

INFORMATION TECHNOLOGY AND FINANCIAL INCLUSION IN INDIA: OPPORTUNITIES AND CHALLENGES

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Abstract:

Indian banking industry has shown tremendous growth in volume and complexity during the last few decades. The outcome of the technology is not yet reached to the marginalized and vulnerable sections of the society. Though the government and private sector has increases the bank branch network across the country since 1969, the outreach of the services to disadvantaged people is still not reached completely. This paper mainly focuses on the need for information technology to achieve financial inclusion in India. This paper includes introduction of information technology in financial inclusion, statement of the study, objectives, methodology, reviews, facts and figures, major role of technology in different dimension and its challenges in the present scenario.

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Introduction:

Banking industry plays a vital role in the development of Indian economy. The economic policy of Indian government is to achieve the goal with social justice. Though, the banking industry has made significant improvements in the areas relating to financial viability, profitability and competitiveness, banks have not been able to reach and bring vast segment of the population, especially the underprivileged sections of the society, into the fold of basic banking services. Even after six decades of political independence and four decades of Bank's Nationalization, still majority of residents are under the clutches of Money Lenders and deprived of financial independence. The views of Sri. K C Chakrabarty, Deputy Governor, RBI on the issue is worth noting "Our approach is that those who are borrowing from Micro Finance Institutes must now borrow from the Banks and those who are borrowing from the Money Lenders must borrow from Micro Finance Institutes".

Statement of the study:

Since the technology plays very important role in bringing financial inclusion, it is important to study its role for the betterment of the financially excluded people. Technology has made revolution in the field of banking services. The cost involved in maintaining the account will be reduced or minimized with the help of technology only. It is pertinent to study how for the technology help the bank people to reach their financial services to the marginalized and vulnerable sections of the society.

Objectives:

- 1) To study the significance of information technology in Indian banking sector.
- 2) To examine the role of information technology in vis- a- vis to financial inclusion in India.
- 3) To understand the problems and prospects in the application of information technology in Indian banking sector.
- 4) To evaluate the future aspects of technology in banking services.

Methodology:

This paper will be based on secondary data. The data is collected through published records, books, reports, bulletins, magazines and news papers.

Literature of Review:

Mr. Pranab Mukherjee , Finance Minister, (2012) Inclusive growth is key for financial deepening, The Hindu stated that “Our objectives are somewhat different from those of the developed economies. We need to indigenously develop a workable business model and an integrated delivery model geared to promote financial inclusion, and in turn, sustainable economic growth,”

D K Mittal ,Secretary, Department of Financial Services, Ministry of Finance, (2012) Passion and Compassion necessary for achieving Financial Inclusion, India Education Diary.com, said that in addition to access issues, livelihood generation is a key aspect of financial inclusion. This is necessary to ensure safe return of the money lent. Addressing many of the 'myths' associated with financial inclusion; Mr Mittal said that with appropriate financial products, technology and partnerships, financial inclusions are a viable business model. Financial Institutions have a strategic role in promoting financial inclusion

Rishi Gupta,CFO, Financial Inclusion Network & Operations (2012) Budget Expectations: More push needed for financial inclusion, says that Rural banking got a new lease of life in the year 2005-06 when the regulator announced policy on financial inclusion through Business Correspondent (BC) model. This was followed by the guidelines to expand the banking outreach through BC model with Information and Communication Technology (ICT) support by the Khan Committee. It marked the beginning of new era in Indian banking especially, rural banking. Since then approximately 70 million of the un-served / under-served population (FINO alone accounts for around 45 million, (March 2012) across the country have got access to no frills account (NFA) along with a range of products and services.

Financial Inclusion in International Level:

Recent empirical evidence using household data indicates that access to basic financial services such as savings, payments and credit can make a substantial positive difference in improving poor people's lives (Caskey *et al.*, 2006; Dupas and Robinson 2009). For firms, especially small and

medium enterprises (SMEs), access to finance is often the main obstacle to growth (Schiffer and Weder, 2001; Cressy, 2002; IADB, 2004; and Beck *et al.*, 2005, 2006, and 2008).

