Financial Inclusion Through Mobile Banking An Analytical Study

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Abstract

Rural development is very important for economic growth of any country. It is evident that a sizeable proportion of households (41.3%) don’t have a bank account besides a large unbanked section of population particularly those residing in the village. According to the Census 2011, only 54.4 per cent of rural households have access to banking service (RBI 2014). Mobile banking offers excellent opportunity for banking industry to leverage upon the mobile density in the country. Mobile technology for banking transaction has been gaining momentum across the world. With the rapid growth among users and expansion in coverage of mobile phone networks in India, more than 60 percent of the population is in possession of mobile phone. This includes a large section of the rural population. Mobile banking has no infrastructure cost to the bank and no additional investment from customers.

Mobile banking becomes more and more prevalent in India, thanks to its convenience. Month-on-month, transactions carried out through mobile banking are surging in terms of both in volume and value. Mobile phone having penetrated over 80 per cent, India has a huge potential for this banking system. But at the same time, when compared to that at the global landscape, mobile payments have a long way to go in India. As mobile number registration has already taken place with the bank having been linked with the account, wider and more accessible platforms is being made use of by the banks to increase awareness leading to every opportunity to get more and more customers to register for mobile banking services.

Under this backdrop, the study has been taken up with the main purpose to analyze and evaluate whether mobile banking has been growing and proving to be more effective for the financial inclusion in India. The study revealed that there is a relationship between volume and value of transaction meaning that if there is an increase in volume of transaction, value is also increased. Furthermore, this study shows that mobile payments have attained a vast growth for the financial inclusion. The study is based on secondary sources besides analytical in nature. The data is used from the periods of financial years (FY) 2012-13 to 2016-17.

Key Words: Financial inclusion, mobile banking, e-payment, e-banking and digital vision.

Introduction

Mobile banking is the next big step for banks and it will change the nature of banking in India. Financial inclusion cannot be achieved without inclusive growth and every initiative should be directed at the rural poor. "If merchants, bank and operator can come together, they can develop a platform for mobile banking" with a view to setting up new platforms for the new generation. The mobile banking channel has the potential to be one of the key tools for achieving financial inclusion. But at the same time, it is to discern that the growth and acceptance of mobile banking as a channel of accessing banking service has been below expectation. Along with financial inclusion, the focus has also been to shift the economy from one that relies heavily on cash transactions to other that makes use of alternatives such as debit/credit cards and mobile banking transactions. Nothing has been a greater assist in this direction than the penetration of mobile internet in India; because evidently mobile internet is the more popular and easily accessible option among the rural population. Automatically, this translates into more mobile phones which support more mobile banking transactions thus bringing banking to the heart of the nation.

Mobile banking today is most often performed by SMS (Short Message Service) so that is also known as SMS banking. The mobile banking initiatives were started by foreign and private banks followed by public sector banks. The scope of services offered in mobile banking may include getting account information, transferring funds, sending check book request, managing deposits, taking quick check of transactions and so on. Mobile banking is one of the three major pillars (with ATMs and
Internet Banking) of revolutionary improvement in the quality of service delivery of banks. For customers, mobile banking is convenient while banks benefit through a low-cost channel. Mobile phone being a medium for extending banking services has already attained a greater and significant level due to its ubiquitous nature. The spurt of growth of mobile users in India has made this medium an important platform for extending banking services to every segment of banking clientele besides the unbanked segment.

In order to ensure a level playing field, Reserve Bank of India (RBI) brought out a set of operating guidelines for adoption by banks. The guidelines having been finalized through consultative process with the stakeholders were first issued in October 2008. Afterwards, they were updated keeping in view the developments taking place in the field. Banks that are licensed and supervised with physical presence in India are permitted to offer mobile banking services. Only banks which have implemented core banking solutions are permitted to provide mobile banking services. The services shall be restricted only to customers of banks and/or holders of debit/credit cards issued as per the extant RBI guidelines. Only Indian Rupee based domestic services shall be provided. Use of mobile banking services for cross border inward and outward transfers is strictly prohibited. Banks may also use the services of Business Correspondent (BCs) in compliance with RBI guidelines with a view to extend this facility to their customers.

