IMPACT OF INFORMATION TECHNOLOGY FOR CREATING A MORE EFFECTIVE FINANCIAL SYSTEM IN INDIA

Dr. Sonali P. Yende
Kamla Nehru Mahavidyalaya,Nagpur
E-Mail : drsonaliyende@gmail.com

Dr. Ninad Kashikar
Kamla Nehru Mahavidyalaya,Nagpur
E-mail : ninadkashikar@yahoo.com

Abstract:
The use of IT solutions for providing banking facilities at doorstep holds the potential for scalability of the financial inclusion initiatives. The recent developments in banking technology and expansion of telecommunication network in the hinterlands of the country have provided the perfect launch pad for extending banking outposts to remote locations without having to open bank branches in the area. The RBI's Annual Policy for 2016-17 also urged the banks to scale up efforts for IT-based financial inclusion and develop technologies that are highly secure, amenable to audit and follow widely accepted open standards to allow inter operability among the different systems adopted by different banks. The RBI has set up an advisory group for IT-enabled financial inclusion to facilitate development of IT solutions for delivery of banking services. The present paper discusses about the importance and recent initiatives of IT based financial inclusion; and models of delivery of IT- enabled banking services to rural areas.

Key words: *Financial Inclusion, Financial Exclusion, Financial Services*

Introduction

Financial inclusion is considered to be critical for achieving inclusive growth; which itself is required for ensuring overall sustainable overall growth in the country. Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low ncome groups at an affordable cost. The approach to financial inclusion in developing countries such as India is somewhat different from the developed countries. In the latter, the focus is on the relatively small share of population not having access to banks or the formal payments system, whereas in India, majority of the population are excluded from financial system. Financial exclusion can be thought of in two ways. One is exclusion from the payments system i.e. not having access to a bank account. The second type of exclusion is from formal credit markets, requiring the excluded to approach informal and exploitative markets. The financially excluded sections largely comprise marginal farmers, landless labourers, oral lessees, self employed and unorganised sector enterprises, urban slum dwellers, migrants, ethnic minorities and socially excluded groups, senior citizens and women. While there are pockets of large excluded population in all parts of the country, the North East, Eastern and Central regions contain most of the financially excluded population. There are a variety of reasons for financial exclusion. In remote, hilly and sparsely populated areas with poor infrastructure, physical access itself acts as a hindrance. From the demand side, lack of awareness, low incomes/assets, social exclusion, and illiteracy are different reasons act as barriers. The requirements of independent documentary proof of identity and address can be a very important barrier in having a bank account especially for migrants and slum dwellers. From the supply side, distance from branch, branch timings, cumbersome documentation and procedures, unsuitable products, language, staff attitudes are common reasons for exclusion. All these result in higher transaction cost apart from procedural hassles.

IT Solutions for Financial Inclusion

The use of IT solutions for providing banking facilities at doorstep holds the potential for scalability of the financial inclusion initiatives. Pilot projects have been initiated in the country by using smart cards for opening bank accounts with biometric identification. Link to mobile or hand held connectivity devices ensure that the transactions are recorded in the banks books on real time basis.

Some State Governments are routing social security payments and payments under the National Rural Employment Guarantee Scheme through smart cards. The same delivery channel can be used to provide other financial services like low cost remittances and insurance. The use of IT also enables banks to handle the enormous increase in the volume of transactions for millions of households for processing, credit scoring, credit record and follow up.

The recent developments in banking technology and expansion of telecommunication network in the hinterlands of the country have provided the perfect launch pad for extending banking outposts to remote locations without having to open bank branches in the area. In short, technology has to enable the branch to go where the customer is present, instead of the other way around. Further, RBIs Annual Policy for 2007-08 also urged the banks to scale up efforts for IT-based financial inclusion and develop technologies that are highly secure, amenable to audit and follow widely accepted open standards to allow inter operability among the different systems adopted by different banks. The enabling provisions and support of RBI has facilitated successful pilot projects in use of IT for extending the banking outreach for the "excluded". These projects are premised on technology which uses hand-held devices and connectivity with host computers through General Packet Radio Service (GPRS) / Global System for Mobile Communications (GSM) / Code Division Multiple Access (CDMA) / landline networks. The devices also come in several forms like Simputers (Simple Inexpensive Multi-lingual Computers) / personal digital assistants, programmed mobiles, etc. There are also rural biometric ATMs, which have been introduced by banks and found to be very popular among rural masses. Some major banks are introducing low Cost rural ATMs for cash dispensing and other services in rural areas.

