



## **ROLE OF ICT ON BANKS PERFORMANCE & FINANCIAL INCLUSION OF INDIA**

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### **Abstract**

*Information and communication technology (ICT) has become the heart of banking sector, while banking industry is the heart of every robust economy. Within this context this paper has considered a critical literature review of previous researchers with the objective to examine the impact of Information and Communication Technology on banks performance and financial inclusion of india. This paper also makes of a critical review of peer review scholarly and organizational literature regarding the impact of ICT on banks' performance to examine if banks have successfully achieved effective customer's service delivery, by providing high level of customer service through online delivery channel, besides operating cost minimization and revenue maximization.*

### **Introduction**

India's journey on the path of economic reformed it to one of the world's faster growing economies. Its large and growing population is its best asset and can quadruple GDP and catapult India to the league of developed economies over the next decade.

For developed India very well, we need to recognize new opportunities and prepare the supply side. Let us take a quick look at five existing sectors that are likely to hold us in good stead in the future in terms of employment generation and business growth.

- Information technology
- Telecom
- Healthcare
- Infrastructure
- Retail

The Information Technology (IT) saga in Indian Banking sector commenced from the mid eighties when the Reserve Bank of India (RBI) took upon itself the task of promoting computerization in banking to improve customer services, book keeping, Management Information System (MIS) to enhance productivity. RBI has played the guiding role which helped banks in achieving various objectives such as the introduction of MICR based cheque processing, Implementation of the electronic payment system such as RTGS (Real Time Gross Settlement), Electronic Clearing Service (ECS), Electronic Funds Transfer (NEFT),

Cheque Truncation System (CTS), Mobile Banking System etc. The Payment and Settlement Systems Act, 2007 (effective from August 12, 2008) designates the RBI as the authority for regulation and supervision of payment systems in India. With increase in reach, size and significance of payment systems, the RBI is committed to assuring safe and efficient functioning of payment systems by identifying various risks, addressing risk-reduction by putting in place risk-mitigation measures and mandating appropriate risk. The RBI has also encouraged the setting up of National Payments Corporation of India (NPCI) to act as an umbrella organization for operating Retail Payment Systems (RPS) in India.

Under the aegis of RBI, the Institute for Development and Research in Banking Technology (IDRBT), was set up in Hyderabad as a research and technology centre for the banking sector for excellence and advancement in technology. This resulted in the commissioning of the Indian Financial Network (INFINET) as a Closed User Group based network for the exclusive use of the Banking Sector with state-of-the-art safety and security; Certification Authority (CA) functions for ensuring that electronic banking transactions get the requisite legal protection under the Information Technology Act, 2000; Implementation of the National Financial Switch (NFS) to ensure inter-connectivity of shared ATMs and to provide for fund settlement across various banks (now managed by NPCI). IDRBT also provides a platform for transmission of electronic messages across banks using common standards, for facilitating ‘Straight Through Processing ‘ (STP) in the form of Structured Financial Messaging System (SFMS), which is similar to the Society for Worldwide Interbank Financial Telecommunication (S.W.I.F.T) messaging pattern.

Recognizing the need for upgrading the country’s financial infrastructure in respect of Clearing and Settlement of debt instruments and forex transactions, The Reserve Bank of India initiated the move to set up the Clearing Corporation of India Ltd. (CCIL). The country’s largest bank, State Bank of India, took the lead in setting up of the CCIL. The other core promoters of CCIL are LIC, IDBI, ICICI Bank, HDFC Bank, and Bank of Baroda. CCIL is the country’s first clearing house for Government Securities, Repos, Forex and other related market segments.

### **Objective of study**

To examine the current status of ICT in Bank’s performance & financial inclusion of India.

### **Review of literature**

Pohjola (Nov.1998) Each country establish a national ICT strategy aiming at maximizing the benefits of ICTs and minimizing their risk. Modern business information system are developed for the need of large corporation in industrial countries.

Sanjay highlights IT literacy need to be enhanced, manifold among the population at large through conventional & nonconventional means, so that ordinary people can be made to use it to derive benefits, both economically and socially.

Avgerou (2001), ICT is an absolute necessity for taking part in today's global economy and as such the role of ICT in the emerging global market cannot be over emphasized. ICT has also been credited with the potential to integrate world economies thus demolishing the barriers created by time and distance. It equally makes easier the trade in goods and services and encourages investment as well as the creation of new sectors of enterprise, new revenue streams and ultimately new jobs.

