

M-Services in India: A Study on Mobile banking and applications

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Abstract

India is one of the fastest growing countries in terms of mobile user. Now mobile phones are not only a medium of voice communication but also widely used for mobile services. Mobile based services or M-services are defined as electronic services that are delivered to the consumers via mobile technologies using mobile devices. M-services is limited concept of E-services which is able to provide services anywhere at any time. Due to this reason this concept becoming popular among people. Investments in M-services are growing and these services stand to offer the promise of creating a social impact in the area of healthcare, agriculture, financing, governance and education. In this paper, we will study about M-banking which is subset of m-services in India. The m-banking is fast growing with its multitude features offered with mobile apps and internet banking. Indian Banking Association is urged to heavily invest in technologies that can evolve and protect against future threats, as well as tackle current pressures from malware and social engineering.

1. Introduction

M-commerce is the fast emerging concept of e-commerce which provides various e-services on mobile devices. Now a days, increase in number of wireless internet subscribers and smart-phone users, m-commerce is rapidly adopted technology in the world. Through m-commerce people are enjoying various m-services such are M-agriculture, M-education, M-finance and M-shopping. In the recent past, banks have launched mobile websites and banking apps for providing their services through mobile. Mobile banking (also known as M-banking, SMS-banking) is a term used for performing banking transactions, payments, etc. with mobile devices. The Global Mobile Banking Report found that m-banking is rapidly adopted by new users and it is largest banking channel by volume of transaction. The most interesting finding was that adoption rates are highest in developing countries reaching about 60-70% in India and China. The main reason of increasing in trend of m-banking is that it helps to perform banking activities at anytime and anywhere. M-banking ensures customers in clearing and settlement of transactions through nationwide and enabling real fund transfer in any bank account and operated by users using mobile banking services of any operators. The convenience of use of mobile, people can take advantage of banking services 24 hrs a day and wherever he needs. It not only saves time for costumers but also reduce cost for banks.

2. Review of Literature

Barnes (2002) indicated that WAP banking is another form of the Electronic banking that enables the user to communicate interactively with the bank. For this communication the client uses only GSM mobile phone with WAP service. With its options and the method of controlling WAP banking reminds an easy form of Internet banking. WAP is a universal standard for bringing Internet-based content and advanced value-added services to wireless

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devices such as phones and personal digital assistants (PDAs). Clark (2008) stated that the mobile as a channel delivers convenience, immediacy and choice to consumers. But there are a large number of different mobile phone devices and it is a big challenge for banks to offer Mobile banking solution on any type of device. Sharma and Singh (2009) found that the mobile banking users in India were more concerned with security issues like financial frauds, account misuse and user friendliness issue, difficulty in remembering the different codes for different types of transaction, application software installation & updation due to lack of standardization. Hayat (2009) suggested that for a banking regulator it's important to provide adequate protection for consumers, ensure economic stability, provide interoperability of electronic systems and guarantee security of transactions and Anti-Money Laundering and Know-Your-Customer principles must also be applied to mobile payments. Further, Banzal (2010) found 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. Gupta and Mittal stated that the connectivity with innovative modes of transaction in banking like ATMs, Internet Banking and mobile banking always required lot of attentions from the side of service providers because a small interruption in the system may spread a very bad word of mouth and fear to the customers. Technical Committee Report, RBI (2014) described that the 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. Bank-specific applications and individual platforms have a major role in building brand loyalty, an alternate uniform/common platform, interoperability and similar seamless transactional experience to the users/customers of all banks would encourage mobile banking.

3. Objectives

1. To study the trends in mobile banking in terms of numbers of users and transactions.
2. To study the recent progress by various banks with respect to mobile banking.

4. Research Methodology

This is a descriptive research paper based on secondary data. Data have been found on various websites, Reports of RBI, KPMG, IMAI and various others. The data was also collected from journals and articles published in newspaper.