The RBI has set up an advisory group for IT-enabled financial inclusion to facilitate development of IT solutions for delivery of banking services. The issue of using technology as a driver is of the opinion that the requirement of rapid financial inclusion as a national goal can only be achieved by using appropriate IT. The creation of a national database, sectored, geographic and demographic reports, and also a payment system among the cardholders to benefit the under privileged unbanked population of the country is not possible without extensive use of IT. This alone can bring down the costs of the small ticket transactions of the financially included and make nationwide financial inclusion a reality. The technology suppliers and banks should evolve common minimum standards for ensuring inter-operability between their systems. Use technology to reduce cost of delivery. A recent Boston Consulting Group report estimates that the cost of funds today is 9 per cent, provision for bad debts is 10 per cent and cost of consumer acquisition and transaction and operation cost is 13 per cent for the poorest customers, leading to banking for the poor becoming unprofitable. The key role that technology has to play is to reduce the last two components drastically. Reducing these costs can translate into lower lending costs, which would help improve the viability of risky rural businesses and allay concerns that the high cost of lending to poorer segments is resulting in over indebtedness. Equally, distances are large in rural areas and transport sparse.

Here again, communications technology could play an important role by bridging the last miles between the customer and the provider and thus facilitating transactions. Transaction and operation costs consist of front-end costs, network costs and back-end operation costs. Back-end costs for banks vary from Re 1 to 2 per transaction. While banks have done a good job in computerizing their operations, they need to learn from mobile operators and optimize back-end technologies and leverage volume to significantly reduce these costs.

The front-end continues to be the dominant costs for banks. The use of ATMs has significantly reduced front-end costs but they are still too high. Banks need to promote lower costs indigenous ATM technologies, especially for rural areas. Going beyond ATMs, front-end costs can be brought to negligible amounts by replacing cash transactions with electronic transactions. More than 80 per cent of India‟s financial transactions are processed in physical cash. Cash as means of payment has a large cost in terms of handling, transaction processing, holding and risk of loss. On the other hand, Internet banking transactions have zero front-end cost for the banks; efforts have to be made to make this a preferred mode of transactions for large corporations. Its extension to SMEs may have much larger impact. Rural Internet Kiosks can be used by all rural businesses to carry out such transactions. Mobile banking is perhaps the most promising front-end technology for facilitating financial inclusion in India, especially for individual customers. The telecom and the banking industry along with RBI has recently constituted a Mobile Payment Forum of India (MPFI) to examine technological, regulatory and business constraints related to the scaling up of mobile banking in India. This Forum‟s recommendations would be the key to provide a roadmap for mobile banking. Additionally, Stored Value Cards would be another important vehicle for financial inclusion. There is a need to create common payments systems with participation by multiple banks, to reduce transaction costs and substantially increase the deployment and utilization of POS terminals. An important advantage of all these interfaces is that they are essentially cash-less and minimize fraud and the costs related to cash handling. Further, technology can be significantly leveraged for acquiring customers. Banking correspondents (BC) with Internet Kiosks at villages as well as BCs armed with mobile phones with back-end interface (e.g., the kirana shop) has to be used extensively. A unique ID for each citizen would help accelerate this. Finally technology has to be used to reduce provisions for bad debt. Credit ratings for retail customers and a unique citizen ID are critical in this regard. Capturing all the transactions electronically and mandatory sharing of data with a credit bureau would significantly help in this direction. The absence of this and high provision for bad debts, is in fact hurting the poorest most. The role of public policy is to enable the adoption and scale up of appropriate technologies while mitigating risks of their misuse. Public policy can play an important role in the establishment of a unique identification number and the promotion of biometric authentication, which would facilitate the development of credit bureaus.

Models of IT Based Delivery of Financial Services

1. ICT Based Solution

International Institute of Information Technology, Bangalore has developed an ICT based Solution in which the banking services delivery can be done using the electronic platform. The three key principles used in this model are –

a) unbundling and outsourcing non-statutory services needed for banking and establishing digital rural information infrastructure

