

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)**ScienceDirect**

Procedia Economics and Finance 11 (2014) 472 – 480

---

---

**Procedia**  
Economics and Finance  

---

---

[www.elsevier.com/locate/procedia](http://www.elsevier.com/locate/procedia)

Symbiosis Institute of Management Studies Annual Research Conference (SIMSARC13)

## **Perspective of Technology in Achieving Financial Inclusion in Rural India**

Shashank Bansal<sup>a</sup> \**Lecturer, Department of Management, Rajiv Gandhi University of Knowledge Technologies, Andhra Pradesh*

---

### **Abstract**

The economic welfare and growth of a nation depends upon the accessibility of people to financial product and services. Efficiently mobilizing their household saving and allocating them effectively to the growing credit requirement of the economy helps in sustainable development of the country. Govt., RBI and banking sectors are making tremendous effort to bring every section of the country into the mainstream financial system. Still there exists a significant gap between the growth expectations and the ground realities in context of 'mobilization and utilization of funds' that support inclusive growth of the country. There is also a significant disparity among the people of rural and urban area in availing the services of the financial system. There is a need of effective tools to bridge the gap and bring in every section of people from all parts whether rural or urban to take part in the mainstream financial activities. Modern Information and communication technology (ICT) can act as a tool to develop a platform which helps us to extend the financial services in remote areas. Technology intervention helps banks to reduce their cost, to increase customer reachability and in better management of business risk. This paper is an attempt to study the contribution of ICT towards financial inclusion in the country and analyse different application of ICT which banks are adopting. This would directly or indirectly reflect the effectiveness of the financial institutions efforts to bring-in underprivileged people to the mainstream financial system, especially in rural area and support in achieving Govt. objective of inclusive growth.

© 2014 Elsevier B.V. This is an open access article under the CC BY-NC-ND license

[\(http://creativecommons.org/licenses/by-nc-nd/3.0/\)](http://creativecommons.org/licenses/by-nc-nd/3.0/).

Selection and/or peer-review under responsibility of Symbiosis Institute of Management Studies.

---

\* Corresponding author. Tel.: +0-000-000-0000 ; fax: +0-000-000-0000 .

E-mail address: [shashank@rgukt.in](mailto:shashank@rgukt.in)

*Keywords: Financial Inclusion; Information Technology; Rural Area; Banking Sector*

---

## **1. Introduction**

The planning commission, Govt. of India is looking forward to achieve a 'Faster, Sustainable and More Inclusive Growth' in its approach to the twelfth five year plan (2012-2017). The policies formulated by planning commission clearly encourage country wide access to financial product and services at an affordable cost, especially to the poor and vulnerable group. This will act as an integral part for promoting sustainable and inclusive growth. It is very difficult to achieve inclusive growth without including 140+Mn household of rural India under organized financial system. These people do not have access to the banking and financial services, and as a result, they remain excluded from the horizon of economic development of the country. The primary aim of financial inclusion is to provide financial services to unserved people of the country in a fair, transparent and equitable manner to unlock its growth potential. Financial inclusion should not only be seen as a philanthropic activity or a regulatory compulsion but also as an unexplored opportunity for a business involving a large section of the population. Financial inclusion not only aims for welfare of the people but also has a significant commercial prudence.

We have to ensure an efficient financial system for the underprivileged people to mobilize their household saving and allocating them effectively to the growing credit need of the country. Few financial institutions like banks, microfinance organizations etc are providing their services in rural areas focusing on including them in organized financial system. But many of them are still awaited. There is also a significant disparity among the people of rural and urban area in availing the services of the financial system. One of the major reasons for the aforesaid observation could be attributed to the financial illiteracy of the rural people. So we need to provide financial services at the affordable cost to the unserved and underprivileged people of the country along with educating and motivating them towards these services. We should develop the platform for catering rural people which is economical, have wide reachability and ease of access. Modern ICT can act as a tool to develop a platform which helps us to extend the financial services in remote rural areas. ICT acts as driving force for achieving more sustainable and inclusive economic structure. ICT allows us to collect, transfer and transform the data & information and collaborate with other entities in an advanced, productive, innovative and accessible manner. ICT will act as an extremely viable option through which we can provide services to the segment which is financially excluded in the country. ICT not only acts as a competitive medium but also helps to bring down the cost of transaction for the customer. It will strengthen our back end operation and also makes front end operation user friendly. The Reserve Bank of India and other commercial banks have taken several initiatives since last several years to improve financial inclusion in rural areas with the help of ICT. However still there is a great scope for the banks to improve their operation by using modern ICT and extend their services to the segments which are financially excluded. It would be very interesting to find out the contribution of ICT towards the financial inclusion in the country and identifying and studying different applications of ICT that banks are adopting. This would directly or indirectly reflect the effectiveness of the

