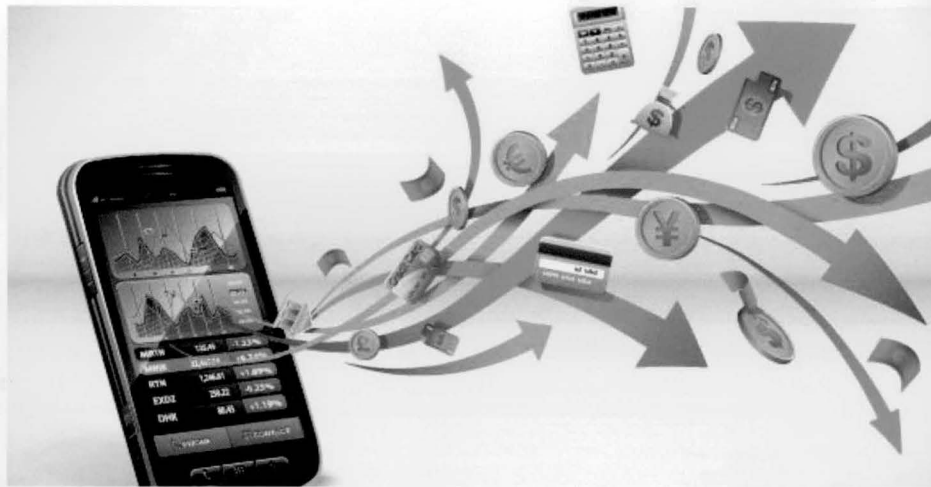


Financial Inclusion and the Role of Technology



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Abstract

India is the second most populated country in the World with great geographic spread and diversity. Majority of the people live in villages and it is estimated that there are over 6, 28,000 villages in India in far flung and remote areas. The number of inhabitants in each village is many times less than 2000 that makes it non-viable for banks to open branches to serve the banking needs of the inhabitants. Commercial viability of opening such branches and the return on investment factor have been acting as dampening features for the spread of the banking system. At the same time, it must be stated that the spread of the Indian banking apparatus across the nation since Independence has been commendable. Given the heightened awareness being exhibited presently by various stakeholders on the need for eliminating financial exclusion or untouchability, several alternative measures are being explored. Amongst others, the role and impact of technology in overcoming this problem is actively being debated. There are success stories of technology penetration in other countries that hold promise in the Indian context. This paper dwells into the varied dimensions of technology that aids increasing the spread and reach of the traditional bank operations. Savings, remittances, cash withdrawals, loan disbursements and repayments constitute the bulwark of financial inclusion. Some of the findings of this paper are: a) mobile banking has to be resorted to b) Product innovations are the need of the hour and c) very vital to have high scale of operations.

Introduction

India is a vast and geographically diverse country with much well defined ethnic, linguistic, religious, cultural, economic, social and regional diversity. To address a vast spectrum of a population with this kind of a profile poses many challenges that have to be met by all the stake holders. Globally it has been established that the travel from the macro variables to the micro realities is best sub served by technology. Technology embraces all sections of the population irrespective of caste, creed or religion. India is now recognized for its contribution to a knowledge society that requires innovative solutions to traditional problems plaguing the Indian economy. Needless to state, technology will pioneer revolutionary changes in the way the Indian state is addressing the problem of Financial Inclusion especially in the countryside. Indian population, though huge, is diversely spread out and diffused in over 6 lakh villages in India. Thereby, many of these villages do not lend themselves as a viable economic entity. This is the main reason that banks find it uneconomical on a cost benefit analysis to open branches in these remote locations. However, the banking services that are required by these economically deprived sections of the population are not very demanding on the banking industry and can be overcome by vigorous infusion of technology. This paper essentially deals with multi dimensional impact of technology in enhancing Financial Inclusion.

What is Financial Inclusion?

Financial inclusion has been defined as: "The process of ensuring access to financial services and timely and adequate credit where

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needed by vulnerable groups such as weaker sections and low income groups at an affordable cost” - The Committee on Financial Inclusion (Chairman: Dr. C. Rangarajan, 2008).

“Economic resources of the country should be utilized for the well-being of the poor. The change will commence from this point.” (Shri Narendra Modi Hon'ble Prime Minister of India)

“Financial Inclusion is the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream Institutional players.” (Reserve Bank of India)

Literature review

Kumbhar V (2011) talks about Financial Inclusion through M-Banking Services: Scope and Problems in India. His study states that “the Indian banking scenario shows that there is need of m-banking for financial inclusion of poor and urban people. Since the last five years mobile telephone service extended tremendously in India and it provides golden opportunities to extend m-banking service in India. However, because of various problems in m-banking system this is not widely accepted by Indian bank customers. Hence, there is need to improve m-banking services including network coverage and security in m-banking.”