b) automating the workflow, the records management and follow-up and recovery, and c) the use of entrepreneurship model for achieving effectiveness, efficiency and economy in the performance of the rural information infrastructure, rural information services and other follow-up functions e.g., credit rating of rural individuals and analytics for decision support. An ICT-based solution focuses on improving the delivery of credit and other services of the rural areas. The solution proposes common infrastructure for the rural data collection and information management and processing and the sharing of the delivery channel by the banks with a view to substantially reducing the transaction costs and improving the speed and quality of delivery. The elements involved in the solution are the establishment of a data centre and ensuring its two-way connectivity to the mobile multi-service delivery system available at the villages for providing the banking, extension and other services as well as connectivity to all the concerned banks and other service-providing agencies. The solution involves the outsourcing of the data management as well as of the delivery channel establishment and operations with required safeguards regarding the data ownership and operations. The model envisaged provides a cost-effective but efficient technology platform for rural banking. Technologically, the solution involves four main elements: such as establishment of digital rural information infrastructure; multi service delivery system; integrated multi-entity database system; and service provider‟s workstation The Figure 1 gives a diagrammatic representation of the Model.

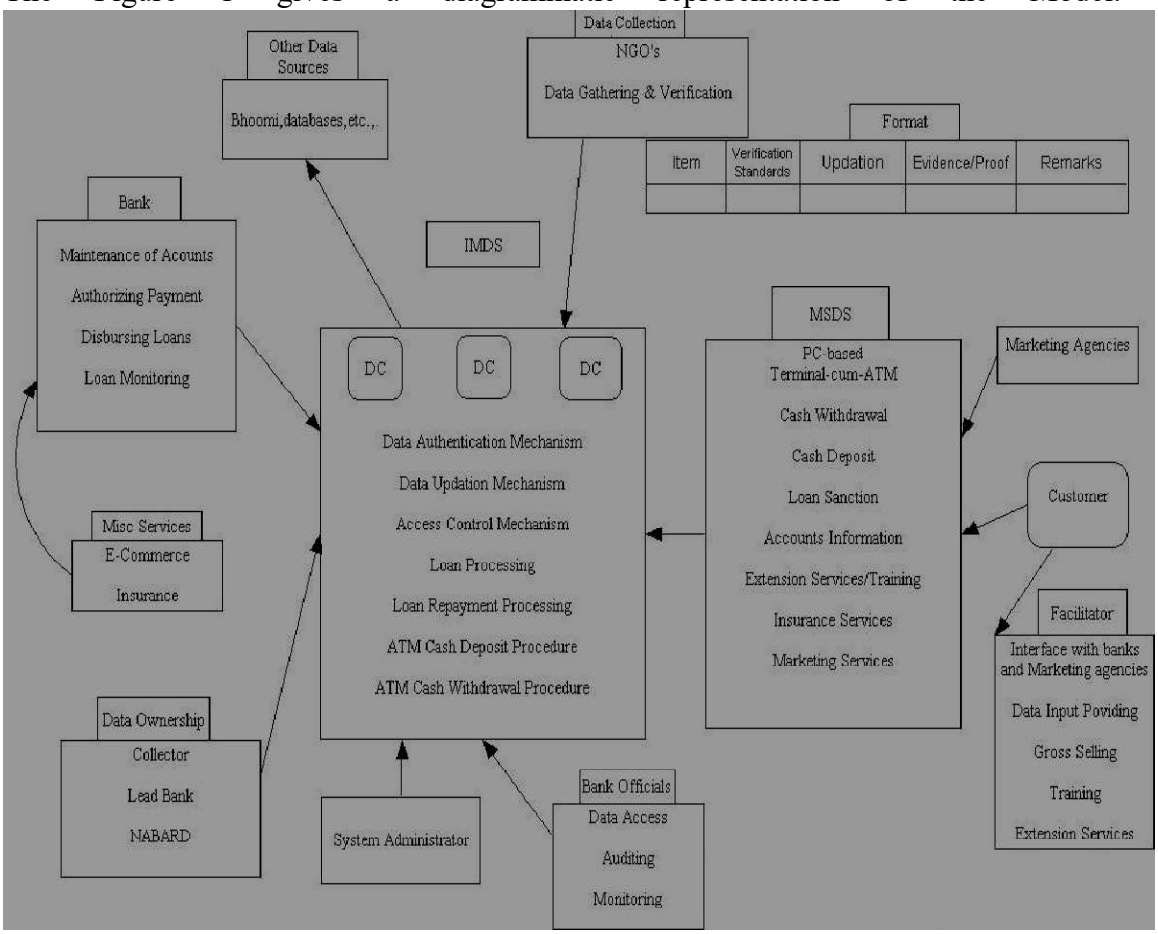

Figure 1
Diagrammatic Representation of the ICT Based Model

2 Primary Agricultural Co-operative Societies as Village Knowledge Center (PACS -VKCs)

The Government of India (GoI) has sought World Bank assistance to support a comprehensive reform program to transform India‟s Rural Cooperative Credit System (CCS)—comprising over 108,000 village level Primary Agricultural Societies (PACS), 367 District Central Cooperative Banks (DCCBs) and 30 State Cooperative Banks (SCBs)—into robust and reliable providers of finance to the rural poor, particularly small and marginal farmers. In January 2006, GoI announced a reform package designed to transform the potentially viable CCBs into democratically governed, efficiently