financial inclusive programmes till date and also the efficiency of the financial institutions to bring-in potential customers to the mainstream financial system, especially in rural area.

## **2. Literature Review**

The review of various related articles in context of the study reveals the importance of the financial inclusion. Financial inclusion will act as a win-win situation for both unserved population and banks. Uncovered people, mainly rural people get benefited by financial services and banks will get new avenues of business. Rural income tremendously increases in very short span of time due to large expenditure by Government in the field of rural development and employment program such as MANREGA. As a result, consumption in rural area is also growing at faster rate than urban area. Between 2009-10 and 2011-12, additional expenditure of rural India was Rs. 3,750 billion, significantly higher than Rs. 2,994 billion by the urban population. (CRISIL survey 2012). The banks are having an opportunity to tap this untapped market. Banks can offer their lending facility across the field such as business, education, home loans etc. which will gradually increase the level of rural income (Ministry of finance, 2012). One of the key reasons of financial exclusion is financial illiteracy. There is a lack of awareness about the financial services among the people and they are also struggling to find a platform for consultation. Financial literacy thus would be very crucial for increasing the penetration of financial products and services. This can be very well understood from one of its definition by the Organization for Economic Co-operation and Development (OECD), 'the process by which financial consumers improve their understanding of financial products, concepts and risks, and through information, instruction and objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being.' (RBI, 2008).

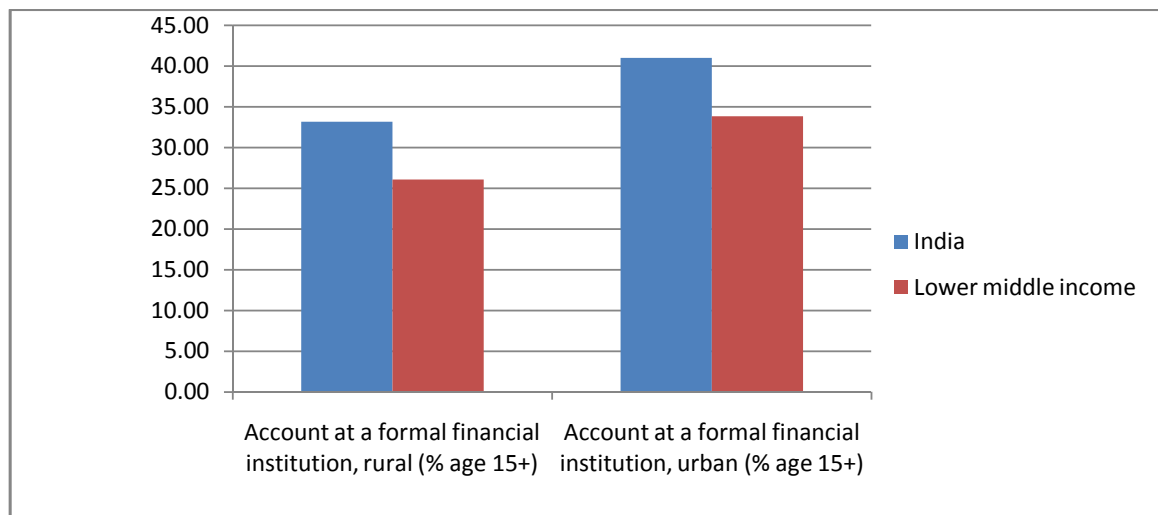
In India, presently, financial inclusion is confined to ensure the access of saving accounts but internationally it has wider perspective. There could be a multiple level of financial inclusion. It depends upon the level of involvement of customer with financial product and services. Having a current account/savings account on its own, is not regarded as an accurate indicator of financial inclusion (V. Leeladhar, 2006). Technology can play a critical role in realizing the objective of sustainable development through financial inclusion and it can be very well understood from a keynote address by Dr. K. C. Chakrabarty, Deputy Governor, RBI "We have encouraged banks to leverage technology to attain greater reach and penetration while keeping the cost of providing financial services to the minimum. While we remain technology neutral, we require banks to seamlessly integrate whatever technology they choose, with their CBS architecture" (32nd SKOCH Summit, 2013). Technology framework helps the banks to extent their services to underprivileged people and at the same time helps them to meet their business objective. With the help of ICT in financial inclusion and financial literacy, we will able to make a long lasting impact on economic development of the country (IBA, 2008). There is also a need to motivate the new financially included customer towards the usage of various financial products and services, which is very clear by C.J. Punnathara in his analysis based on latest progress and trends in banking industry, that, for nurturing greater equity and accelerate