The National Payment Corporation of India (NPCI) since then developed the mobile banking registration service / option on the National Financial Switch (NFS). Adopting pilot study with a few banks, the service has been extended on ATMs of all the NFS member banks. Later, the banks strived to facilitate customer registration for mobile banking through other channels including internet banking, IVR, phone banking, etc besides putting in place a system of registration of customers for mobile banking. Again, Banks strived to provide options for easy registration of mobile banking services to their customers, supported with multiple channels leading to minimize the need for the customer to visit the branch for such services. Evidently it becomes witnessed that Information Security is the most critical to the business of mobile banking services including its underlying operations. Hence, it is discerned that the technology being availed for mobile banking ought to be secure besides ensuring confidentiality, integrity, authenticity and non-reputability. Under this backdrop, the study assumes importance in examining and analyzing the growth value and volume of mobile banking payments for the financial inclusion.

Significance Of The Study

The emergence of mobile banking brings out certain critical challenges viz. security, reliability and consistency in the services up to the level of customers’ expectations. In spite of this observation, the future of the mobile banks looks bright owing to the continuous increase in customers’ enlightenment and the accompanied effectiveness of banking and its regulatory system. They enjoy anytime anywhere banking supported and supplemented with the help of their mobiles leading to do away with standing in the queues or facing the employees particularly when the branch is not at the convenient location. The emergence of mobile phone technology as the most potential and well suited channel for financial inclusion accounts for hardly a decade. Such use of mobile phone for inclusive finance is pertinent in countries where most of the population remains unbanked or under banked (Sumanjeet, 2010).

According to the latest report from Internet and Mobile Association of India (IAMAI), titled Mobile Internet in India 2016, the number of internet users to cross 450 million by June 2016 up from 432 million in December 2015. During the period from January to March 2015, the number of mobile internet users accounted to be around 285 million. Again, by the end of September 2015, the number raised to 305 million and by the end of 2017. Subsequent to such phenomenon expansion of mobile internet users, the number is estimated to touch even 500 million in India. Thus, India may overtake the US becoming the second largest mobile internet market in the world catching up with China which
has around 600 million users. It is also quite interesting to note that 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 (www.dnaindia.com).

There were about 103.43 crore mobile connections in the country of which 44.78 crore were in rural areas as on 31.04.2016. It suggests that mobile telephony can be potentially leveraged to achieve the goal of financial inclusion (TRAI, 2016). Mobile banking is cost effective besides a simple way to provide banking to the non-banked customers in India. Mobile banking transactions are expected to growing up faster than the previous year’s resulting in cost savings besides a useful channel where most of the population is unbanked. Mobile devices becoming integral to modern communication world, banks seek to leverage the ubiquity of the mobile phones for creation of cost-effective distribution channel, rapid innovation, extend reach across segments and improved convenience and security of use in their multifarious transactions. The business strategies for banking include enabling financial inclusion, e-payments to a larger segment of users and enabler for e-money. Hence, mobile banking (M-banking) becomes a powerful tool to bank the unbanked. Ramachandran (2016) is of the view that the global studies have shown the cost of cash to be between one per cent and three per cent of a country’s Gross domestic product (GDP). Under these circumstances, the present study assumes significance in finding out whether to growth of mobile banking helps for financial inclusion in India.

Review Of Literature

In order to understand the methodology of the empirical researchers on mobile banking a survey of literature was carried out and is summarized as follows:

Mobile banking has the potential to bring about financial Inclusion in India. Mobile banking has a huge potential for providing banking facilities to the unbanked and become an effective tool for financial inclusion (Meena Kumari, 2017) Ngugi Daniel (2015) the study found that mobile money transfer services have positive effect on financial inclusion in Kenya in addition to contributing significantly to financial access in Kenya. Govindarajan (2015) highlights that the telecom network is not reliable in tribal hilly areas of the country. Banks would also work to utilize the National Optical Fibre Network (NOFN) when it reaches the Panchayat level. Mobile banking does not raise any new security concerns, but it is better to ensure adequate security. Md. Nur Alam Siddik, et. al. (2014) found that greater significance for the mobile banking service providers and policy makers of Bangladesh in designing the mobile banking services in such a way that access and usage of this service could be increased leading to a positive impact on the country’s financial inclusion campaign. Ali Al Soufi and Hayat Ali (2014) examined whether the extended Technology Adoption Model (TAM) has incorporated the role of factors in influencing customer’s perception towards M-banking adoption in Bahrain. The results reveal that the intention to adopt mobile banking has been mainly affected by specific factors that are perceived usefulness and ease of use.