Meng & Li (2002) maintain that the role of the ICT industry in developing Countries is far from clear. This, they reason, might be due the fact that developing countries are short of capital investment and knowledge and they thus lag far behind in ICT-industry development and diffusion in comparison to the industrialized nations. Bertshek (2010), emphasizes the important role of information technology for firm performance in terms of innovation success and productivity. Most studies focus on manufacturing firms or do not differentiate between manufacturing and services firms.

Swapna & Sujatha, The Indian Information Technology and Information Technology Enabled Services (IT-ITES) industry has been contributing its role in the economic development of India since post liberalization era. The pace growth of this industry is considered as a growth driver for the economy. India has become as "IT Super Power". The performance of IT industry can be revealed with the evidence of its contribution to the GDP (Gross Domestic Product) of the country, provision of employment opportunities all over the country, IT services and software exports and revenue to the country.

Longley and Shain (1992), defined information and communication technology as the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a micro-electronic based combination for computing and telecommunication. While an information system (IS) is a group of formal process that together collect, retrieve, process, store and disseminate information for the purpose of facilitating planning, control, coordination and decision making in organizations. Information and communication technology on the other hand provides the technical solutions identified in the (IS) information system; including the networks, hardware and software (Accad , 2009). Ovia, (2001) conceived of information and communication technology to broadly encompass the information that business creates and use as well as a wide spectrum of increasingly convergent and linked technologies that process the information. In addition to computers,

the data recognition equipment, communication technologies, factory automation and other hardware services are involved. Traditionally, telephone, radio and television were referred to as media technology.

The World Bank defines ICTs as “the set of activities which facilitate by electronic means the processing, transmission and display of information” (Alu, 2002). ICTs “refer to technologies people use to share, distribute, gather information and to communicate through computers and computer networks” (Laudon and Laudon, 2001). ICTs can be described as a complex varied set of goods, applications and services used for producing, distributing, processing, transforming information (including) telecoms, TV and radio broadcasting, hardware and software, computer services and electronic media” (Laudon and Laudon; 2010). ICTs represent a cluster of associated technologies defined by their functional usage in information access and communication, of which one embodiment is the Internet.

### **Financial Inclusion - Concept and Definition**

“Financial Inclusion is the delivery of financial services to all the people in a fair, transparent and equitable manner at affordable cost. Financial Inclusion has the potential to improve the standards of life of the poor and the disadvantaged. Financial services permit individuals and households to manage the risk and uncertainties to save risk free, borrow on better terms, to invest in a business venture or property and to cope with unforeseen expenses.”

Financial inclusion means delivery of financial services at affordable costs to sections of disadvantaged and low income segments of the society. Defining financial inclusion is considered crucial for identifying the factors that lead to low level of access to the financial system. As measuring inclusion is perceived to be difficult, financial inclusion is generally defined in terms of exclusion from the financial system. However, financial inclusion is not just about physical access caused by the changing topography of financial services. Therefore, the debate has now broadened to include all types of people who make little or no use of financial services and the processes of financial exclusion (Ford and Rowlingson, 1996; Kampson and whyley, 1998).

In most developing countries, a large population particularly of low income, has very little access to financial services. As a consequence, many of them have to necessarily depend either on their own or informal sources of finance and generally at an unreasonably high cost. A report of the National Sample Survey Organization (NSSO) mentions that 76 per cent of the rural households in the country depend on loans from moneylenders as their source of finance.

## **Rationale behind ICT in Financial inclusion**

Finance has come a long way since the time when it wasn't recognized as a factor for growth and development. It is now attributed as the brain of an economic system and most economies strive to make their financial systems more efficient. It also keeps policymakers on their toes as any problem in this sector could freeze the entire economy and even lead to a contagion.

ICT is considered a means to achieve four general development outcomes—identified in the 2002 ICT Strategy—that are relevant to the World Bank Group's mission:

- Enhance productivity, economic growth, and job creation.
- Improve the quality and reach of services to the public.
- Increase transparency, efficiency, and accountability in governance and government functions.
- Increase equity and integration of marginalized groups.