Accordingly, financial sector reforms that promote financial inclusion are increasingly at the core of the international development agenda for policy makers and development institutions at the global level. The United Nations (UN) has declared 2005 the Year of Microfinance, and the recent Pittsburg and Korea G-20 communiqués increasingly underscore the importance that this topic has gained in the international arena. The Nobel Institute awarded the Nobel Peace Prize to the founders of microfinance, Muhammad Yunus and the Grameen Bank, in 2006. New international bodies, such as the Alliance for Financial Inclusion (AFI) have emerged whose primary objective is to advance financial inclusion for the world's poor.

The International Monetary Fund (IMF) and the International Finance Corporation (IFC) also increasingly pay attention to this debate. The IMF has launched a new database on financial inclusion,¹ and the IFC together with Consultative Group to Assist the Poor (CGAP) and AFI have been leading the G-20 discussion around financial inclusion for households and SMEs. The Bill & Melinda Gates Foundation has just pledged \$500 million per year over the next five years to expand access to saving services.

Table No.1: Extent of Financial Inclusion- Some Select Countries:

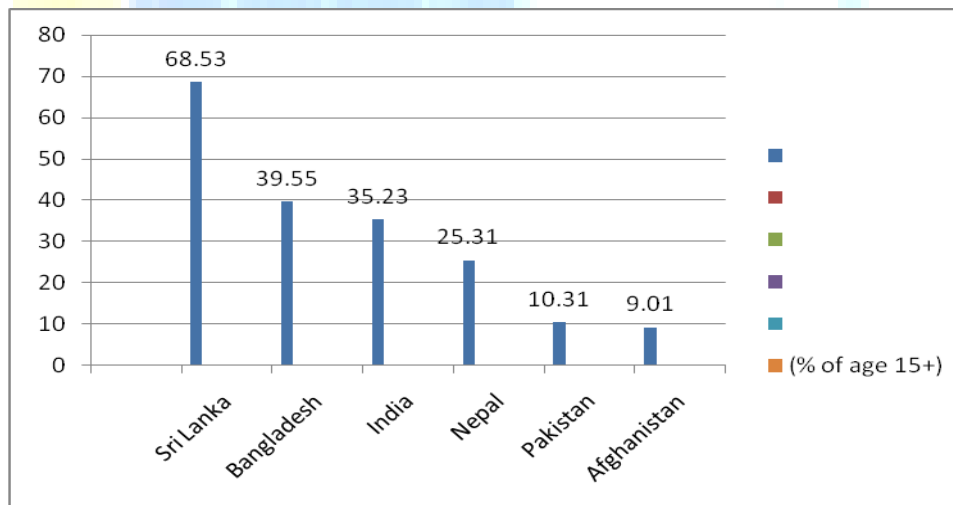
Country	Percent of population with an account
USA	91
Denmark	99
Europe	89.6
India	48.6
Botswana	47
Brazil	43
South Africa	31.7
Namibia	28.4
Mexico	21.3

Source: Rakesh Mohan (2006), Economic Growth, Financial Deepening and Financial Inclusion

The above table exhibits the status of financial inclusion in the world level. The developed countries especially the western countries are having good financial position as compared to third world countries. Among the developing and third world countries, India is having better position than the rest of the countries in the same category.