managed, financially sustainable, self-reliant entities that can provide a wider range of financial services to the rural poor on more affordable terms. States are free to participate in the package on a voluntary legal, regulatory and institutional reforms to address the governance and operational weaknesses affecting CCBs. Promoting PACS as Village knowledge Center allows Rural Customer to look at PACS for short and long term needs through multi offerings including Financial Services, Citizens‟ Services, Agro Advisory & Market Information and Educational & Support Services. This Approach would attract the rural customers and village community to PACS as Village Knowledge Center for multiple services and develop loyalty. In the long term, a rural consumer would be less influenced by informal channels such as local money lenders. As the physical infrastructure already exists for the PACS, they are evolved as model centers of transformation of rural economy. Rather than dependency on financial revival packages, PACS can evolve into highly independent commercial business center offering multiple services, apart from banking and financial services. This Approach involves: - tying up with 3rd Party Business Entities for Services Offerings; and multi-Agency Services Delivery Approach through NGOs & SHGs. It is a 4 tier Approach and involves modules at each of the highlighted tier (Figure 2). This Model relies on ICT based Solution in which the banking & other value added services delivery can be done using integrated technology and communication

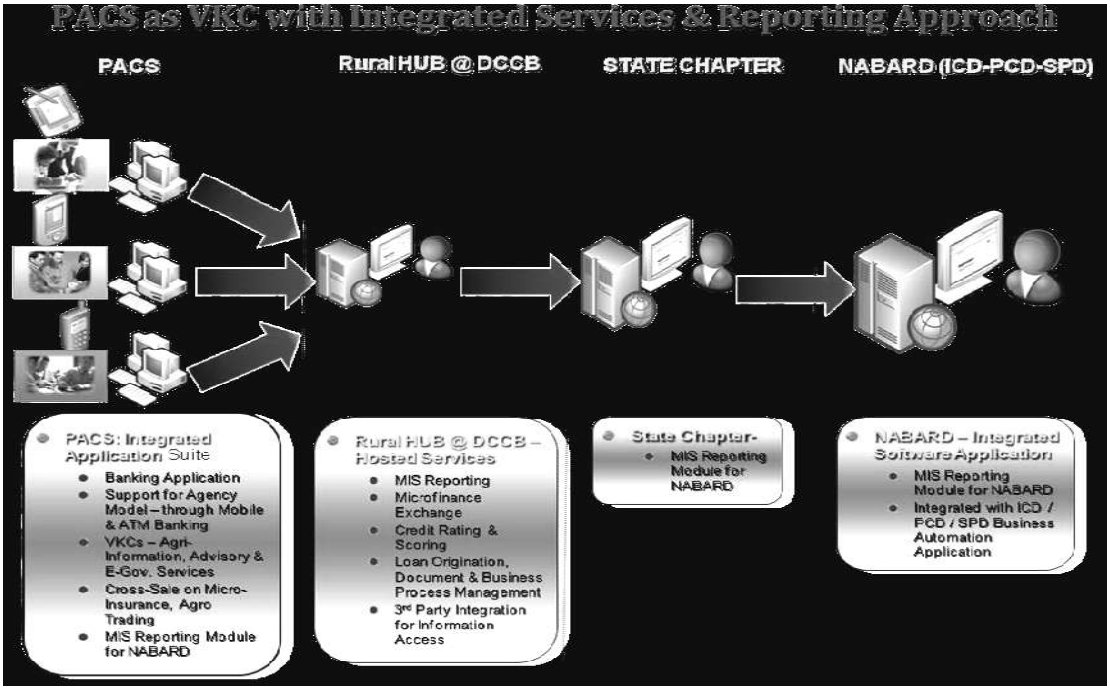

Figure 2 PACS as Village Knowledge Center – A Technology Approach

3 Other Models and Cases on the Use of Technology

- **GANASEVA Model** - The project was implemented in five villages in the Honavar block of the Uttara Kannada district of Karnataka, having approximately 4000 families, involved in essentially agricultural activity. The banks which are participated in this project are State bank of India, ING Vysya Bank, Syndicate Bank, who has agreed to use the data / documents available through the system. Besides the rural information service and credit rating, there is support in the system for the crop loan and Kisan Credit Card and Savings Bank Account Operations. The Project also wanted to link the Primary Agricultural Co-operative Societies (PACS) to the system for providing banking services through their automation.