**Financial Inclusion Lifecycle.** (Bringing Financial Services to the masses an NCR white paper on financial inclusion 2009, Frost & Sallivan)

Firstly in the process of Financial Inclusion is to educate customers and open an account.

Only opening a bank account for a poor individual is not financial inclusion. A three-step approach is required to bring financially underserved individuals into a financially inclusive society. After improving financial literacy and opening an account of some form, it is usage of that account, linkage with other financial services and access to all the financial instruments that are required to complete the financial inclusion lifecycle.

**Financially Excluded**  $\implies$  **Financial Literacy**  $\implies$  **opening bank account**

$\implies$  **Delivering Financial Services**  $\implies$  **Optimum utilization of account**

$\implies$  **Financially Included**

## **Financial Literacy**

To begin the financial inclusion process, one needs to understand financial products, usage, operation and management of accounts. As defined by the Reserve Bank of India (RBI), financial education is "the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or 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." Efforts for financial literacy can

be driven through microfinance institutions (MFIs), self-help groups (SHGs), cooperative and rural banks. Collaboration between these parties would accelerate results.

### **Opening bank account**

Opening a bank account is the second step towards financial inclusion. It provides access to financial facilities for the financially underserved through formal sources of banking. Financial services providers, technology service providers and regulators are the functioning participants in the system. As a major initiative to promote financial inclusion, the RBI has directed banks to introduce a basic 'no frills' banking account with either zero or very low minimum balances to better meet the needs of the poor. The RBI has also eased 'know your customer' (KYC) norms to minimize the procedural obstacles of opening a bank account

### **Delivering Financial Services**

The cost of delivery of service is considered to be the bottleneck in the value chain because, for the very consumer, anything but very low transaction costs are not feasible. Currently, the favored delivery channel for microfinance and microcredit is via the business correspondent (BC) model, whereby an agent (who may or may not be a direct employee of the financial institution) personally travels within a wide geographical area to enroll customers, delivers loans, and collects repayments. The 'doorstep banking' model has obvious restrictions of scale as well as security. Agents may abscond with their clients' funds or may themselves be the target of thieves.

### **Conventional delivery model**

Technology can improve conventional delivery channels such as the BC model by adding new levels of security, speeding up enrolment procedures or ensuring accuracy. Used in this way, technology offers conventional models the chance to increase scale, though to a limited degree. A conventional BC model will always be restricted by the amount of ground the agent can physically cover.

### **Technology-enabled delivery model**

Alternatively, technology can actually become the direct delivery channel. Self service technology, in particular, has already achieved this in the broader financial industry, through ATMs, the internet and user-driven mobile phone banking. With policy support, self-service technology can provide a feasible platform for the delivery of financial services to the financially underserved population. As well as technology providers, the other participants in this third step are the financial services providers)



### **Financial Inclusion: India**

- The Reserve Bank of India setup a commission (Khan Commission) in 2004 to look into Financial Inclusion and the recommendations of the commission were incorporated into the Mid-term review of the policy (2005-06). In the report RBI exhorted the banks with a view of achieving greater Financial Inclusion to make available a basic "no-frills" banking account.
- In India, Financial Inclusion first featured in 2005, when it was introduced, that, too, from a pilot project in UT of Pondicherry, by *Dr. K. C. Chakraborty*, the chairman of Indian Bank. Mangalam Village became the first village in India where all households were provided banking facilities. In addition to this *KYC (Know your Customer)* norms were relaxed for people intending to open accounts with annual deposits of less than Rs. 50,000. *General Credit Cards(GCC)* were issued to the poor and the disadvantaged with a view to help them access easy credit. In January 2006, the Reserve Bank permitted commercial banks to make use of the services of non-governmental organizations (NGOs/SHGs), micro-finance institutions and other civil society organizations as intermediaries for providing financial and banking services. These intermediaries could be used as business facilitators (BF) or business correspondents (BC) by commercial banks. The bank asked the commercial banks indifferent regions to start a 100% Financial Inclusion campaign on a pilot basis. As a result of the campaign states or U.T.s like Pondicherry, Himachal Pradesh and Kerala have announced 100% financial inclusion in all their districts.
- Reserve Bank of India's vision for 2020 is to open nearly 600 million new customers' accounts and service them through a variety of channels by leveraging on IT. However, illiteracy and the low income savings and lack of bank branches in rural areas continue to be a road block to financial inclusion in many states. Apart from this there are certain in Current model which is followed. There is inadequate legal and financial structure.
- India being a mostly agrarian economy hardly has schemes which lend for agriculture. Along with Microfinance we need to focus on Micro insurance too