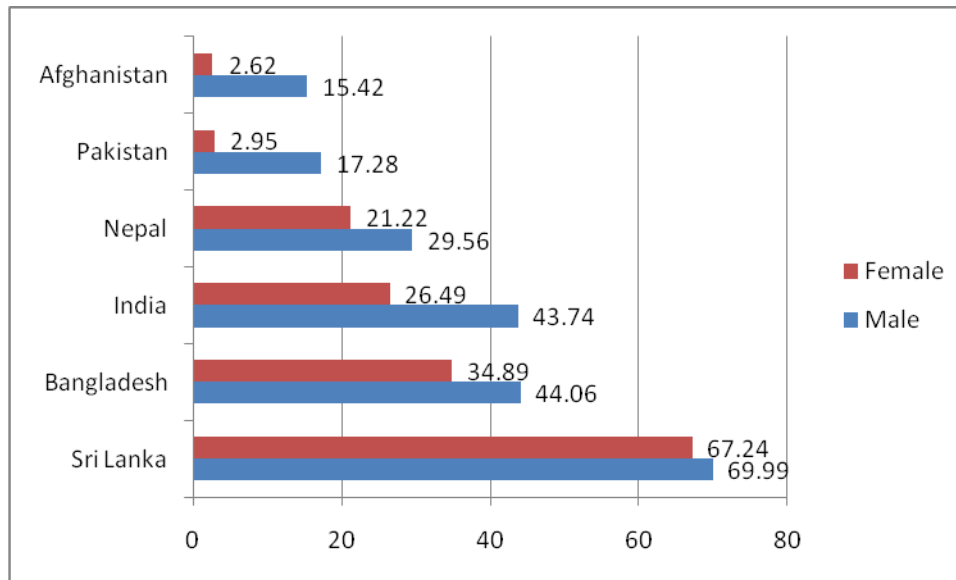
The below figure no.1 depicts those adults with an account with formal financial institution having more than the age group of 15 expressed that Sri Lanka having the 68.53% with top position in the South Asian level and Afghanistan is having 9.01% with the lowest position. India is having 35.23% which shows that we need to concentrate more on financially excluded people to be having bank account.

Figure No.1: Adults with an account with formal financial institution



Source: Demircuc-Kunt and Klapper, 2012, The World Bank Financial Inclusion Data

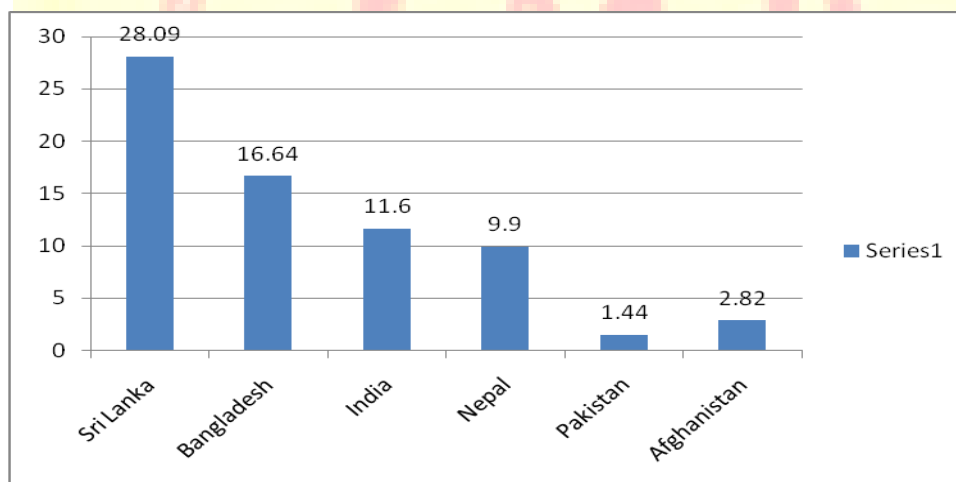
Figure No.2: Adults with an account with formal financial institution (By Gender (%of age 15+))



Source: Demirguc-Kunt and Klapper, 2012, The World Bank Financial Inclusion Data

The above figure exhibited that among the adults, male are highly associated with the formal bank as compared with their counterpart. Sri Lanka having the top position in the South Asian level and Afghanistan is having lowest position. In India, 43.74% of male are associated with formal banking system as compared to their counterpart (female) with the 26.49%.