economic development, early gains in inclusion should be transformed into financial deepening as well; the newly empowered bank customers should be enabled to extend their financial activity into an array of products, leading to all round economic development (P Jagdish, 2008).

### 3. Perspective of Financial Inclusion in India

Financial inclusion is not only about extending financial services to excluded people, but involves providing wide range of financial services, including credit facility, insurance, and remittance products. The government led approaches to meet financial inclusion primarily deals with expanding branches, opening special institution like RRBs (Rural regional banks) and cooperative banks and setting up the mandates credit target. Its success has been mixed, and has been showing diminishing returns.

In rural India only 33% of population is included in the formal financial system and situation becomes more tough in case of lower income group where only 26% of people form a part of financial development in the country (Fig.1), while 41% of urban India population and 34% of lower income group in urban India is participating in the financial system, which is comparatively better than the rural India. So, there is a need to boost financial inclusion programs especially in rural area.

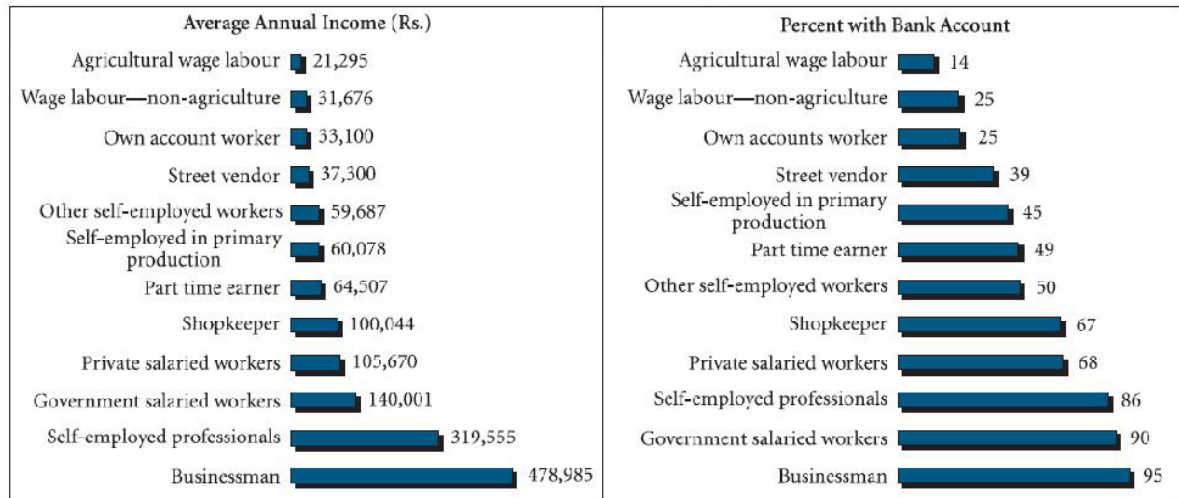


**Fig1. Details of accounts at a formal financial institution in rural and urban area (Source-IMF)**

India's under-privileged people mainly working as agricultural and non-agriculture wage labourers and micro-entrepreneurs are largely excluded from the formal financial system. (Fig. 2) Only 14% of agricultural base daily wage earners are having their bank accounts which mainly reside in rural area. Accessibility of credit from the financial institution is also one of the major reasons of concern. Only 8% of loans are taken for the formal financial institution (2007-11) and still people are relying upon their family and friends for credit need, they are having the

