

Emerging Possibilities for Last Mile Payment System in Banking Sector of India: An Exploratory Study

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Abstract—Over the centuries the role of money has changed manifolds but still the main function of money which is to store value which has still been retained. Money is the first payment mechanism. Banks have been the most important institutions engrossed for ensuring the effective use of surplus money.

This conceptual research paper deals with the emerging possibilities for last mile payment system in banking sector of India. A proper and effective last mile payment system ensures the inclusion of poor in the overall financial system. The severe issues in last mile payment system has come up which is the present payment system in India is not yet ready to convert the cash based society in rural areas into cash less society. These issues are also being observed in government schemes while distributing pensions, scholarships, wages and so on.

The RBI's Draft Vision Document (2012-2015) on "Payment Systems in India" sheds light on the last mile payment system in India focusing on the efficiency enhancement in payment systems, standardization, portability and analysis of risks in payment systems.

In order to ensure an in depth and effective study of the last mile payment system this conceptual research paper mainly deals with various techniques of last mile payments to connect the rural people in India and also the problems faced in using the various techniques. It focuses on the work yet to be done to foster on the adaptability for rural people.

1. INTRODUCTION

Apart from the large value transactions, small payments play a big role in the life of rural villages. Cash is the most preferred mode of payment for them. The penetration of modern electronic payment products and services is mainly concentrated in urban and to a certain extent upon semi-urban centers of the country.

Banks in India face great challenges in achieving the goals of greater financial accessibility for the poor. The internal regions of rural areas are unbanked and are sparsely populated, they lack basic infrastructure facilities. Generally, banks face high costs of customer acquisitions, high transaction costs.

It is a common observation that even in the present era the legacy habits of the rural people – keeping cash at home, or borrowing from the money lenders at obscene rates are still in practice. It still happens due to unavailability of organized banking services.

An efficient, payment solution is utmost essential for enhancing financial inclusion in. Financial inclusion helps the poor to insure themselves against economic shocks. Without this they are often trapped.

Financial inclusion and extending banking to the far flung areas has always been high on the RBI agenda. Last mile Payment system is the main guiding light in this direction.

Last mile payment system would be of great help to solve the problems which are being faced by the rural banks. These problems include the lack of staff and the lack of skills which carries on the banking activities in rural areas. It also includes convincing the rural people to open bank accounts.

Recently ICICI Bank has also announced that it created "ICICI Digital Village" at Akodara in Sabarnath district of Gujarat to enable the rural masses to use technology in various aspects of life like Banking, payments, education and so on. This is the shining example of the Last Mile Payment. (Press release of ICICI Group's 60th Years, January 2, 2015 in Mumbai.)

2. FINANCIAL INCLUSION: CURRENT STATUS - INDIA

Despite various measures for financial inclusion, poverty and exclusion continue to dominate socio-economic and political discourse in India even after six decades of post economic independence era.

Though economy has shown impressive growth during post liberalization era of 1991, impact is yet to percolate to all sections of the society and therefore, India is still home of 1/3 of world's poor.

Census, 2011 estimates that only 58.7% of the households have access to banking services

The present banking network of the country (as on 31.03.2014) comprises of a bank branch network of 1,15,082 and an ATM network of 1,60,055. Of these, 43,962 branches (38.2%) and 23,334 ATMs (14.58%) are in rural areas.

Summary of all banks including RRB's during five years period are as follows

Particulars	Year 2010	Year 2011	Year 2012	Year 2013	Year 2014
Banking Branches in rural area	33,378	34,811	37,471	40,837	46,126

Source: Table no IV, 7 RBI Annual Report 2013-14.

3. LAST MILE PAYMENT SYSTEM

Last Mile Payment system is an extensive system which ensures enabling of the rural people to take part in the financial system. Thus helping them to take advantages of the various intensives and services offered by the Banking Sector. Last Mile Bankers are groomed in order to enhance the last mile coverage to ensure the financial inclusion of low income people.

The people responsible for last mile payments are being trained in order to enhance the soft skills, customer service, basic banking and technical trouble shooting and so on.

'Last Mile Connectivity has originally been used in the telecom & technology industries. It process to connect the end customer to communications network. Though the term say's "mile", still the actual distance may be more than a mile especially in rural areas.

4. LAST MILE PAYMENT TECHNIQUES

Various techniques have been adopted to ensure the effective implementation of last mile payment system for connecting the rural people in India. These technologies are as follows:

4.1 Intermediary Model

Banks have adopted a technique where rural customers can be serviced via intermediaries, who issues them biometric smart cards which are to be used for further transactions.

These intermediaries travel to the most remote rural corners to deliver simple banking services. At present these techniques

are at the foundation stage of Indian Banking financial inclusion.

4.2 'Post' IT Out

Even a single rural post office can pose as an intermediary for more than a single bank in order to render more options to customers through technology. Banks can install Point of Transaction (POT) terminals. In addition to the postmen carry mobile POTs to deliver door to door banking services.

At preliminary stages each post office could be attached to the nearest bank branch to host and services the accounts opened in the branches databases. Cloud computing is a paradigm shift by which infinite computing capabilities are delivered as a service to customers by using the internet technologies. Using the cloud banking users can have an access to modern core banking systems without the cost.

POT's can upload their transactions in core banking system by connecting to telephone lines. Other non-financial services which are requested by the customers can also be captured by the POTs and sent to the base branch to be serviced within a predetermined time frame.