### **Information and Communication Technology (ICT)**

Financial Inclusion, without the intensive use of ICT in the Indian context appears almost impossible. Of a total of 6,38,596 villages in the country, 4,94,442 (or 83.3%) have less than 2,000 inhabitants with a total population of 340 millions as per 2001 census. Covering all these villages with brick and mortar branches of banks would be nearly impossible. Even an

ultra small branch might need an initial investment of Rs. 0.5 millions and annual recurring cost of Rs1 million at the current prices. This would mean the branch would need an average business level of Rs. 30 millions to attain break even. Further, small value transactions using brick and mortar branches may not be cost effective. The estimated cost of a cash transaction - a deposit or Withdrawal - across the counter might be on an average Rs. 50, an ATM transaction Rs. 15, a transaction using a mobile Re. 1 and through the internet a fraction of a Rupee. With the extensive use of technology, Banking Correspondents (BCs) have the potential to reduce the cost of transactions and position themselves between the mobile and the ATM.

Further, technology has the potential to address the issues of outreach and credit delivery in rural and remote areas. Therefore, one of the basic assumptions for viability of BC model is intensive and extensive use of information and communications technology (ICT). By such use of ICT, it is possible to provide doorstep banking services where the accounts can be operated by even illiterate customers by using biometrics or mobile telephones, thus ensuring the security of transactions and enhancing confidence in the banking system. Information technology in the BC eco- system is thus becoming a key business enabler and is being positioned as a key differentiator.

### **Challenges of financial inclusion**

Several challenges like large area, cost of small value transactions, weak delivery model, unsuitable products, infrastructure, lack of finances, management support have to be effectively dealt with. The automation of core banking processes with the use of channels such as ATM, IVR based Tele-banking, Internet banking, the banking industry has become more profitable. Banks however, face an uphill task of reaching out to the mass customers in remote areas such as villages. Naxal Movement, low Return –on- investment, customer behavior, operating expenses inhibits banks from expansion in rural areas.

### **Information Communication technology In Banks**

Developments in the field of Information Technology (IT) strongly support the growth and inclusiveness of the banking sector, thereby facilitating inclusive economic growth. IT not only enhances the competitive efficiency of the banking sector by strengthening back-end administrative processes, it also improves the front-end operations and helps in bringing down the transaction costs for the customers. It has the potential of furthering financial inclusion by making small ticket retail transactions cheaper, easier and faster for the banking sector as well as for the small customers. The Reserve Bank has, thus, been actively involved in harnessing technology for the development of the Indian banking sector over the years.



A major technological development in banking sector is the adoption of the Core Banking Solutions (CBS). CBS is networking of branches, which enables customers to operate their accounts and avail of banking services from any branch of the Bank on CBS network, regardless of where the customer maintains his/her account. The customer is no more the customer of a Branch as he becomes the Bank's customer. Thus, CBS is a step towards enhancing, customer convenience through, Any-where, Anytime Banking. It is important to leverage on to this technological advancement to look at areas beyond CBS that can help in not just delivering quality and efficient services to customers but also generating and managing information effectively.

Another major technological development, which has revolutionized the delivery channel in the banking sector, has been the growth of Automated Teller Machines (ATMs). The banking space has seen considerable growth through the ATMs, (approximately 87000 ATMs at present) but the same has been restricted principally to the urban/metro areas. As per the existing rules/regulations, only banks are being permitted to set up ATMs in urban/metro areas. Tier III to VI unbanked/under banked areas have not witnessed much ATM presence.

In the above context, RBI has reviewed the extant policy on ATMs and it has been decided to permit non-banks to set up, own and operate ATMs to accelerate the growth and penetration of ATMs in the country. Such ATMs will be in the nature of White Label ATMs (WLA) and would provide ATM services to customers of all banks. Non-bank entities proposing to set up WLAs have to make an application to RBI for seeking authorization under the Payment and Settlement Systems Act 2007.