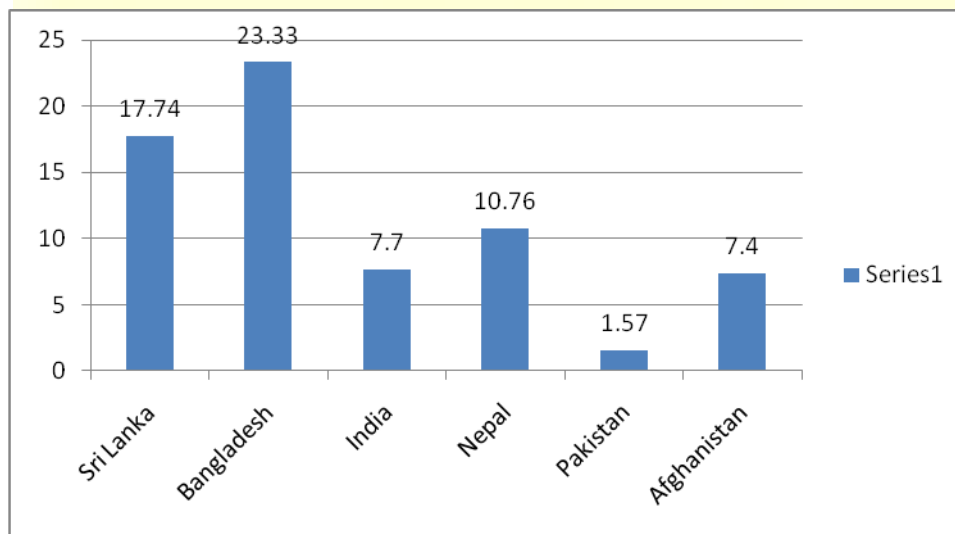
Figure No.3: Adults who saved at a formal financial institution in the past 12 months (% of age 15+)



Source: Demirguc-Kunt and Klapper, 2012, The World Bank Financial Inclusion Data

As per the above figure no.3, Sri Lanka is having (28.09%) the top position in the South Asia level for adults who save their income in the formal financial institution. On the other hand, Afghanistan is having 2.82% with low level in the South Asia for having saving with formal financial institution.

Figure No.4: Adults who borrowed from a formal financial institution in the past 12 months (% age 15+)



Source: Demircuc-Kunt and Klapper, 2012, The World Bank Financial Inclusion Data

From the figure no.4, it is understood that Bangladesh bagged the (23.33%) first position among the South Asian countries for the adults who borrowed from a formal financial institution is high. In Bangladesh, Grameen Bank took initiative to give loan to poor people with less rate of interest. India is having only 7.7% for the same.

Status of financial inclusion in India:

Half of the residents are out of the banking system and unable to prove their identity on account of poor financial back ground and belong to Below Poverty Line (BPL) segment.

- 60% of farmers do not have access to credit from Banks.