Kapoor, R. (2015) talks about JAM trinity-Jan-Dhan Yojana, Aadhaar and Mobile-coined under the leadership of Modi and says that this is a game changing reform that plans to fight the problem on a digital battlefield, ushering in a new chapter in India's governance story.

Panwar, R. (2014) opines that opines that Financial Inclusion is one of the most significant initiatives taken by the Government of India, The Reserve Bank of India and the Indian Banks. It has already made a significant impact to the poor in rural and urban India by empowering them with financial services thus providing them economic stimulus and security. More research can be done on customer satisfaction, process improvement opportunities, cost reduction and the economical impact in the area of Branchless Banking for Financial Inclusion in India.

The article in the Financial Express (2015, Jun 13) titled “Launch new products, technology to fortify financial inclusion reports” comments on SAARCFINANCE Governors' Symposium held in Bangladesh. Bangladesh has advised the SAARCFINANCE member central banks to introduce new financial products along with technological facilities for strengthening the ongoing financial inclusion initiatives in the region.

Sachan, A., & Ali, A. (2006) describes how banking in India has changed after developments in information technology in the last decade. This case is about the VN Bank, a public sector bank that has to formulate its strategy in order to compete in this new environment. To survive the revolution, service firms of all

stripes must start defending themselves, just as their manufacturing cousins did a generation ago, by putting themselves through competitiveness boot camp. The work ahead will require proactive, far-reaching, often draconian changes, focusing on customer preference, quality, and technological interfaces.

The article titled “Technology rings in financial inclusion” in the Financial Express dated (2014, Jan 11) talks that technological innovation is emerging as the game-changer in bringing about financial inclusion in a country where 65% of the population does not have access to a formal bank account (World Bank Findex Survey, 2012), just 8% borrows from formal financial institutions, 2% uses an account to receive money sent by a family member and 4% uses an account to receive government payments.

Agarwal, S. (2010) says that technology infusion will usher in greater innovation in reach and product delivery. Aadhar card is one area where explosive potential lies in increasing inclusion.

Methodology

The study, conceptual in nature, is based on secondary data obtained from expert group studies, approach papers, research articles, and media coverage.

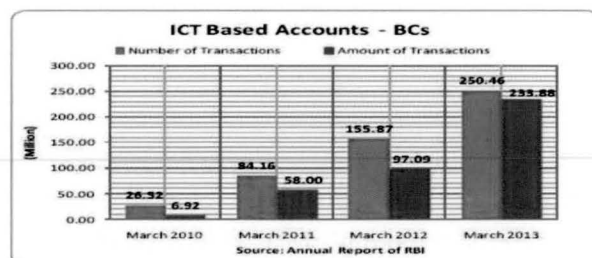
Role of technology

Technology has been the game changer in the world of financial inclusion and has been providing a level playing ground to all stakeholders. It has democratized the access to financial services especially to the people at the bottom of the pyramid. ATM counters have been by far the most relied upon tools of mechanization followed by the banks in India. However, ATM deployment is also dependent on load of business rather than reach across the countryside. The following table clearly demonstrates that ATM spread is highly biased to urban and semi-urban areas of the country.

Distribution of ATMs (Rural-Urban)

Banks	2014			
	Metro Centres	Urban Centers	Semi - Urban Centres	Rural Centres
Public Sector Banks	26,767	35,093	32,994	21,810
Private Sector Banks	19,163	14,535	11,394	3,982
Foreign Banks	903	201	20	32
Total	46833	49,829	44,408	25,792
Banks	2013			
	Metro Centres	Urban Centers	Semi - Urban Centres	Rural Centres
Public Sector Banks	21,366	24,469	20,412	9,645
Private Sector Banks	18,115	13,742	9,664	3,190
Foreign Banks	968	228	20	28
Total	42,226	40,884	33,015	13,700

Source: RBI (2014).



The above table represents the quantum of ICT usage under the banking correspondent model that is popularly utilized by many Indian banks. It is obvious that ICT usage has been increasing steadily and is directly proportional to the growth of the BC model of financial penetration. But given the vast size of the country and the contours of the problem, the above growth has not made a significant impact. Hence, there is a need to look at other technologies especially mobile technology to increase the wingspan of banking.

Economics of Technology deployment

A study by Wharton School of Business stated that it costs around 1 USD for execution of a bank transaction, 0.40 USD for execution of a bank transaction at an ATM counter and 0.10 USD for a transaction through a Bank correspondent. A bank correspondent utilizes technology that is specific to his area of operation thereby driving costs down. "When technology struggles, it's often because it doesn't take into account different customer segments. We need to look at customer needs." – Claire Alexandre, Head of Commercial & Strategy for Mobile Payments, Vodafone

"In India, only 200 million people have access to a bank account while 811 million have a mobile phone. For a population of 1.2 billion people, this translates into 68 per cent having a mobile phone and only 17 per cent having a bank account. The numbers speak for themselves: when it comes to reaching the 'unbanked' and extending financial inclusion for the larger population, mobile phone is the key," said Wim Raymaekers, Head of Banking Market, SWIFT.