share of 20% in giving loans in the same period. Various government and banks initiation towards financial inclusion does not have significant impact on the financial excluded population, since majority are still relying upon the traditional way for their credit requirement. There is a need of new approach in this area which leads us to a set of financial sector reforms that explicitly prioritize inclusion.

**Figure 2: Link between Annual Income and Bank Accounts by Occupation Group**

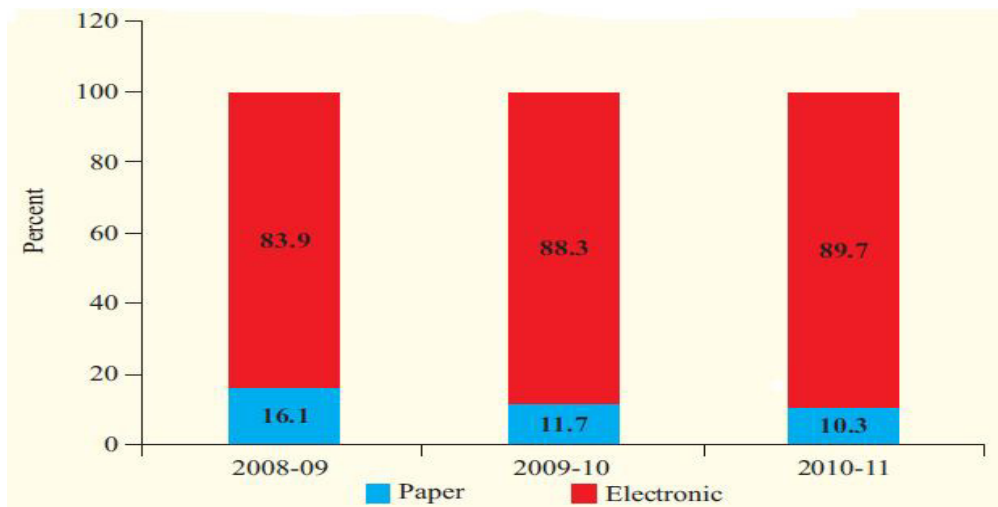


#### 4. Role of Technology in Financial Inclusion

There are two main hurdles in the path of financial inclusion, one is from the side of financial excluded section and the other is from financial service provider. The excluded section of the society suffers from lack of financial literacy and basic education; as a result leading to limited access to financial services. They find informal system of credit more convenient and user friendly in comparison to formal financial system which they find very complex in nature. Moreover, banks are struggling with the cost of services and provision of account at reasonable maintenance cost due to remote location. We can overcome the aforementioned barriers with the usage of information technology, which gives as a viable option to reduce our transaction cost significantly and create a platform which is user friendly and more convenient to use.

Information technology will act as a bridge between last mile customers and service providers. ICT helps banks to reduce their front-end and back-end cost significantly. Reduced costs lower the transaction and maintenance costs, which can lower lending cost, and thereby increases the viability of financial inclusion in rural area. The ATMs plays a key role in reducing the front-end cost, and has revolutionized the banking deliver chain. Going beyond ATM, online banking transaction are having negligible transaction cost in comparison to physical cash transaction where handling cost is too high. The banks are trying to extend online banking services as a preferred mode of transaction for SMEs along with large co-operations. Banks are also using Rural Internet Kiosks in rural areas to

carry out such transactions. Fig 3 shows the value wise contribution of electronic transaction is significantly higher and increasing gradually than the paper based transaction in Indian banking industry.