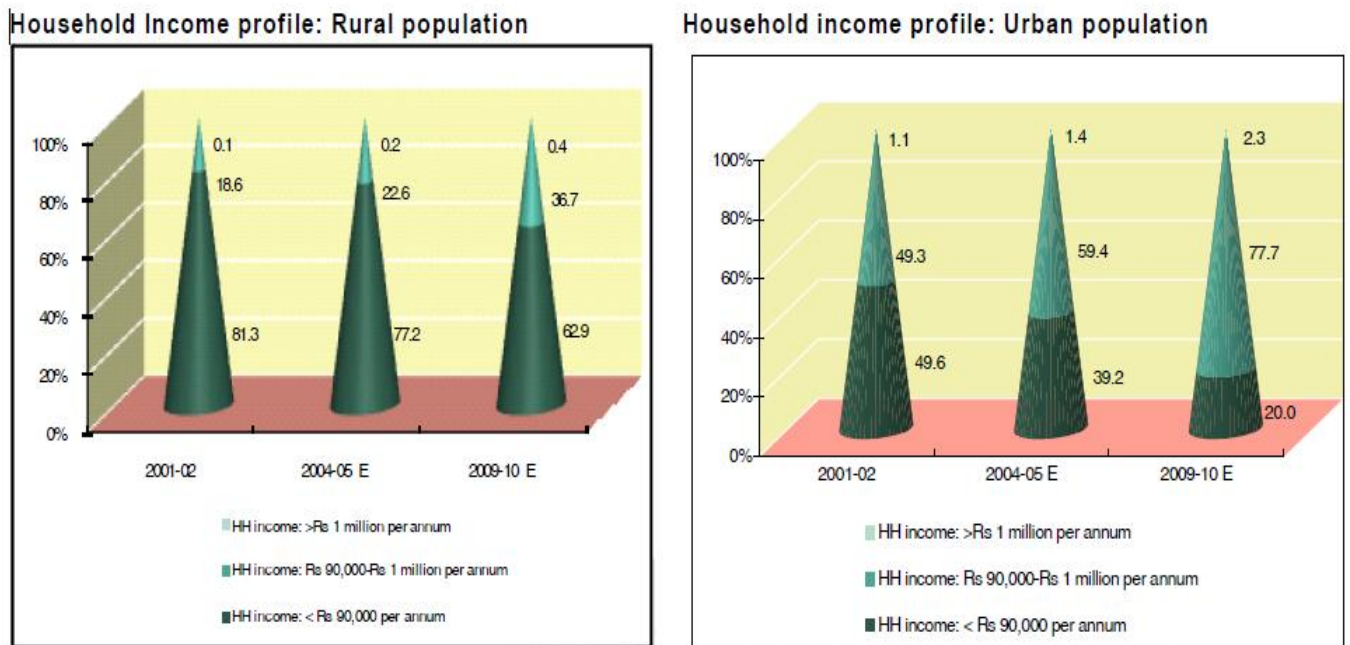
- Poor pay usurious interest at 40% to 50% to Money Lenders. Even Micro Finance Institutions charge even more than 20-30% interest.
- More than 40% of the government's subsidy and social spending is being siphoned off, mostly by "ghosts" and undeserving recipients.
- In spite of best efforts, the various welfare/employment generated programs aimed at poor households with huge budget allocations (NREGS, JSY and PDS) are going into unscrupulous hands and leading to widespread leakage of public money.
- RBI wants to ensure that within three years, all villages with a population of at least 2000 should have access to banking
- It is envisaged that the beneficiaries of the various schemes will be paid directly through banks and this paves the way for effective control on usage of government funds and lays strong foundation to achieve financial inclusion in the ensuing years
- Focus on financial literacy programmes - educate and generate interest in financial products and services among the target group. NABARD's twin funds (Financial Inclusion Fund & Financial Inclusion Technology Fund) can be used more effectively.

Table No.2: Poverty Status in India as per Different Report:

Planning Commission Approach paper to the 12th Five Year Plan for 2012-17	32 % (2009)
Tendulkar Committee Report	37% (2009)
N C Saxena Committee Report	50% (2009)
Chronic Poverty Report	37% (2004-05)
World Bank	41.5% (2005)

“In social group terms, over 80% of the poor in the country now belong to socially disadvantaged groups like SCs, STs, the most backward castes among OBCs and weaker sections among the Muslims.”--- India Chronic Poverty Report.

Figure No.5: Household Income Profile of Rural and Urban:



Source: NCAER, CRISIL Research

The above figure no.5 exposed the income profile of rural and urban population. Comparing both urban and rural, urban income pattern is higher than that of rural population in all the levels.