According to Reserve Bank of India figures, the country's 157 banks have 1,04,647 branches, less than 40,000 of which are rural banking branches, and there are a total of 95,686 ATMs. Out of India's 6,28,000 villages, just 2,68,000 have access to formal financial services. "Such scanty infrastructure for a billion people, yet India has over 800 million mobile phone subscribers," points out Abhishek Sinha, CEO, Eko India. Eko India, the financial services company that operates as a business correspondent, leveraged this very discrepancy to make a success of its model of remote banking which works through a technological innovation for use in ultra-low-cost handsets.

Research by Nokia suggests that while majority of the cell users were illiterate, they knew how to switch on the mobile set and dial people.

Financial Literacy through technology deployment

The American India Foundation (AIF) has launched the Mobile Kunji App that is a game that reduces the complexities of banking transactions like writing a cheque or applying for a loan in very simple terms easily understood by the illiterate persons. This App has been written in "Hinglish" that makes it easy to understand

by demystifying some intricate bank procedures. AIF runs a Market Aligned Skills Training (MAST) programs in a few centers in North India that aims at productive employment of under privileged youth. Many of these market oriented skills are imparted in the above mentioned manner. Mobile telephony as a tool for disseminating skills is the genesis of the innovation initiated by AIF at its MAST centers.

Eko India found that many cell users learnt from people who are close to them and developed first hand understanding of bank procedures. It was also observed that illiterate users developed job oriented SMS lingo like BAL meaning balance. This enabled Eko to develop a universal digital syntax that facilitates a common lingo to the rural population.

Technology has the effect of making the process of financial literacy more personal, accessible and fun based. Spreading literacy through financial camps/workshops/classroom awareness is highly structured and formal in nature.

International experiences of technology deployment

Kenya-M-Pesa

This is a collaborative effort by Vodafone and Safaricom in Kenya titled M Pesa in Kenya started in 2007. This is an electronic payment system available through the mobile connection. All customers are given e accounts that can be accessed through a SIM card. Customers can exchange cash for electronic value at various retail outfits that are paid nominal fees by Safaricom. As a backup, Safaricom maintains deposits in a commercial bank on behalf of the customers who do not get any interest on the deposit.

The growing trend of urbanization in Kenya increased the demand for remittance facilities that saw the introduction of P2P (person to person) remittances by M Pesa. Initially this remittance facility was restricted to members of M Pesa but subsequently remittances were allowed from members to non-members through account to cash means. Presently, M Pesa is used even for institutional payments like utilities and others. M-Pesa has 12 million registered customers, 31% of the country's population. Its P2P transfers totaled up to 17% of Kenya's GDP. Half these transactions were for values less than \$10, when the average transaction size was \$33, implying a high extent of reach amongst the poor. Less than 1% of the accounts had balances greater than \$13, and the average balance was \$2.70.

M Pesa has successfully leveraged the reach of mobile technology to forge another dimension to financial inclusion. This dimension is of paramount importance to other countries as it redefined inclusion on the basis of usage of a bank account rather than the float in that account. Truly innovative indeed!

Pakistan-Easypaisa

This is a joint venture between Tameer Bank of Pakistan and the

country's leading telecom service provider Telenor, a Norwegian outfit started in 2009. Tameer Bank overlooks the KYC norms, regulatory compliance and product innovation while Telenor takes care of marketing and remittance backbone. Easypaisa introduced the mobile wallet scheme that envisaged deposit of customer savings in a bank and providing remittance and cash to value facility. There was a surge in the customer base initially when the regulatory framework of the country's central bank State Bank of Pakistan was facilitative. However, the Central Bank upped the ante for satisfying rigorous KYC norms which witnessed the growth of Easypaisa taper down. Further, many Pakistanis do not have a computerized national identity that resulted in non-compliance of the KYC norms.

The experience of Easypaisa confirms the concerted role of financial innovation, regulatory norms and national computerized unique identity in making financial inclusion a reality. Needless to add, India stands on a very firm footing on all these parameters. Another chief difference between Easypaisa and M Pesa is the inability of the former in achieving high scale of operations.

Philippines - SMART Money

SMART Communications launched SMART Money in 2001. The service includes a reloadable payment card linked to a SMART mobile phone and enables customers to use their mobile to send and receive money domestically and internationally, buy airtime, receive salaries, repay MFI loans, and pay bills. Customers can also pay for goods at merchants using a SMART Money card.

