

# Mobile Banking-How secure it is.

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## **Abstract**

*Ubiquitous use of mobile phone leads to applications targeted to mobile platforms.*

*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. However, mobile banking has not become the choice of millions of people. The main objective of this study is to identify the mindset and analyze the security issues in Mobile banking among the banking customers in India.*

*Keywords— Mobile Banking, Mobile Banking in India,SMS encryption, Digital signatures*

## **INTRODUCTION-**

While electronic commerce (e-commerce) continues to impact the global business environment rapidly, technologies and applications are going to focus more on mobile computing and the wireless Web. With this trend comes a new set of issues specifically related to

*Mobile e-commerce.* The main advantage of Mobile Banking is that the people in remote area can also access the banking services at ease. The advantage of mobile in India has made rapid change in communication system. Apart from the reach of communication device; revolution in mobile technology like 2G, 3G, 4G are created more market where the potential people are adopting the latest technologies. One can see the impact of mobile banking types due to the advancement in technology. The purpose of this paper is to examine some of these issues so that researchers, developers, and managers have a starting point for focusing their efforts in this new domain. Operating system used in mobile device also plays an important role in development of Apps for easy access of various services. The challenges and issues in mobile banking are discussed in this paper.

## **I.SCOPE OF THE STUDY**

On the basis of literature, the following mobile banking issues are explained for bank customers.

- Mobile compatibility
- Perception about Mobile Banking
- Ease of using the previous system
- Availability of ease of doing

- Security issues and challenges

## II. METHODOLOGY

Primary data collected from 55 respondents using online questionnaire method. Secondary data also collected from the website of Telecom Regulatory Authority of India (TRAI). The responses are analyzed in this paper.

## III. CHARACTERISTICS OF MOBILE BANKING

A mobile payment application must have following features so as to be acceptable

- a) **Simple structure and Usability:** The application must be user friendly and easy for the customer. The customer must also be able to adapt the application to suit his or her convenience.
- b) **Universal usability:** M-payments service must provide for transactions between one customer to another customer (C2C), or from a business to a customer (B2C) or between businesses (B2B). Payments must be possible in terms of both low value -payments and high value payments.
- c) **Interoperability:** Development should be based on standards and open technologies that allow one implemented system to interact with other systems.
- d) **Security, Privacy and Trust:** A customer must be able to trust a mobile payment application provider that his or her credit or debit card information may not be misused. Secondly, when these transactions become recorded customer privacy should not be lost in the sense that the credit histories and spending patterns of the customer should not be openly available for public scrutiny. Mobile payments have to be as anonymous as cash transactions. Third, the system should be foolproof, resistant to attacks from viruses, hackers and terrorists. This may be provided using public key infrastructure security, biometrics and passwords integrated into the mobile payment solution architectures.
- e) **Cost:** The m-payments should not be costlier. A m-payment solution should compete with other modes of payment in terms of cost and convenience.
- f) **Speed:** The speed at which m-payments are executed must be acceptable to customers and merchants.

## IV. PROBLEMS FACED WITH ADOPTION OF MOBILE BANKING

**1. Economic Challenges:** The rural population in India is spread across 600,000 villages, each with a low transaction value. Profitability can only be achieved by large volumes, requiring significant initiative from financial institutions. India has some infrastructure in the forms of postal payments, reasonable transport and local governments. Therefore, any mobile banking should be cheap to be attractive for the customer over methods used earlier.

**2. Regulatory Challenges:** Although the RBI is supportive of mobile banking in India, there are many regulations that are being put into place:

- i) **Restricted to Financial Institutions:** The guidelines state that only existing financial institutions and banks are allowed to offer mobile banking. Although the guidelines cover Microfinance

**ii) Rupee Transactions:** All transactions must be done only in India's national currency, the rupee. While this may not be a threat in the beginning, this may pose a constraint for interoperability between Indian mobile payments and the world.

**iii) Existing Account Holders:** The guidelines also state that only those having a valid bank account would be allowed mobile banking. This limits the full potential of mobile banking to extend micro-credit and bring banking to the large number of unbanked customers in India.

**3. Demographic Challenges:** India has 18 official languages which are spoken across the country. The state governments also are directed to correspond in their regional language for official purposes. Additionally, two-thirds of the population in India is illiterate, creating difficulties in deployment of mobile banking solutions. For mobile banking solution, this will be cumbersome to overcome.

## V. Tips and preventive measures to stay secure-

Following are some of the preventive measure to stay safe while using mobile banking:

- Antivirus should have latest updates.
- Avoid opening Spam messages and do not reply these.
- Use anti-spam settings the right way.
- Apply patches and keep the operating system, antivirus, browsers, Adobe Flash Player, Java, and other software up-to-date.
- Always use a security suite.
- Do not enable file sharing.
- Switch off unused wireless connections, such as Bluetooth or infrared ports.
- Avoid Public Wi-Fi network.

## VI. RECOMMENDATIONS

Study shows 'mobile handset operability' is an important issue in mobile banking, due to availability of various handset models (supporting different type of technology) in the market. To resolve it service providers i.e. banks must coordinate with mobile handset manufacturers so that all handsets irrespective of manufacturer and technology (GSM or CDMA) become compatible with single mobile banking technology.

Majority customers perceived 'privacy and security' a critical issue. Here banks are advised to educate customers on this issue to raise their awareness. Especially for the customers' worries like losing money if once mobile handset is lost (substantial number of respondents worried about it). Secondly banks and telecom operators are suggested to make comprehensive joint policy regarding security & privacy so that customers can be assured at both banks and telecom operator's levels and third party side while doing mobile banking. 'Standardization' is another major issue as lack of Standardization of mobile banking services in the country resulted in increased complexity while using mobile banking services (especially when using mobile banking services of multiple banks). For resolving this issue banks are advised to developed mobile banking standards in guidance of RBI.

## VII. CONCLUSION

The Mobile Payment Forum of India (MPFI) has been formed with Institute for Development and Research in Banking Technology (IDRBT) and Rural Technology Business Incubator (RTBI),

It has member s and representatives from the telecommunications industry, financial institutions as well members from the Reserve Bank of India. Three sub- committees have been formed – on technology, on business models and on regulatory issues.

The subcommittees are expected to go over their particular concerns in depth and submit a report shortly. Lots of challenges are to be overcome for a successful implementation of mobile payments to be widely accepted as a mode of payment. Businesses, merchants and consumers have to come forward and make value-producing investments. A regulatory framework and widely accepted standards will be the pillars on which mobile payment applications will be built. Research so far has outlined a diversity of thinking and innovation that exists in the m- payments arena. Numerous solutions have been tried and failed but the future is promising with potential new technology innovations.

With the advent of technological development banks customized applications (software) for mobile phones in the initial stage, now the introduction of Smart phones changed the traditional mobile software into Mobile Apps. The major challenges in Apps are it has to be developed for different mobile Operating Systems.

The mobile is a small 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 country where different languages are used in different parts. The mobile banking facilitates to access banking service to the rural community. This requires customer friendly banking software that can be used in their local language.

The awareness creation among the existing customers and providing special benefits for using the mobile banking will increase the mobile banking users. Once the customer becomes confident on technology it will automatically increase the adoption of mobile banking in mass.

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