Role of technology in financial inclusion:

Technology and financial inclusion are the popular coinage in banking parleys in the country. While technological upgradation and mobile banking are catching up so fast, financial inclusion is tardy. Financial inclusion is a major agenda for the Reserve Bank of India (RBI). Without financial inclusion, banks cannot reach the un-banked. It is also a major step towards increasing savings and achieving balanced growth. Recently two conferences were held in Mumbai highlighting these issues; The Sixth Banking Tech Summit of Confederation of Indian Industry

(CII) and another one organised by the Society for Worldwide Interbank Financial Telecommunication (SWIFT).

Oommen a. Ninan (2011) Major role of technology in financial inclusion stated that Mobile banking has the potential to emerge as a game changer in terms of costs, convenience and speed of reach for banks to address the needs of the urban poor. In the picture, a member of a self-help group putting her thumb impression to use RFID/smart card based authentication.

Of the 6.9 billion people on the planet, just 30 per cent (2.1 billion) have bank accounts while 75 per cent — 5.2 billion people — have mobile phones. “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 ‘un-banked’ and extending financial inclusion for the larger population, mobile phone is the key,” said Wim Raymaekers, Head of Banking Market, SWIFT.

To reach the country is having with technological progress mobile banking has the potential to emerge as a game changer in terms of costs, convenience, and speed of reach. Business models of banks, telecom operators and other stakeholders need to converge. However, the banking industry's penetration to un-banked areas is still found sluggish. “The role of the Indian banker is challenging. At one end of his spectrum lies the demand to achieve financial inclusion as nearly 50 per cent of the population is yet to be covered under the formal system of banking and at the other end lies the task to fulfil the needs of the existing customer,” said RBI Deputy Governor K. C. Chakrabarty while speaking on ‘Connecting the dots’ at the CII conference.

“We need to remember that we should work towards bringing nearly 400 million citizens to the formal fold of the banking sector. It is not just about opening ‘no frill’ accounts. As of today, 75 million ‘no frill’ accounts have been opened but there are hardly any transactions in them. Banks need to work towards providing a full range of financial services and this would need a low cost, reliable, easy to use and secure technology backbone linking six lakh villages in the next four-five years”.

Azim Premji, Chairman and Managing Director of Wipro, (2011) IT can play a role in financial inclusion, The Economic Times, stated that information technology can help increase reach of financial services to the poor in urban as well as rural areas.

M Damodaran, former Chairman of SEBI and who now heads the Customer Service Committee appointed by RBI, in his keynote address said 'solidity' and not being 'spectacular' should be our aim."Be sound, be safe", should be our slogan, he said. He also said it was important for banks to deploy financial services through customer-centric technology and delivery channels to serve customers better. Banks should also equip their customers to use technology so that they would benefit from Information Technology applied in banking services.

Leveraging technology for financial inclusion, Punjab National Bank's ICT for Financial Inclusion programme utilizes a confluence of simple technologies to extend benefits of formal credit to the unbanked poor masses in India. Nearly 65 per cent of households in India borrow money from non-institutional sources. The lower the asset class or income of the people, the higher is their degree of exclusion. Based on the Reserve Bank of India's guidelines for use of entities like NGOs and SHGs to reach rural populations, Punjab National Bank (PNB) adopted an ICT-based branchless banking solution that relies on Business Correspondents.

SBI has 300 Financial Inclusion Centers ,to be raised to 600 by March 2012, to provide back-end support to over 14000 BCs for opening 'no-frills' accounts, processing micro-credit applications [up to Rs.25,000] sourced by them and cash management. It will also monitor the performance of BCs under FIP.

HDFC Bank's 'Anywhere Bank Terminal' at locations of BCs, besides 'Bank on Wheels' launched in 13 States [including Bihar, M.P. Rajasthan and U.P] exclusively for the rural market to facilitate low-income unbanked & underprivileged households to access financial services at affordable cost at their door steps using biometric ATMs. Bank reached more than six lakh customers beyond 200 km from its branches using the technology platform.

