
The benefits and challenges of mobile banking at the Bottom of the pyramid

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Abstract

Financial inclusion envisages bringing the people into the formal banking sector and mobile banking can help in this task. It is estimated that almost 85% of the BoP population in the world uses mobile phones but, whether the mobile banking will actually help the BoP and fulfill the purpose of financial inclusion remains a question. Limited research has been conducted on mobile banking among the BoP and has mainly focused on the mobile banking adoption and its determinants. The benefits and challenges of mobile banking to the poor have not been discussed in the past. Before working on the potential solutions of mobile banking, a serious thought over if the mobile banking will actually help the poor or in what ways can help in preparing a strategy that can integrate the positioning of the benefits of mobile banking solutions. Thus, through this research we aim to discuss the benefits and challenges of mobile banking to the BoP. The benefits of mobile banking to the BoP are reduced cost, reduced time and personalization. The challenges of mobile banking are related to system, security, regulatory environment, economic viability. The service providers should work closely with the government agencies to develop appropriate systems that can overcome the challenges and increase the benefits in order to encourage the use of mobile banking at the BoP.

Keywords: *Bottom of the pyramid (BoP), mobile banking, benefits, challenges*

1. INTRODUCTION

The wide distribution of mobile devices throughout the world has raised the potential to bring the unbanked people with low income into the financial mainstream through mobile banking specifically in the developing countries. The developing countries have been striving for financial inclusion of the people in the lowest income group identified as the bottom of the pyramid (BoP) by [1]. Financial inclusion envisages bringing the people into the formal banking sector and mobile banking can help in this task. Mobile banking can facilitate the delivery of banking services such as remittances, bill payments, checking of account balance and other transactions [2]. The people at the BoP are mostly unbanked. According to [1] nearly 1.7 billion across the world do not use formal financial services and a large number of

them belong to the lowest income group. In the developing countries the number of people with a mobile phone and internet connection is constantly increasing thus increasing the chance of financial inclusion through the mobile banking [3]. It is estimated that almost 85% of the BoP population in the world uses mobile phones [1] but, whether the mobile banking will actually help the BoP and fulfill the purpose of financial inclusion remains a question. The extant research on mobile banking among the BoP is limited that has mainly focused on the mobile banking adoption and its determinants. The benefits and challenges of mobile banking to the poor have not been discussed in the past. [4] pointed the failure of mobile banking to attract masses and argued that the research community has not fully explored the underlying issues related to mobile banking and have rather focused on simple taking forward the existing literature [4]. However, the service providers and the policy makers have been working closely to encourage the use of mobile banking among the BoP but the results are not very impressive. Before working on the potential solutions of mobile banking, a serious thought over if the mobile banking will actually help the poor or in what ways can help in preparing a strategy that can integrate the positioning of the mobile banking benefits with the solutions. Thus, through this research we aim to discuss the benefits and challenges of mobile banking to the BoP.

The rest of the paper has been prepared as follows. First, concept of mobile banking and the Bottom of the pyramid is discussed. The next section discusses the benefits of mobile banking for the BoP. Thereafter the research design and methodology has been discussed. The challenges have been subsequently discussed. In the last section the discussion and the limitations and directions for future research are presented.

2. LITERATURE REVIEW

2.1 Mobile banking

A mobile phone is the most widely available device. This availability is irrespective of the demographic factors. Prior research has presented various definition of mobile banking [5]. Researchers have defined mobile banking as a system that makes the financial services available to customers such as financial transactions, viewing of account summary, payments through a mobile phone [6]. It is defined as an innovative service through which the customer can communicate with the bank and complete the banking transactions with the help of a mobile phone [7]. To summarise mobile banking can defined as conducting the banking transactions through a mobile device [8].

Mobile banking has been posited mobile banking as the most contemporary channel for financial transactions. The implementation of mobile banking can be done through three technologies: applications that are web based; applications that involve short messaging service and applications that involve the client [6]. The application that is web based involves the use of internet connection [6]. For this the user should have an internet access on the mobile device. The client can access the banking platforms through the mobile internet. The application that involves short messaging service (SMS) enables the client to communicate with the bank through a text message sent through mobile phone. For this a code is sent to the

bank through SMS to do a banking transaction. The client based application can be accessed by installing mobile apps on the device.