**Fig 3. Value wise share of Paper based Vs Electronic transaction**

In India with a population of 1.2 billion people, only 200 million people have access to a bank account while 811 million have a mobile phone that translates into 68 per cent having a mobile phone and only 17 per cent having a bank account. It is very clear from the fact that mobile phone is the key, when it comes to reaching the financial excluded and extending financial inclusion for the larger population. Mobile banking comes as a very handy tool due to lack of infrastructure cost for the banks, while no additional investment is required for the customers. The cost of services via mobile banking is also lowest among other mode of services such as branch banking and internet banking. Financial service provider can take advantage of this and can offer wide range of mobile banking services and mobile payment services to the large un-banked section of the country.

Technology is significantly leveraged by the Business correspondents (BCs), which are engaged by the banks for providing banking services to the excluded section of the society especially to the rural areas. BCs are widely using rural internet kiosks and mobile banking network for acquiring customer and back end support. ICT can play an important role in controlling bad debt by combining it with citizen unique ID and credit rating information. Credit reporting can be done electronically by recording all the transactions and sharing this with credit bureaus. Lender can use this information of past credit history for identifying appropriate borrowers and will be able to reduce provision of bad debt significantly. The Rangarajan committee on financial inclusion recommends the nationwide electronic financial inclusion system (NEFIS) that links bank accounts and allow govt. funds to be transferred into them electronically. The funds of Govt. subsidy, scholarships and schemes such as MGNREGS which is focused towards rural areas, can be directly transferred into bank accounts which is linked with national unique ID of the

people under govt. direct benefit transfer scheme (DBT). This measure will help in reducing the burden of administration, cost and risk of misuse of public policy. By NEFT, we would also be able to extend the access of formal financial system to the under privileged and financial excluded section of the society.

Banks are taking technology initiatives such as Geographical information system (GIS), Global positioning System (GPS), GPRS (General Packet Radio Services). GPS and GPRS are mobile based technology, with the combination these two banks can monitor the location of their BCs and direct them accordingly. GIS is web based technology having all details of existing branches, ATMs, business correspondent, state co-operatives. This helps banks to identify the financially excluded region, where expansion of services needs to be carried out.

Banks have adopted Core banking solution (CBS), which links all the branches of the banks with each other. It helps customer to operate from any branch regardless of their account in any other branch. It works on principle of anywhere, any-time banking and thus caters to customer's convenience. National electronic fund transfer (NEFT) and Real time gross settlement (RTGS) are two centralized payment systems provided by the banks. These two are very significant and convenient payment channels. NEFT allows the customer to transfer funds electronically from any bank branch to customer having an account with any other bank branch in the country. While RTGS allows us to transfer the funds at real time i.e. processing the instruction at the time they receive. RRBs and state co-operatives are also providing these services to their rural customers via themselves or by taking sub-membership from public sector banks and thereby increasing the financial viability of the rural population.

Financial literacy becomes an important part for promoting financial inclusion and ultimately financial stability. RBI has adopted an integrated approach for achieving financial inclusion through financial literacy. RBI has introduced the project 'Project financial literacy' with an objective of disseminating the information regarding banking concepts to the different target groups especially rural and urban poor. RBI also launched the financial education website for teaching basics of finance and banking to the people. Different banks with govt. organizations like NABARD initiated various measures for creating awareness among the people. Indian overseas banks have introduced rural training centers and financial literacy cum credit counselling centers with an objective of creating awareness, educating them about various products and services available for them. They also assist illiterate people in their problems and create a positive environment for availing banking services.

## **5. Conclusion**

The majority of people in the country do not have access to the banking and financial services and as a result they remain excluded from the horizon of economic development of the country. The main reason for slow inclusion is the absence of appropriate delivery models and products which satisfy the financial needs of low income families. There is a requirement of uncomplicated and affordable products by the banks which help them in mobilizing their

savings and bring them in the formal financial system. Govt. plan of linking banks accounts with National Unique identification will act as a game changer in achieving financial inclusion. Govt., RBI and banks sectors are making tremendous effort to bring every excluded section of the country into the mainstream financial system. Still, there exists a significant gap between the growth expectations and the ground realities in context of ‘mobilization and utilization of funds’ that support inclusive growth of the country. There is a need of effective tools or mechanism to bridge the gap, while bring in more and more people from all parts whether rural or urban to take part in the mainstream financial activities and this would be possible through the usage of information and communication technology. Modern Information and communication technology can act as a tool to develop a platform which helps us to extend the financial services in remote areas. ICT acts as driving force for achieving more sustainable and inclusive economic structure. It will strengthen our back end operation and also makes front end operation user friendly. The RBI and other commercial banks have taken several initiatives since last several years to improve financial inclusion in rural areas with the help of ICT. Mobile banking and ATM are two promising options for achieving financial inclusion. These technologies are adding new avenues in providing banking services to the unbanked population. Even though, till now we are not able to utilize these technologies up to their potential especially in rural areas.

