, the remitting customer may be facilitated to effect person-to-person funds transfer using just the mobile number and bank or just the Aadhaar number of beneficiary.
- (d) Customers may be enabled to use mobile banking service through the use of a single or common USSD number / SMS short/long codes / IVR number / mobile application across all banks. This will facilitate easier customer education and uniform transaction process across all banks.

- (e) Limit of unsecured transaction (without end to end encryption) may be raised from the existing Rs. 5000/- to Rs. 10000/- subject to having certain velocity checks at the bank side. The banks may take the decision of limit enhancement depending on their security policy and internal risk management control measures.
- (f) For better authentication of the transaction by the bank, MNOs could facilitate the mobile banking transaction by providing the mobile number from where transaction is originated when customers transact using mobile banking application (Currently the mobile number in the header is suppressed).

## 5. CONCLUSION

Paper attempts to explore the issues faced by the banker in providing Mobile Banking services to their customers. The recommendation to various issues involve in mobile banking services viz. banks, mobile operators, content providers, regulators on relevant issues which could become challenges for them in providing effective mobile banking services in the country. Results show that from the bankers. Majority of the customers were indifferent towards utility of mobile banking in comparison to retail banking and online banking. The study has limitation as the data were collected only from secondary resources so the results cannot be generalized to pan India population. In this paper we focused on problems faced by the banker in providing mobile banking facilities to their customer. Similar study could be conducted from customer providers i.e. customer' perspective.

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