Fozia (2013) found that there is a significant relationship between the age and customer perception of e-banking services. The demographic factors impact significantly internet banking behaviour, specifically, occupation and age. Kaur, et.al. (2013) show that there is no significant difference in determining the customers’ usage of internet banking services of Public-sector, Private-sector and Foreign Banks in India. Subramanaian and Swaminathan (2010) found that all electronic modes of payments have produced huge growth than physical- paper based payments in India. Ashok Singh (2010) paved the way for the formulation of wider business strategies covering each segment of economic development and social activities for Indian banking systems. Uppal (2010) M-banking to customers as well as to bankers and suggests some strategies with their possible solutions like to spread awareness regarding M-banking and to increase its area and scope to enhance M-banking services in India, particularly in rural and semi-urban areas.

Vyas (2009) stated that Indian banks will target non-online banking users who may lack regular access to desktop Internet but are very likely to own a mobile device, thus reporting great potential of Mobile banking in India. Medhi, et.al.(2009) this paper examines variations across countries in adoption and usage of existing m-banking services by low-literate, low-income individuals and
possible factors responsible for the same. It is observed that variations are along several parameters: household type, services adopted, pace of uptake, frequency of usage, and ease of use. Laforet and Li (2005) examined demographic, attitudinal and behavioural characteristics of online and mobile bank users in China. Their findings showed that unlike in the west, level of education and age did not influence online/mobile banking adoption. Adoption studies are related with technology and service characteristics and its use, like Cost, usability, convenience, security and privacy are the main factors for the success of mobile banking.

Methodology

The study covers the secondary sources of information collected through reference from books, IBA journal, RBI Bulletin, Published Articles and related banks Websites, reports of KPMG, IAMAI. The study covers the period during the financial year (FY) ending 31st March 2010-11 to 2016-17. The tool for analyses includes percentage, trend analysis and correlation.

Analysis And Discussions

Factors such as convenience, awareness and growing penetration of smart phones in combination drive the usage of mobile banking in India. Recognizing the potential of mobile as a channel for offering financial services in India, the Reserve Bank brought out the first set of guidelines on mobile banking in October 2008. On the basis of the analysis and tests the results of the study can be summarized as below:

From the table 1, it is found that number of mobile banking users during the FY 2010-11 to 2013-14 (Data available). During this periods of 2010-11 to 2013-14, the mobile banking has been reflecting a growing trend with increasing no. of users but growth rate of users of mobile banking is decreasing trend from 117.45 per cent to 57.75 per cent, revealing that the banks should take initiatives to encourage their customers for using mobile banking services. It is also important to note that within four years the mobile user's trend was upward (5.96 to 35.51million) which indicates that customers prefer to use the mobile banking transactions.

The tables 2&3 captures throughout mobile payment channels in India during the financial year (FY) ending 2010-11 to 2016-17 both in terms of value and volume. This data clearly indicate that mobile banking transactions are growing at phenomenal rate in volume and in value. The number of mobile banking users has jumped from 22.51 to 35.51 million during 2012-13 to 2013-14. This number was merely 5.96 million in 2010-11(see table 1). There is still a long way to go though. The number of mobile transactions has surged dramatically as a result. There were 94.71 million transactions as a result of the sharp rise in mobile banking users in 2013-14. At the same time the volume of m-banking transactions, which had more than doubled in FY2013 to 53.30 million, grew at a relatively slower rate of 77.69 per cent to 94.71 million in the last year.