Loading cash into a SMART Money account or converting e-value into physical cash is done differently by urban and rural customers. In urban areas, Banco De Oro (BDO) branches, Shoemart stores, ATMs and SMART Wireless Centers serve as the primary cash in/out network. In rural areas where these types of locations are less accessible, SMART relies on MFIs, pawn shops and money changers to perform cash in/out.

However, the chief limitation of this model has been the inability to reach the scale of operations of M Pesa in Kenya where Safaricom had a market share of around 80%.

Conclusion

What emerges from the above three cases is that a threefold approach is required to make mobile banking an effective solution to financial inclusion. These are:

- a) A regulatory framework conducive to mobile money
- b) Appropriate product and service design
- c) Alignment of all stakeholders in the FI ecosystem.

The Reserve Bank of India has allowed use of 'semi closed wallet' by mobile companies, customers can now send and spend money through the mobile network, but cannot withdraw cash. Airtel, Vodafone and Idea are offering such services in collaboration with Indian Banks and RBI approval.

Indian banks have already initiated collaborative measures. State Bank of India (SBI) has partnered with Eko India Financial Services and Airtel where SBI is the account supplier, Airtel is the telecom supplier and Eko is the Banking Correspondent. Customer accounts under this framework are not based on SIM cards and hence even non-Airtel customers can benefit from this axis. Nokia has an axis with Yes Bank and FINO (Financial Inclusion Network Operations) on similar lines. Similarly, Corporation Bank has a joint venture with Tata Teleservices and has appointed the Association of public call offices as its banking correspondent.

However, the biggest hurdle that most of these tie-ups face is that they have failed to achieve the formidable scale of M Pesa in Kenya or Smart Money in Philippines.

References

1. Agarwal, S. (2010, Dec 16). Banking on technology to bridge financial inclusion gap. McClatchy - Tribune Business News Retrieved from <http://search.proquest.com/docview/817760268?accountid=35207>
2. Approach Paper on it-enabled financial inclusion How to Leverage Technology for Broad-Basing Financial Inclusion Initiatives
3. Branchless banking for financial inclusion. (2013, Jan 19). The Financial Express Retrieved from <http://search.proquest.com/docview/1270846485?accountid=35207>
4. Etim, A. S. (2014). Mobile banking and mobile money adoption for financial inclusion. *Research in Business and Economics Journal*, 9, 1-13. Retrieved from <http://search.proquest.com/docview/1555353938?accountid=35207>
5. Fatima, A., & Sukanya, M. (2014). FINANCIAL INCLUSION THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN INDIA. *International Journal of Applied Financial Management Perspectives*, 3(2), 1076-1082. Retrieved from <http://search.proquest.com/docview/1648678573?accountid=35207>
6. Kale, S. (2010, Feb 03). Dialling financial inclusion. *Financial Express* Retrieved from <http://search.proquest.com/docview/872798015?accountid=35207>
7. Kapoor, R. (2015, May 08). Breaking the barriers to financial inclusion. *Financial Express* Retrieved from <http://search.proquest.com/docview/1679278923?accountid=35207>
8. Kazmi, S. H. (2013). FINANCIAL INCLUSION THROUGH TECHNOLOGY DEPLOYMENT. *Pakistan & Gulf Economist*, 32(28), 14-15. Retrieved from <http://search.proquest.com/docview/1419395752?accountid=35207>
9. Kumbhar, V. (2011). Financial Inclusion through M-Banking Services: Scope and Problems in India (No. 28724). University Library of Munich, Germany.
10. Launch new products, technology to fortify financial inclusion. (2015, Jun 13). *The Financial Express* Retrieved from <http://search.proquest.com/docview/1687769747?accountid=35207>
11. Oluwatayo, I. B. Techno-driven financial inclusion in Rural Nigeria: challenges and opportunities for pro-poor service delivery.
12. Panwar, R. (2014). BRANCHLESS BANKING: BREAKING THE BARRIERS TO FINANCIAL INCLUSION. *International Journal of Applied Financial Management Perspectives*, 3(1), 863-870. Retrieved from <http://search.proquest.com/docview/1648677825?accountid=35207>
13. Sachan, A., & Ali, A. (2006). Competing in the age of information technology in a developing economy: Experiences of an Indian Bank. *Journal of Cases on Information Technology (JCIT)*, 8(2), 62-81.
14. Shalu Chopra; Rajeev Dwivedi; Arun Mohan, S. (n.d). Leveraging Technology Options for Financial Inclusion in India.
15. Technology rings in financial inclusion. (2014, Jan 11). *Financial Express* Retrieved from <http://search.proquest.com/docview/1476379477?accountid=35207>