5. Mobile Banking and Applications

Mobile banking users are becoming more comfortable doing banking transaction with their smartphones. With the increase of trend in m-banking new users shows more confident in banking on mobile devices. India has the youngest population of mobile banking users across the globe at a median age of 30, as opposed to 32 in the US and 39 in Europe, According to the research by KPMG and UBS. Further, it also showed that the Mobile Banking users in India account for over 50% of its population today. Many banks have come up with their banking apps which help people to make online transactions, pay bills, recharge mobile phones, etc.. The top five mobile banking apps are State Bank Freedom, HDFC Bank mobile application, iMobile from ICICI Bank, Baroda M-connect and New Axis Mobile in India. Almost all banks have been building mobile banking apps for their customers, and upgrading them too. The Reserve Bank of India (RBI) has given approval to 80 banks to start mobile banking services, which includes apps and 64 banks have commenced operations. As of October 2013, nearly 30 million people had subscribed to mobile banking services, which is still small number of app users. According to Kern Communication Pvt. Ltd, a user experience research consultancy firm, only 0.12 million downloads banking apps on

Google's Play Store (Vishwanathan, 2014). Banks are looking at various ways to tap the full potential of this unprecedented growth in mobile banking. They are using technology in a big way to provide customers with the best mobile banking experience like ICICI Bank who is considering adding an NFC tag which will introduce 'tap and pay' feature without the customer having to reach for his wallet (Dias,2015).

Table No.1 Trends in Mobile Banking

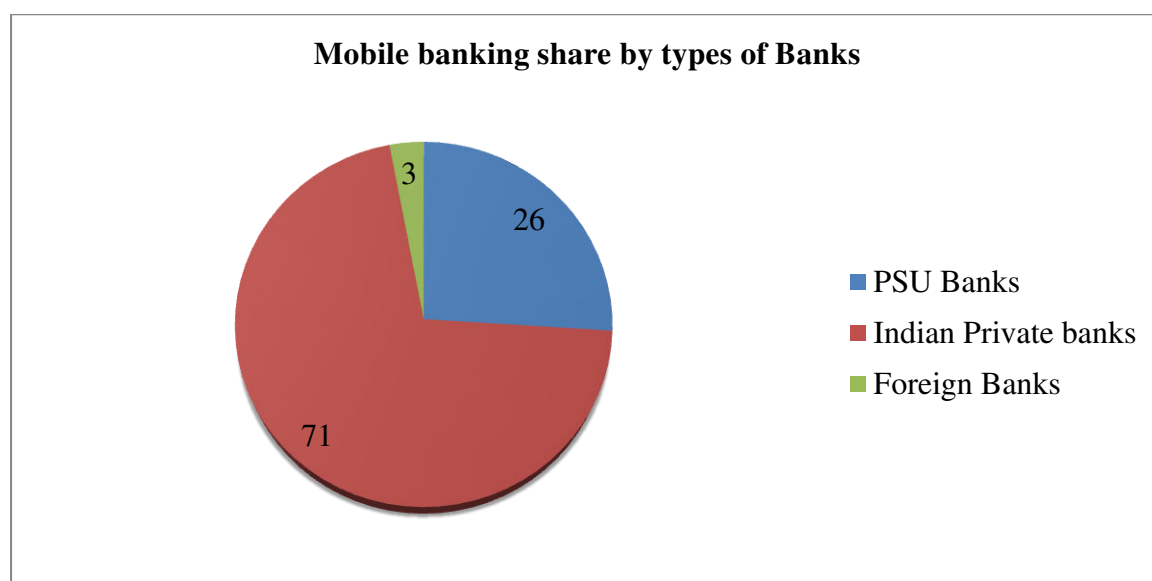
Year ended March	NO. OF USERS (million)	VOLUME (million)	VALUE (billion)
2011-12	12.96	25.56	18.21
2012-13	22.51 (73.69%)	53.31 (108.56%)	59.90 (228.49%)
2013-14	35.53 (57.84%)	94.71 (77.66%)	224.38 (274.59%)
2014-15	-	172 (81.60%)	1035 (361.27%)

Source: RBI

(Figures in parentheses is change over previous years)

From table no.1, we can infer that the value of transactions through the mobile has shown a remarkable growth. The growth in number of users and the volume of transactions slowed down in FY14 over FY13, as per data collated by the Reserve Bank of India. The value of money exchanged through mobile banking rose to Rs 1035 billion during the year ended March 31, 2015, recording growth of around 361 per cent. The growth in value of transactions was also strong in the previous year rising 274 per cent in FY14 over FY13. In FY14, 35.53 million customers used m-banking services in the country. However, the growth in the number of m-banking users grew at a slower pace. The m-banking users rose to 57.84 per cent as against 73.7 per cent the year ago. At the same time the volume of m-banking transactions grew at a relatively slower rate of 94.71 million in FY14 to 172 million in FY15. RBI is also taking steps to provide accessible, convenient as well as cost effective services to mobile banking customers.