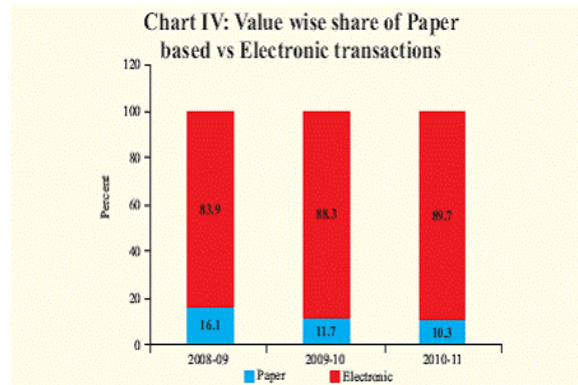
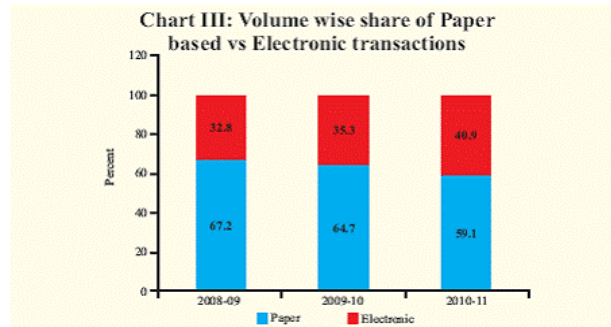
### **Development of National Payment Systems:**

The payment system could be broadly divided in two segments:

1. **Paper-based Payments:** Use of paper-based instruments (like cheques, drafts etc.) account for nearly 60 percent of the volume of total non-cash transactions in the country. In value terms, the share is presently around 11 percent. Reserve Bank had introduced Magnetic Ink Character Recognition (MICR) technology for speeding up and bringing in efficiency in processing of cheques. Recent developments in paper-based instruments include launch of Speed Clearing (for local clearance of outstation cheques drawn on core-banking enabled branches of banks) and introduction of cheque truncation system (to restrict physical movement of cheques and enable use of images for payment processing).

2. **Electronic Payments:** The overall thrust is to reduce the use of paper for transactions and move towards electronic mode. Following are various electronic payment services available in the country:
- a. **Electronic Clearing Service (ECS)/National ECS (NECS):** ECS is an electronic mode of payment / receipt for transactions that are repetitive and periodic in nature. ECS is used by institutions for making bulk payment of amounts towards distribution of dividend, interest, salary, pension, etc., or for bulk collection of amounts towards telephone / electricity / water dues, cess / tax collections, loan installment repayments, periodic investments in mutual funds, insurance premium etc. Essentially, ECS facilitates bulk transfer of monies from one bank account to many bank accounts or vice versa.
  - b. **National Electronic Funds Transfer (NEFT):** NEFT is a payment system facilitating one-to-one funds transfer. Under this, individuals, firms and corporate can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme. Thus, this is an interbank fund transfer system.
  - c. **Real Time Gross Settlement (RTGS) System:** This Real Time Gross Settlement is a continuous (real-time) settlement of funds transfer individually on an order by order basis (without netting). 'Real Time' means the processing of instructions at the time they are received rather than at some later time. 'Gross Settlement' means the settlement of funds transfer instruction occurs individually (on an instruction by instruction basis). Considering that the funds settlement takes place in the books of the Reserve Bank of India, the payments are final and irrevocable.
  - d. **Pre-paid Payment Systems:** Pre-paid instruments are payment instruments that facilitate purchase of goods and services against the value stored on these instruments. The pre-paid payment instruments can be issued in the form of smart cards, magnetic stripe cards, internet accounts, internet wallets, mobile accounts, mobile wallets, paper vouchers, etc.
  - e. **Point of Sale (POS) Terminals / Online Transactions:** There are over five lakh POS terminals in the country, which enable customers to make payments for purchases of goods and services by means of credit/debit cards. To facilitate customer convenience the Bank has also permitted cash withdrawal using debit cards issued by the banks at POS terminals.

The efforts of RBI aimed at promoting electronic payment systems in comparison with paper based payments are evident, with both the value and volumes of these systems registering impressive growth rates as shown in the following Chart III and IV.