- **Union Bank of India-** Union Bank of India has launched doorstep banking operations in rural areas of Uttar Pradesh using biometric smart cards. The bank has launched a pilot project in Chahania block in Chandauli district with FINO and Cashpor Micro Credit Ltd., an MFI. FINO provides technical support, which enables the bank to leverage technology to service rural customers. Union Bank of India has introduced biometric cards for vegetable vendors through Hawkers‟ Association of Mumbai and opened „no-frills‟ accounts for them, which will help them deposit money and take loans. The bank is working with FINO in issuing the smart cards. These cards store data on the customer and the account. The banking correspondent, Fintech Foundation, appointed by FINO, goes to these hawkers with point of transaction devices. By swiping the card through these hand-held devices, hawkers can deposit their savings or borrow money. The data from the cards, stored on the terminals, is later transferred to the bank‟s servers.

- **Punjab National Bank (PNB) -** Punjab National Bank is working with FINO to roll out smart cards for the rural population in Rajasthan. FINO would enable PNB‟s zero-balance savings account customers to carry out transactions by providing FINO smart cards and point of transaction devices. The project aims at catering to PNB‟s rural clients across the country.

Insurance Company is introducing biometric cards in rural and semi-rural areas. ICICI Lombard plans to offer biometric cards to families under group health insurance schemes. The card enables policyholders to get hospital treatment without making any advance cash payment.

- **ICICI Prudential Life Insurance Company-** ICICI Prudential Life Insurance Company has launched the use of biometric smart cards for their rural policyholders to pay premiums. Biometric cards contain details of the policyholder such as name, age, address and finger print information. The card enables them to move away from the connectivity and infrastructure barriers and provides real time solutions to policyholders in rural areas.

Conclusion

Technology-based solutions can be used by formal financial institutions to provide a range of financial services to the poor and support the drive for financial inclusion. The effective use of technology can help standardize processes in banking and microfinance as well as reduce the cost of operations. Through technology, banks have the potential to reach out to millions of poor and „unbanked" people through the use of automated teller machines (ATM) and Point-of-Sale (POS) networks. For the sustained financial inclusion, there is a need for creation of a nationwide electronic financial inclusion system (NEFIS) that would link bank accounts and allow funds to be transferred into them electronically. Such mechanisms can present a saving to the government, both in terms of administrative burden and in terms of cost. There is also a need for the Rural Information Infrastructure for the collection of comprehensive data about the social and economic aspects of the 700 + million rural people at the level of individuals in a self-validating and ready-to-use form and for updating the data on an ongoing basis and managing and processing this data for making it available to the various users viz., the banks, the governmental authorities and various service and utility providers for enabling the delivery of high quality services to the rural people in a cost effective manner.

References:

Access Finance. (2006, February). *The World Bank Group Newsletter*, Issue No.16.

Chidambaran, P. (2007, February 28). Speech delivered at the Union Budget 2007-2008 session. At w.w.indiabudget.nic.in/ub2007-08/bs/speecha.htm.

Menon, J. (2007, June 12). Bihar shows smart card way to cleaner rural job scheme. *Indian Express. At* http://www.indianexpress.com/story/33365.html

Ramji, M. (2007). *Financial Inclusion in Gulbarga: Finding Usage in Access.* (Preliminary Draft from the Centre for Microfinance, IFMR for CARE Conference 2007).

Report of the Committee on Financial Inclusion (2008, January), RBI, Government of India,

Report of the Committee on Financial Sector Reforms, (2009). *A Hundred Small Steps,* Planning Commission, Government of India,

Reserve Bank of India. (2006). (RBI Circular No. RBI/2005-06/288 DBOD.No.BL.BC. 58/22.01.001/2005-2006)

Satchidananda M S, (2004). *Enabling Rural Banking through Technology,*

Thorat, U. (2007, June). *Financial Inclusion – The Indian experience.* Speech presented at the HMT-DFID Financial Inclusion Conference 2007, Whitehall Place, London, UK.