Financial inclusion in true sense would mean not only to make people aware but encourage them to buy the financial products and services. The institutions must foresee the challenges lying ahead and take necessary steps to support the policies of inclusive growth. ICT may act as a tool to overcome those challenges and provides us a platform to reach customer directly. ICT not only helps as to bring down the cost of transaction significantly but also provide as a competitive medium. Thus, ICT creates the win-win situation for both banks and customers.

## References

- Sanjeev Kumar Gupta, (2011), Financial inclusion-IT as enabler, RBI occasional paper, Vol. 32, No.2 Retrieved from: [rbidocs.rbi.org.in/rdocs/Content/PDFs/OCFI261012\\_SN2.pdf](http://rbidocs.rbi.org.in/rdocs/Content/PDFs/OCFI261012_SN2.pdf)
- Government of India, Planning Commission, (2009), A Hundred small steps, Sage publication. Retrieved from: [planningcommission.nic.in/reports/genrep/rep\\_fr/cont\\_fr.pdf](http://planningcommission.nic.in/reports/genrep/rep_fr/cont_fr.pdf)
- Amol Agrawal, (2008), The need for financial inclusion with an Indian perspective, Committee on Financial Inclusion, IDBI Gilts Ltd. Retrieved from: [ftp://ftp.solutionexchange.net.in/public/mf/comm\\_update/res-15-070408-20.pdf](http://ftp.solutionexchange.net.in/public/mf/comm_update/res-15-070408-20.pdf)
- Ministry of Finance, (2012), Banking, Insurance, Pension, A journal of the department of financial services, Issue1. Retrieved from: [http://financialservices.gov.in/DFS%20Journal%20\(F\).pdf](http://financialservices.gov.in/DFS%20Journal%20(F).pdf)
- Indian Banks Association, IT-enabled Financial Inclusion, Dept of Social Banking. Retrieved from : <http://www.iba.org.in/events/ITEnabled%20FinInclApproachPaper.pdf>



Dr. K. C. Chakrabarty, (2013), Revving up the Growth Engine through Financial Inclusion, 32<sup>nd</sup> SKOCH Summit, Retrieved from: [http://rbi.org.in/scripts/BS\\_SpeechesView.aspx?Id=813](http://rbi.org.in/scripts/BS_SpeechesView.aspx?Id=813)

V. Leeladhar, (2006), Taking Banking Services to the Common Man - Financial Inclusion, Reserve Bank of India Bulletin. Retrieved from: <http://rbi docs.rbi.org.in/r docs/ Bulletin /PDFs/68236.pdf>

RBI, (2008), Financial Literacy and credit counselling centres, Retrieved from: <http://www.rbi.org.in/scripts/publicationdraftreports.aspx?id=526>

P Jagadish,(2008), Inclusive growth in global India , pp-22, Retrieved from:  
<http://books.google.co.in/books?id=MXlxKo7hmeQC&pg=PR22&lpg=PR22&dq=cj+punnathara+in+this+analysis+based+on&source=bl&ots=q61ZdChfjy&sig=OIs1TlyI4uGiR-7e1sdXvLEAYa8&hl=en&sa=X&ei=NQFDUcyVEcrLrQea84CQAw&ved=0CCwQ6AEwAA>

OECD, (2012), Better policy Series” India Sustaining high and inclusive growth, Retrieved from: <http://www.oecd.org/india/IndiaBrochure2012.pdf>

OOMMEN A. NINAN, (2011), Major role of technology in financial inclusion, The Hindu, Retrieved from: <http://www.thehindu.com/business/Industry/major-role-of-technology-in-financial-inclusion/article2216563.ece>