### Leveraging Core Banking Infrastructure

The banking industry has achieved, in the last one decade, significant success in leveraging IT through the implementation of core banking solutions and it has helped them in streamlining, standardizing, and expanding their services portfolio. Information, communication, and technology (ICT) solutions will continue to help banks in providing seamless systems to capture customer data, ensure unique identification, and facilitate financial transaction services using remote connectivity. These systems will also ensure uninterrupted service delivery, consumer data protection, customized products, dissemination of information on credit operations, and offer of multiple financial products in local languages. The existing ICT infrastructure in the banks could be leveraged to create a delivery model suitable to achieve Financial Inclusion through the Banking Correspondents(BCs).

### Electronic Transfer of Social Benefits

ICT could also be used for electronic transfer of social benefits through the bank accounts of the beneficiaries and deliver government benefits at the doorstep, thus reducing dependence on cash and lowering transaction costs. Realizing this, the RBI advised all banks to make intensive use of information technology in BC Model. In the initial years of evolution of the BC model, all transactions used to be routed through the server of the technology provider and the settlement used to take place at the end of the day or within 24 hours. Banks were

reluctant - and still are - to open up their core banking servers to the technology providers due to security concerns.

- However, lately some banks have evolved own technology solutions allowing BCs to use their own Financial Inclusion server connected to the core banking server at the back-end. For instance, in the case of Punjab National Bank in India, Infosys has provided the financial inclusion solution in their regular core banking solution. The Two Models
- The BCs are found to use two models viz, 1) The Smart Card Based Kiosk Model and 2) The Mobile Hand set based Model. Under the mobile based model there are two types viz; one where a GPRS based mobile is used to access the server through the internet and the other through Short Messaging Service (SMS) or Unstructured Supplementary Service Data (USSD) technology.

### **The Smart Card Based Kiosk Model**

Under this model, each customer is given a smart card with a 32k/64k memory chip where the following details are stored. These include primary account number, postal address , nominee details, contact information and transaction history. Both the CSP (Customer Service Point) and the customer are issued smart cards. The CSP's smart card is used for authenticating the Point of Sale (POS) machine, establishing connection with the intermediate server for BOD (Begin of Day), EOD (End of Day), data transfer and to prevent the misuse of the POS machine. No transaction can go ahead without the smart card of the CSP. The Terminal Operator (CSP) Card and the Customer Card are mutually authenticated. The customer is authenticated using the biometric finger print stored in the smart card. The CSP get connected using any secured communication channel such as Global System for Mobile communications (GSM), Code Division Multiple Accesses (CDMA), Public Switched Telephone Network (PSTN) or Ethernet depending upon the type of connectivity available at the local place of operation. Through this connectivity, the CSP reaches the backend intermediate Financial Inclusion (FI) server belonging to service provider/bank. All customer details and account information including current balance is held by the FI server which will regularly update the bank's core banking server at pre-decided intervals or on a real time basis.

- The Minimum Hardware requirement for the model is as follows.
- Smart Card Readers may be of two types viz., with contact or without contact.
- Speaker for voice guidance in local language of instructions and status
- information

- Fingerprint Sensor
- Printer capable of printing receipts in local language
- Web cam
- Lap top /hand held Device
- Power Backup with a Minimum battery backup for 4 Hours operation
- and 24 hours standby with provision for charging from alternate sources.
- Connectivity
- Essential furniture

The total cost of establishing a CSP with the above equipment is Rs1,26,000/-. The Kiosk is a one man point. It has the potential to carry out about 150 transactions per day. The person manning the kiosk exclusively attends to the kiosk and its customers. The command area of the kiosk is one village or at times one or two nearby villages. In most cases, he/she has to attend to financial literacy and client education, marketing, liaison with the base branch, attend to minor hardware technological issues etc. CSP is supervised by the BC Network Manager (BCNM) who deploys a supervisor for 5-10 CSPs. The CSP is attached to a Branch of the Bank with whom BC/BCNM has made the tie up. An exclusive deposit account is maintained by the CSP in the base branch which is debited or credited each time a transaction is undertaken by the CSP. The CSP also maintains a physical cash balance, usually Rs10,000/-. At the end of each day, the CSP remits the excess cash holding above the overnight standard cash limit to the base branch or withdraws sufficient money to maintain the cash limit.