The concept of mobile banking cannot be generalized. Rather there is a variation in the structure and the purpose as per the country and its systems. A wide number of financial functions can be performed by using the mobile banking system such as utility payments, financial transactions and remittances. Various systems and models are used to perform these functions currently. Some of them involve banks and some others are provided by the telecom operators and some of these are provided when the banks partner with the telecom operators or other service providers [9]. The regulatory environment of a country plays an important role in determining these systems and arrangements for the delivery of financial services [10]. The mobile banking system across the countries mostly provide access to user for three things: (a) access the cash in digital form through the mobile device. When the client is a bank customer this is in form of bank account linked to the mobile phone. If the client does not have a bank account then a virtual account is created which is held by either the mobile operator or a third party. (b) The digital currency stored in the virtual account can be converted into cash. Those who hold bank accounts can visit a bank branch to convert into cash. The clients can also visit retail stores of the GSM providers. In utmost case the client can visit the retail store that acts as an agent of the bank to purchase airtime. (c) Perform fund transfers. The funds can be transferred between two mobile linked accounts through SMS or PIN numbers.

2.2 Bottom of the Pyramid

[1]highlighted the economic pyramid that can present the distribution of the world population on the basis of income and wealth. [1]stated that more than 4 billion people of the world population fall at the bottom of this pyramid (BoP) and earn less than \$2 per day. [1]supported these findings and evidenced through the World Bank report the presence of 2.5 billion people on the BOP. These people have very less savings because they spend most of the earnings on living and consumption.[12]compared the purchasing and buying capacity of the BoP in various geographic regions and found that more than half of the buying capacity lies with the people at the BoP in emerging economies. Although, the BoP mainly spend on food, housing and domestic items [12].

Adequate literature is available concerning the mobile banking in context of developed countries but there are few studies on the developing countries [1]. The BoP markets are different from the middle and high income markets due to the unique prevailing conditions such as low education, meager income sources and infrastructure issues[2] at the BoP. The problems in the BoP markets lead to an argument whether the mobile banking can provide the same benefits of those of the other markets to the BoP?

3. RESEARCH DESIGN AND METHODOLOGY

The research is descriptive in nature for which the extant literature on mobile banking and the BoP was reviewed to understand and explore information on the mobile banking benefits and challenges at the BoP.

4. THE BENEFITS OF MOBILE BANKING TO THE POOR

The poor get benefited by having an access to loans at competitive prices. They also get saved from the long queues in the bank that saves the time and energy. Finally the individuals benefit from the personalized banking services.

Above all it offers the benefit of keeping a track of the finances for the poor and the government that helps in economic growth.

4.1 Cost benefit

Prior researchers have stated the benefits of mobile banking concerning the flexibility they offer in terms of greater coverage, accessibility against the conventional banking channels such as retail branches or ATMs [13]. The banks have to make a huge investment in establishing the infrastructure and systems required for smooth flow of mobile banking. But at the same time the banks also do not need to set up physical branches at various remote and far flung locations. This helps the banks in saving the cost incurred on setting up of the branches, maintenance of the branches and staff. This reduces the burden of banks which can be passed on to the customers in terms of decreased costs for banking services. Cost saving can be attained by drifting the customers towards online banking, which makes it an important goal for the financial service providers and banks. This can result into savings in terms of reduced cost for the customers. At the same time the customer does not have to travel to the bank branches or ATMs which might be located at a distant place for every transaction thus reducing the cost burden for the customer.

4.2 Time benefit

The customers incur a lot of time in traveling to the bank branches or ATMs for doing their transactions. They also have wait in long queues for the banking transactions. The branches are open for a limited time which makes it even more difficult for the people who travel long distances for banking transactions. Mobile phones offer the convenience of transacting from anywhere and at anytime instantly thus reducing the mobility of customers. This results into reduced travelling cost. The mobile banking can offer the real time access to financial services without the constraint of time and distance [14].

4.3 Personalization

Personalisation refers to the modification of service as per the need or requirement of an individual. Mobile banking has the potential to offer services specific to the individual

requirement (e.g. time, location and the choice of the user). These services increase the proximity of the marketer to offer customized push marketing thus increasing the chance of sale. This helps in increasing the brand presence and thus raises the customer loyalty. [15]defined personalization as the readiness of information. It can defined as the point to which the interaction between the seller and receiver can be modified to the needs, interests and habits of the individual. It assures the receipt of most recent and suitable message by the customer [6]. It improves the customer's perception of the seller [15], and reduces their cost and effort to browse and search information [16]. Thus the customers have the benefit of convenience and customized communication. The customers can avail the banking services as per their individual needs through the mobile banking.

5. CHALLENGES

It is true that the mobile banking offers a lot of advantages such as reduced cost, time and flexibility to avail the banking services as per the convenience and location proximity of an individual. However, there are several challenges for the smooth implementation of mobile banking services at the BoP.