4.3 Micro-ATMs

Micro-ATMs are biometric authentication enabled hand-held device. In order to make the ATMs viable at rural / semi-urban centers, low cost Micro-ATMs would be deployed at each of the Bank Mitra location. This enables a person for instantly deposit or withdraw funds regardless of the bank associated with a particular Bank Mitra / Business Correspondent.



This device will be based on a mobile phone connection and would be made available to every Bank Mitra / Business Correspondent. Customers would have to get their identity authenticated and withdraw or put money into their bank accounts. The basic transaction types to be supported by micro ATM are Deposit, Withdrawal, Fund transfer and Balance enquiry. Micro-ATM offers one of the most promising options for providing financial services to the unbanked population.

Micro-ATMs would have various options of authentication like biometric, PIN based and so on . and it would also be used

as mobile ATMs tenable transactions near the door step of the customers.

The Micro-ATMs offer an online interoperable, low-cost payments platform to everyone in the country.

4.4 Hybrid Cards

Hybrid cards which are also known as the smart cards can also be utilized as a technique for Last Mile Payments. They can be used with ATMs as well as with the point of transaction terminals (POT). This assists the rural people to conveniently upgrade to normal banking services when they move to the urban areas. Resultantly the banks get the chance to retain these customers even in the extremely competitive markets.

4.5 Bank on the 'Move'

Banks can also look up for utilizing mobile vans to reinforce their brands in rural areas. The vans could be fitted with a personal computer and VSAT (Very Small Aperture Terminal) connectivity to the core server, attached to a base branch.

These mobile vans are a good option as they can effectively act as mini mobile bank branches, might also prove to be of great help in implementing the bank's Marketing, Promotional and Corporate Social Responsibility Strategies.

As mobile banking is the good opportunity for rural people but it also has some drawbacks. These drawbacks are:-

1. One major drawback is that of the physical infrastructure of the Indian banks not being adequate.
2. A perfect training is to be required in the staff for carry out the banking operations.
3. The another drawback of the mobile van is that the van provides Last Mile Connectivity through 13000 rural post offices by enabling its postal staff with hand-held devices but Micro ATMs is not expected to find ample takers as the India Post is found to be handicapped.

4.6 Vernacular Phone Banking

As a result of immense growth in telecommunication density across the country, the phone banking along with the vernacular call center can be effectively used to serve the rural people. Making use of the current telecommunication technologies banks can divert calls automatically based on their place of origin to the correct section.

But call centers might as well be equipped with a call back facility to make sure that they do not lose the valuable customers.

4.7 DakSevaks

The availability of affordable credit to the rural people is also a very essential. For Micro economic growth. In India, the government as well as the RBI is taking the necessary steps by formulating visionary policies. One of such policies deals with providing rural areas with DakSevaks who would be equipped with hand held devices, on which applications would be installed. Resultantly banking operations can be carried out at the doorsteps of the consumers. Though the inherent disadvantage with it is that of the high loss in case of damage.

4.8 Near Field Communication (NFC)

Near Field Communication Technology (NFC) which makes life easier for the ultimate consumers by making it simple to engage into transactions, exchange digital content. NFC harmonizes contactless technologies. It offers a wide variety of benefits to consumers as well as the businesses. Some benefits are as follows:-

- NFC interaction requires a simple touch.
- NFC facilitates fast & simple set up of wireless technologies such as Bluetooth, Wi-Fi, etc.
- NFC transmission are short range
- It works with existing contactless card technologies.

In rural areas NFC enables Mobile phones which can change the pattern of small value transfers(From cash to without cash). At least for a cap limit fixed by Banks,customers can pre charge their NFC enabled mobile phones and transfer value in the local transactions with a facility to unload the value collected to their Bank account at periodical intervals or when BC's visits their village. The pre charge of the mobile can also be done likewise.

5. RBI VISION (2012-2015)

As Per the RBI Vision Document (2012-2015): In order to ensure efficiency of enhancement in payment systems and to ensure standardization, portability, inter-operability, development of infrastructure and integrated payment system it is necessary to develop common standards for payment system and strive towards interoperability and portability of payment systems.

5.1 Standardization

Payment systems in India have grown in terms of (volume & value), technology, innovation, channels, and so on. over the last 3 decades or so. For ensuring that future developments have taken place in a manner so as to facilitate integration and interoperability, it is essential to develop standards for payment systems in terms of design, technical specifications, data structure, and security, identify modes, processing requirements.

- Different messaging formats have been adopted for Cheques like RTGS, NEFT, ECS etc.
 - RBI has also focused on the standardization and interoperation in mobile banking & payment sphere by prescribed standards.
 - Standardization would lead to harmonization of payments procured across payment system and would bring long term benefits though it also has certain initial costs associated with itself.
 - There is an acute need to prepare technical specifications for the Micro ATMs aimed at interpolation.
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5.2 Portability

In case of failure of one payment system into another it would be able to achieve further contribution to an increased efficiency.

5.3 Inter-operability

Message formats for government payments would facilitate STP (Signal transfer point) and faster reconciliation at both banks and government’s ends.

Account numbers which are being maintained across various banks are different due to the lack of uniformity in account numbers there is a hindrance created in STP so a need arises for the development of a common account number.

6. CONCLUSION AND RECOMMENDATIONS

The presence of an extensive system of banking across a country will add on new values for the complete sector and would also lead to a boost in the economy and would also help enabling the rural population to take a part in the growth of India.

Soon one day we encounter when the rural poor would make petty payments via their mobile phones, by using their digital purse. They would also receive their subsidies via the UID Bank account and make purchases via digital coins. By undertaking steps towards Last Mile Payment System banks can work in the greatest interest of the rural poor.

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