In the year-ago, the number of transactions was only 53.30 million. This means more people are increasingly relying on mobile transactions. The Mobile banking in India seems to be catching on. Over the past years, it has grown rapidly. India has a large number of mobile users, the potential is still untapped. The study reveals that further push to promote a less-cash economy, the government has asked the banks to provide mobile banking facility to all customers and also drive to push digital payments in a time bound manner. The value of mobile transactions jumped into around four times (59.90 billion to 224.18 billion in INR) in just one year of 2012-13 to 2013-14. Mobile users have found convenience in the use of mobile phone to transfer money. They transfer more money through mobile phones than ever before. The mobile banking has been reflecting a growing trend is increasing by 108.53 per cent (53.30 million from 25.56 million) by volume and 228.94 per cent (INR.59.90 billion from INR.18.21 billion) by value during the same period of 2011-12 to 2012-13.

In the year 2013-14 and 2014-15, the number of transaction continuously is growing up from 94.71 million to 171.92 million and by value of INR.224.18 billion to INR.1035.3 billion. During the financial years (FY) 2015-16, the total volume of mobile transaction is further growing upward trend from 171.92 million to 389.49 million transactions which indicate the growth rate of 81.52 per cent to
126.55 per cent and the value of transaction from INR 1035.30 billion to 4040.91 billion (290.31%) which indicates fast growing upwards trends than the previous years. During 2010-11 to 2015-16, the numbers of mobile banking transacted from 6.85 million to 389.49 million and in value INR. 6.14 billion to 4040.91 billion of payments through this mode. It is clearly indicated that the total growth of mobile banking transaction around 56 times by volume and 657 times in value. The FY ending 2016-17, highest volume of transaction reported to 976.83 million from 389.49 million and by value of INR.13104.76 billion from INR 4040.91 billion.

It is further important to note that the value (INR.13104.76**) and volume (976.86million**) of transaction in the FY 2016-17 is more than predicted trend value (7818.13**) and volume (648.01**) which reveals that more number of customers preferred mobile banking payments and it implies the existing users are gaining confidence to transact larger amount through mobile banking. It was also found that the relationship between volume and value of mobile banking is high and positive (0.994) meaning that if there is an increase in number of transaction simultaneously value of transactions also increased. The study was also found that the projected volume and value of mobile payments respectively for the financial year (FY) ended on 2020-21 would be 1319.10 (Million) and INR. 16,446.14 (Billion). It reveals that there is an indication of further growth of mobile payments in future financial inclusion perspectives. So, the bankers should motivate customers by offering subsidy/incentive to promote further mobile banking usage for the benefit of financial inclusion of banks.

It has been brought to light that the central government’s imposition of Aadhaar being compulsory for payment of subsidy could have saved wrong payment of 900 crore USD (INR 58,600 crore). Besides, the government subsidy of 1200 crore USD could have been directly credited to the right beneficiary’s bank account in India. Perhaps, this might be the biggest digital payment in the world (www.google.com). It also indicated that the government needed to increase further infrastructural development for digital payments of the country for the quick growth of our economy. It is convinced beyond doubt that mobile banking is a great way in the effort to financially include the unbanked and semi banked societies in the countries where there is low access to finance.

Concluding Remarks And Managerial Implications

To conclude that both volume and value of mobile banking payments were attracted by the customers and also Google has launched a mobile payments app Tez in India that will work on both Android and Apple smart phones (www.bbc.com). Face book, What’sApp and Uber are also in discussion to support Unified Payments Interface (UPI) in India (The India Times.com) which indicates enormous future growth prospectus and achieving our economic objectives of financial inclusion and digital vision of India. Obviously customers prefer mobile (electronic) mode of payments which are healthy practices of Indian economic growth.

The commercial banks and other financial institutions should also consider incentivizing customers to use electronic mode of payments instruments like card payments, mobile banking etc. This can help financial inclusion initiatives and mitigate costs and risks associated with handling cash, ensure transparency and facilitate tax compliance. Further, efficient infrastructure and delivery mechanisms such as mobile phones, small and payments banks will play a significant role in accelerating shift to electronic mode of payments. Banks have to run a nationwide campaign to ensure that every customer who has a mobile is enabled for mobile banking on a time bound manner which drives to push digital payments for financial inclusion.