Graph No. 1 Mobile Banking Share by types of Banks (%)

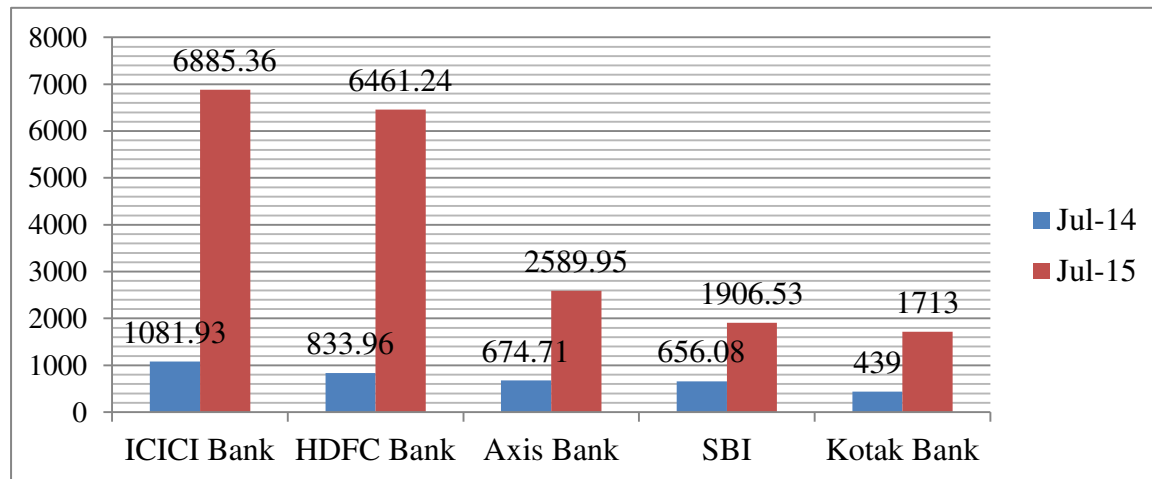


Source: Shyamanuja Das, article in cio&leader 2015

From graph no. 1 we can revealed that private banks has highest share in terms of mobile banking. Private sector banks accounts 71 per cent share followed by Public sector

banks (26%) and foreign banks (3%). This shows that private sector banks are taking various initiatives to increase the number of transactions.

Graph No. 2 Tops 5 Banks in Mobile Banking Transactions (In Crore)