## **2. The Mobile Hand set based Model**

**a. GPRS based mobile model:-** In this model , the CSP uses a high end General Packet Radio Service (GPRS) based, Near Field Communication (NFC) mobile phone with a camera in place of a PC. .It will have wired or blue tooth serial connection to a hand held printer, bar code reader, contact or contact less smart card reader etc. The mobile phone with the CSP will have sufficient memory to carry data on all customers including their photographs and finger prints The transactions can be carried out both on line and off line.

The advantages of this model are:

- Initial low investment of Rs. 40000/- (which includes Rs. 25,000/- as working capital.)
- Self contained-No need to depend on external power.
- Low operational cost due to GPRS.
- No need for biometric card.

- Used for account opening and for transactions.
- Can be used by a CSP for door step service or to cover more than one location.
- This model is ideal for covering sparsely populated villages in remote locations. This can also be used by existing retail outlets in urban locations due its low investment and simplicity in operations.

b. Mobile for banking transactions :- This is the cheapest model available where the CSP and the customer can use any mobile hand set to put through a cash debit or credit transaction. The system is not dependent on the mobile network operator, or handset model or operating system on the handset. The client interface is just dialing of numbers. It works using Short Messaging Service (SMS) or unstructured supplementary service data (USSD) technology (like one sending a message to the service provider to know the balance available in the mobile in the case of a pre-paid connection). The best example of this is the system developed by EKO in India, a technology company which uses this through its not-for-profit company, Eko Aspire Foundation, as BC.

Under the model, a person with a mobile phone can open a no frill account with the CSP. The customers types the bank's short code, then an asterisk, then the mobile number of the person they are paying, then an asterisk, then the amount, followed by another asterisk and the customer code. This model has been successful in metropolitan cities as a means of remittance by the migrant workers. The advantage of the model is its low cost. However, in a rural scenario with semi literate or illiterate clients, it might sometimes find lower acceptance.

**IT propelled e-Governance Models for Financial Inclusion**(Financial Deepening, 23rd Skoch Summit, 2010)

The solution to the problem of Financial Inclusion in India is IT. The existing infrastructure framework should be made effective use of to speed up the financial inclusion.

**Postal Network:** The government should consider tying up with private banks to deliver financial solutions to the un-banked, using its extensive postal network. The synergistic outreach of the existing postal system supplemented by banking functions is the answer to the challenges posed by rural markets. India has one of the world's largest postal systems with its branches in the remotest areas. The people can easily connect with the postman this can be used to provide financial cover to the excluded masses and gradually full-fledged banking services may be extended.

**Mobile Banking:** The transaction costs can be radically reduced even in remote locations through M-banking. Digital Divide could be exacerbated at a lower level. The costs, ease of



access for the consumers and the profitability of providers will ultimately decide the level of wireless penetration.

**Ubiquitous Technology:** Rural banking must deliver an easy user experience which requires a ubiquitous technology with an innovative Geographical User Interface (GUI). Bank accounts are already being opened with bio-metric identification which signals that FI initiatives can be achieved with the use of IT solutions for providing banking at doorsteps. Wireless connectivity can ensure that transactions get registered with the bank on real time basis.

### **Conclusion**

The entire accent of the Government, RBI and banks is to open more accounts. However, mere opening the account will not help furthering the cause of financial inclusion. The people working in unorganized sector who often deal through middleman and fall into traps/ clutches of private money lenders need to be targeted to include them under financial inclusion. There is a need that the payment for social schemes should be done through account payment so that issue of money pilferage will be plugged. Financial inclusion requires consistent efforts which will come at a cost, as banks are profit making organization. The Government should make a budgetary provision for the cost and reimburse banks accordingly. Banks should also provide doorstep banking services to them as an incentive so that other people also join the inclusion programme of banks

The main reason for slow inclusion by banks is the absence of delivery model and products designed to satisfy the low income families. The provision of uncomplicated, small, affordable products will help to bring the low income families into the formal financial sector. Banks have limitations to reach directly to the low income consumers. The use of technology, BC's model and using economies of scale will, however bring down the cost of transaction to the banks and it will be a win - win position for both banks and customers.

Financial inclusion and the expansion of financial services to every citizen of the country is a priority for the Government. The goal of financial inclusion cannot be achieved without the help of technology. The enrolment to UID and UID enabled bank account will be a game changer in the entire process of financial inclusion..

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