The study hopes that the policies announced in the future budget for strengthening the overall currency ecosystem of mobile payments. It is vital to remember that financial inclusion would not have been a success if not for the mobile banking in India. It is observed and suggested that several barriers to adoption, pointing to low levels of user awareness and acceptance, handsets that were not compatible with mobile banking applications, as well as the lack of collaboration and revenue-sharing models between banks and mobile operators. To overcome these issues, it is necessary to create
awareness among bankers and customers, continuously upgrade the application so that it can be used on any handset effectively. This will be the scope for further study.

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APPENDICES

TABLE 1: USAGE TREND OF MOBILE BANKING IN INDIA

<table>
<thead>
<tr>
<th>*FY</th>
<th>No of user (Million)</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>5.96</td>
<td>-</td>
</tr>
<tr>
<td>2011-12</td>
<td>12.96</td>
<td>117.45</td>
</tr>
<tr>
<td>2012-13</td>
<td>22.51</td>
<td>73.69</td>
</tr>
<tr>
<td>2013-14</td>
<td>35.51</td>
<td>57.75</td>
</tr>
</tbody>
</table>

Source: compiled from RBI Bulletin, (data available up to FY2014)

*FY (Financial year), 12 months commences from 1st April to 31st March every year

TABLE 2: GROWTH VOLUME AND TREND OF MOBILE PAYMENTS

<table>
<thead>
<tr>
<th>*FY</th>
<th>Volume (million)</th>
<th>Increase/Decrease</th>
<th>Increase/Decrease (%)</th>
<th>Trend value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>6.85</td>
<td>-</td>
<td>-</td>
<td>-156.956</td>
</tr>
<tr>
<td>2011-12</td>
<td>25.56</td>
<td>18.71</td>
<td>273.14</td>
<td>-22.795</td>
</tr>
<tr>
<td>2012-13</td>
<td>53.30</td>
<td>27.74</td>
<td>108.53</td>
<td>111.3661</td>
</tr>
<tr>
<td>2013-14</td>
<td>94.71</td>
<td>41.41</td>
<td>77.69</td>
<td>245.5271</td>
</tr>
<tr>
<td>2014-15</td>
<td>171.92</td>
<td>77.21</td>
<td>81.52</td>
<td>379.6882</td>
</tr>
<tr>
<td>2015-16</td>
<td>389.49</td>
<td>217.57</td>
<td>126.55</td>
<td>513.8493</td>
</tr>
<tr>
<td>2016-17</td>
<td>976.86**</td>
<td>587.37</td>
<td>150.81</td>
<td>648.0104**</td>
</tr>
</tbody>
</table>

Source: Compiled from RBI monthly Bulletin, Money and Banking upto oct, 2017
**Fig 1:** Growth volume (In. Million) of Mobile banking transaction in India

### Table 3: GROWTH VALUE AND TREND OF MOBILE PAYMENTS

<table>
<thead>
<tr>
<th>*FY</th>
<th>Value (INR.Billion)</th>
<th>Increase / Decrease</th>
<th>Increase / Decrease (%)</th>
<th>Trend Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>6.14</td>
<td>-</td>
<td>-</td>
<td>-2535.44</td>
</tr>
<tr>
<td>2011-12</td>
<td>18.21</td>
<td>12.07</td>
<td>196.58</td>
<td>-809.85</td>
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<tr>
<td>2012-13</td>
<td>59.90</td>
<td>41.69</td>
<td>228.94</td>
<td>915.75</td>
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<tr>
<td>2013-14</td>
<td>224.18</td>
<td>164.28</td>
<td>274.26</td>
<td>2641.34</td>
</tr>
<tr>
<td>2014-15</td>
<td>1035.30</td>
<td>811.12</td>
<td>361.82</td>
<td>4366.94</td>
</tr>
<tr>
<td>2015-16</td>
<td>4040.91</td>
<td>3005.61</td>
<td>290.31</td>
<td>6092.53</td>
</tr>
<tr>
<td>2016-17</td>
<td>13104.76**</td>
<td>9063.85</td>
<td>224.30</td>
<td>7818.13**</td>
</tr>
</tbody>
</table>

Source: compiled from RBI Money and banking, up to Oct 2017

*FY (Financial year), 12 months commences from 1<sup>st</sup> April to 31<sup>st</sup> March every year
Fig 2: Growth value (INR.Billion) of Mobile banking transaction in India