Source: Nupur Anad, Business Standard news 2015

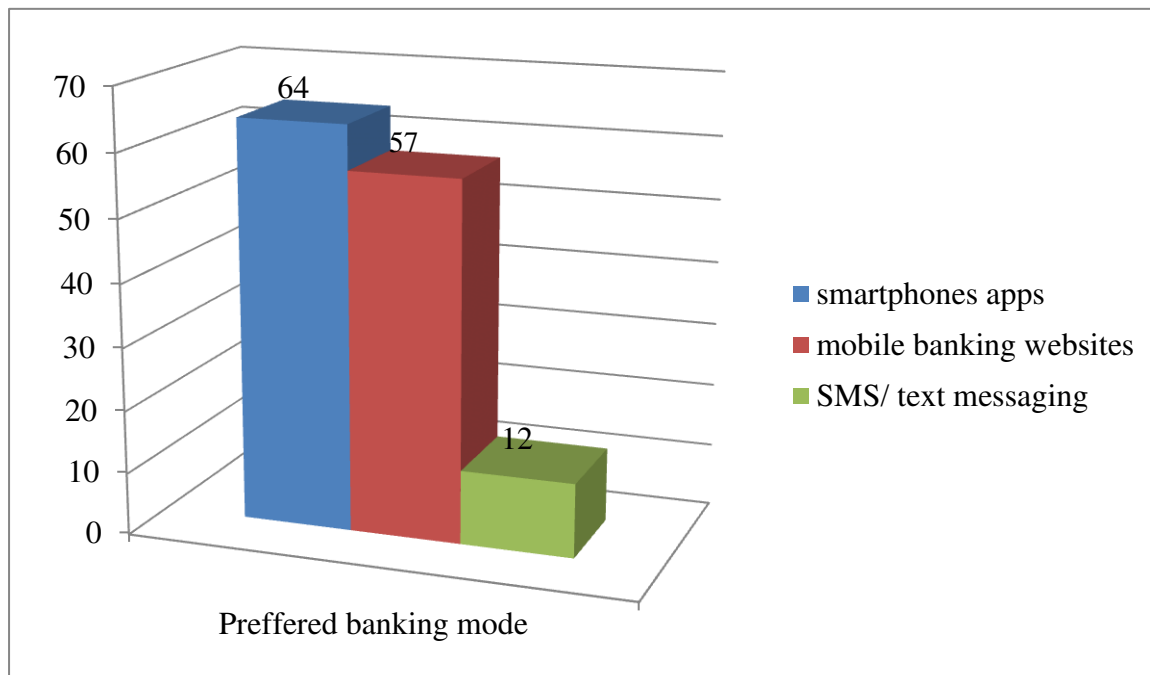
The above graph revealed that ICICI Bank, India's largest private sector lender, has outpaced its peers to record the highest number of mobile banking transactions from last two years. According to the Reserve Bank of India (RBI) data, the lender recorded transactions worth Rs 6,885.36 crore in July, 2015 higher than any other bank. HDFC Bank currently holds the second position, followed by Axis Bank and then State Bank of India. ICICI Bank has launched several initiatives to retain the highest position in terms of number of transactions, including revamp of mobile banking application, online paperless account opening for non-resident Indian customers in the US and remittances through Facebook. Kotak Mahindra Bank's mobile transactions grew from Rs. 439 crore in July 2014 to Rs. 1713 crore in July 2015.

Table No. 2 Payment and Settlement System

Year ended, April	VOLUME (million)	VALUE (billion)
2011-12	25.56	18.20
2012-13	53.30	59.90
2013-14	10.74	33.91
2014-15	171.92	1035.30