5.1 System

Mobile phones with a small display, poor resolution and unsupportive keypad makes the use of mobile banking difficult for the customer[6]. This is especially true for the BoP customers who often use small mobile devices with limited features making the functioning of the mobile banking application software even more difficult. These phones even pose some serious security threats due to their weak features and limited applications[15]. The variety of mobile phones with different features makes it difficult for the banks to provide a one fit solution. The mobiles phones support various applications differently such as some support Java whereas other support WAP browser or SMS only. The solutions have yet to be adopted by some of the developing countries through interoperability which is heavily dependent on the bank's desire and support systems.

5.2 Security

The financial transactions are carried out from a distant location and the information is transmitted through a system that involves various parties thus making it complicated and more prone to security threat. The communication between the various devices such as mobile phones, PDA etc happen through WAP. The internet banking can become highly functional through WAP. For the security of data which is transmitted the process of encryption is used but it is not adequate for complete security of sensitive data transmitted through phone. The low computational power and poor memory capacity of mobile devices do not support the complicated system of encryption further raising the security threat. The advanced technology requires provision of end-to-end security. This means that if the data which is transmitted is not secure at the user's end then it can be exposed to attacks.

5.3 Infrastructure

For the success of mobile banking at the BoP the banks need to create social intermediation more than the financial intermediation. This often leads to requirement for bridging the gap of education, income, gender and location by building of institutions at the local level [17]. Creation of such locally customized systems leads to higher costs due to the requirement of institutional setup for processing of financial information. This indicates the various costs associated to the evaluation of loan applications, processing the loan application, completing the documentation, disbursing the loan, collecting repayments and following up on non-payment [18].

5.4 Economic

The BoP population is often spread across a large geographical area which is highly dispersed. Banks can attain profitability only if they are able to create volumes requiring significant initiative from financial institutions. For a greater coverage a larger volumes the banks need to partner with various agencies and create a system. The lack of infrastructure at the remote far flung areas often creates a hindrance to the banks. Most of the banks do not find mobile banking to the BoP as a viable business and thus do not take initiatives. This also results due to lack of favorable policies or institutional support from the government agencies. This makes the mobile banking solutions for the BoP unattractive.

5.5 Regulatory

The regulatory environment is often rigid and prone to uncertainties in case of the information technology. This acts as a barrier to create mobile banking solutions and systems for the BoP. As per the guidelines people having a valid bank account are only eligible to avail mobile banking services. This restricts the possibilities of mobile banking to extend the financial services for the BoP and unbanked customers

6. DISCUSSION AND CONCLUSION

Banking is often considered to be out of range of the poor people due to certain limitations of time, infrastructure and other resources. Mobile banking can provide a potential solution to these limitations and offer convenient, flexible banking to the BoP customers thus bringing them in the financial mainstream. In the 21st century when there is digital revolution, the poor can be served through easy processes than non-digital banks require. The benefits of convenience and cost can be achieved from the mobile banking as these services can match the customer's location thus resulting in cost saving. Concerning immediacy, time and accessibility, mobile phones enhance the mobility of consumers, offering opportunities to access, share or exchange information in transactions at a distance and on time. The outcome of which is the decreased travel cost.

The mobile banking can help the BoP in keeping a track on their expenses, the balances and pending transactions in real time through mobile phones. The mobile banking offers

convenience as the key benefit whereas security is the major challenge. The major hurdle for the increased adoption of mobile banking over cash is the security risk.

A mobile phone with internet access and supporting features can save the BoP customers from the travel to banks at far flung locations. This makes them more apt to engage in bank based transactions over barter and black-market financing. This can only be possible if the financial service providers and other institutions come together to work closely with the government agencies to create infrastructure and service solutions that can enable the successful implementation of mobile banking for the BoP.

Mobile banking can thus offer a lot of benefits to the BoP in terms of freedom from long waiting queues for financial transactions, saving their time and energy. Ultimately, customized banking features for individuals who have small frequent financial transactions becomes the norm in the digital economy.

7. LIMITATIONS AND FUTURE RESEARCH DIRECTION

This study brings out the comprehensive picture of the benefits and challenges associated to the mobile banking at the BoP. However there are certain limitations to this study. This study is based on the existing literature on mobile banking and thus relies on the prior research. An empirical or experimental study in future might be more appropriate. Future studies should focus on specific groups in various fields or countries to specifically analyze the strategic solutions. This would help in determining the underlying cause of the challenges and help in evaluating suitable solutions for increasing the mobile banking use among the BoP.

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