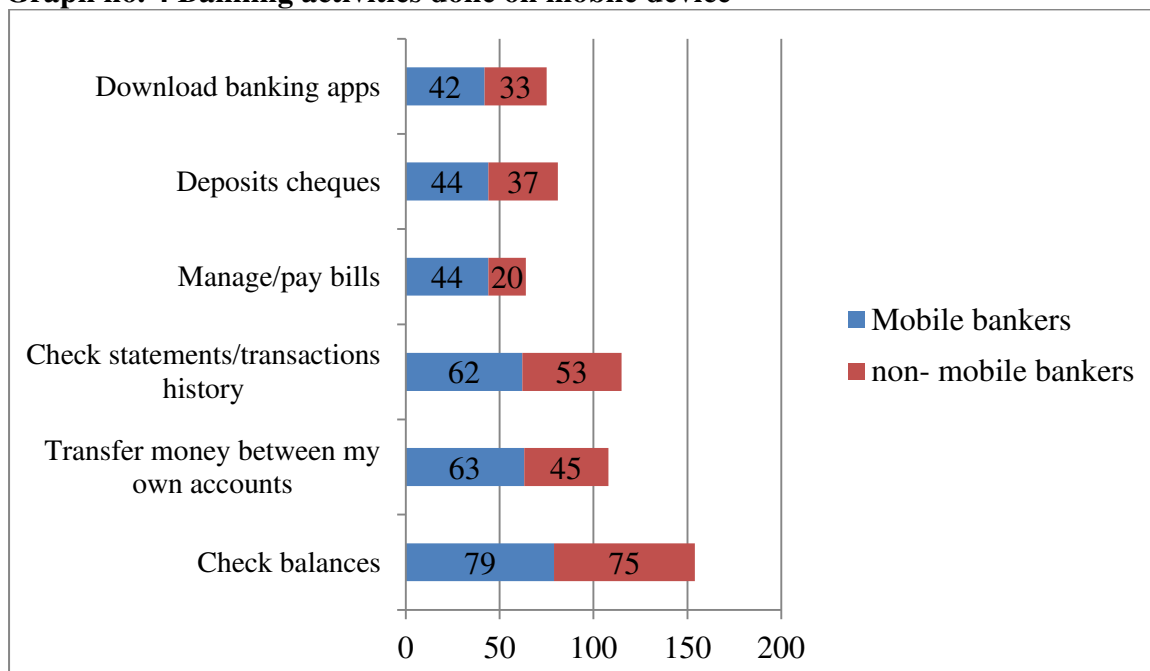
Source: RBI monthly bulletin report

This table shows the trends in payment and settlement system of mobile banking for last 4 years in terms of volume and value. The volume of payment and settlement system in 2011-12 was 25.56 million, which has been increased to 171.92 million in 2014-15. The value of payment and settlement system has also been increased from 18.20 billion in 2011-12 to 1035.30 billion in 2014-15. This shows that the payment and settlement system has been showing a remarkable growth, both in terms of volume and value.

Graph no. 3 Preferred Banking Mode (%)

Source: Congizant Business Consulting Report 2013

This graph shows the various banking mode which were preferred by customers. The smartphone apps were mainly used by various customers which accounts to 64 per cent. Mobile banking websites and SMS/ text messaging accounts for 57 per cent and 12 per cent. Consumers tend to prefer smartphone apps over mobile banking Web sites to access their accounts and a small percentage of consumers prefer text banking.

Graph no. 4 Banking activities done on mobile device

Source: Nielsen report 2015

The above graph shows that both mobile bankers and non mobile bankers mostly exercise activities such as check balances and check statements/transactions history and transfer money between my own accounts.

6. Issues Related M-Banking

As the trend of mobile banking is increasing with its more benefits in daily life to make easily settlement of banking transactions with the "anytime and anywhere" banking system, there are some issues which lead some hurdles in its growth in economics. Many researchers, academicians, authors who made attempt to study on adoption of mobile banking by customers in India they found that most of people raise issue of security with m-banking apps. According to Wegilant report, "most of the mobile banking apps failed and many didn't employ even the basic security checks expected. The communication between the apps & their servers is still in the unencrypted format i.e. in HTTP instead of HTTPS. Further he said 29 mobile banking apps in India are found security vulnerabilities attack. A survey by software security firm Trend Micro found that India ranked third among countries most affected by mobile banking malware. Banks find themselves having to both protect the customer, while at the same time providing uninterrupted and speedy access to their services to attempt to ensure greater consumer satisfaction. Biometric apps and fingerprint scanning are earmarked as ways to bolster the security of mobile banking, whilst ensuring ease of access; only a handful of the main banks assessed in the research currently offer this service. RBI also issued guidelines for banks on mobile banking that

- a) the banks issue a new mobile pin (mPIN) to users. To facilitate the mobile payments mPIN may be issued and authenticated by the bank or by a mobile payment application service provider appointed by the bank.
- b) Implement application level encryption over network and transport layer encryption wherever possible.
- c) Establish proper firewalls, intruder detection systems (IDS), data file and system integrity checking, surveillance and incident response procedures and containment procedures.
- d) Conduct periodic risk management analysis, security vulnerability assessment of the application and network etc at least once in a year.

There are various measures adopted by companies and Indian Banking Associations and other regulatory bodies to check vulnerabilities on mobile websites and applications. And also provide various safety tips to customers by various researchers and IT engineers.

7. Conclusion

Mobile technology is transforming the banking industry in worldwide by providing convenience to banking customers and offering new services to the unbanked customers in emerging market of India. M-banking is rapidly growing in finance sector for the transactions and payment settlement. For this all stakeholders like Regulators, Govt, telecom service providers and mobile device manufactures need to make efforts so that penetration of mobile banking reaches from high-end to low- end users and from metros to the middle towns and rural areas. The limitation of this study is that it focused only on the latest trends of m-banking transactions and apps only, not considered the other m-banking modes like SMS, m-wallet, m-pesa. Some authors also described the issue of security on m-banking. The regulatory body RBI now taking more and more innovative steps and provide various guidelines to banks for protection of customer account security on mobile website and applications. Inclusion of non-banking population in financial main stream will benefit all. There is also need to generate awareness about the mobile banking so that more and more people use it for their benefit

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