Figure No.6: Total Number of ATMs Scheduled Commercial Banks via Bank Group Wise:

2008-09	1,054	13,940	13,546	2,674	11,339	42,553
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2009-10	1,026	18,501	16,258	3,390	20,978	60,153
2010-11	1,367	23,466	20,895	4,126	24,651	74,505

Source: <http://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics>

Grameen Financial Services piloted m-banking in Bangalore with 100 borrowers in partnership with mChek [Bangalore based technology provider] and after two years it served more than 3,30,000 rural clients and planned to reach over two million by 2012. GFS incorporated technology, using Mifos, an open source software developed by Aditi Technologies specifically for MFIs.

Integra offers iMFAST [Integra Mobile Financial Applications Secure Terminal], a portable teller machine that performs simple banking functions in rural areas. Operated by BCs in villages, the iMFAST solution, a hand-held terminal handling transactions concerning deposit, RD, withdrawal, loans, insurance, bill payments and booking train/bus tickets in rural areas, is currently used in over 500 locations by 15 banks [including Indian Bank, Bank of Baroda, Canara Bank, Central Bank of India, Vijaya Bank]. Integra has issued ATM cards to 3,00,000 customers in Karnataka, M.P. Tamil Nadu, Kerala, Andhra Pradesh, Maharashtra, U.P. Sikkim and Jharkhand.

Union Bank of India serves thousands of customers in remote villages through its BCs, such as Infrastructure Leasing and Financial Services, Drishti and Basix.

Under NREGS, banks in Andhra Pradesh conducted pilot projects to test 'leakage proof' routing payments to beneficiaries' accounts and transfer payments to the laborers through smart card-based savings accounts. Now this mode of payments by Government under its various schemes is extended to beneficiaries in other States.

Zero-M.A.S.S. Foundation in Karnataka launched a new generation biometric fingerprint authentication-based solution, which has reached five million customers including beneficiaries of social security, pension scheme, NREGS and SHG members in 18 States. The product suite 'ZERO' is an end-to-end payment system to serve customers with small-value transactions

including cash-in/cash-out, cashless transactions and remittances leveraging the security and connectivity of new generation mobile phones.

mChek provides services mostly to women, which include bank deposits, withdrawal, loan repayments, account balance and grocery payments. mChek has a vision to bring the entire ecosystem of partners across the banking sector, banking service providers, as well as telecom operators to serve the base users.

In 2009 MYRADA with the support of NABARD developed NABYUKTI, a software to generate simplified MIS for promoting and linking SHGs with bank. Ekgaon technologies offer software for accounting and MIS in case of SHG-based financial intermediation.

BASIX in collaboration with banks has set up physical infrastructure in the form of Kiosks, which provide financial services and help rural households secure essentials and maintain contact with external world through internet connectivity.

PNB has set up 30 Banking Kiosks in Bihar, Haryana and UP providing banking services through ICT based BC models. Bank provides smart cards/KCC/GCC, no-frills account with overdraft facility to at least one member of the household in villages under Outreach Program of RBI. It has trained BCs through IIB&F and a pool of trainers has been created with the IIB&F to train bank staff.

Indian Bank launched Mobile branch [van] with ATM facility and coin vending machine at Jangipur [West Bengal] & Vellore [Tamil Nadu] to provide banking services to six & five villages respectively. Customers in BC-engaged villages, under 100% coverage conduct transactions through smart cards.

To accelerate FI process Canara Bank has taken technology initiatives viz. multi-lingual biometric ATMs, Voice-enabled mobile biometric ATM and Smart Cards. Bank opened FLCC centers and has registered a new Trust 'Canara Financial Advisory Trust' to manage FLCC centers. To create awareness about banking facilities and Bank's products among rural households, the Bank has deployed 'Gramin Vikas Vahini' in 35 districts.

Syndicate bank has adopted Mobile technology as well as Smart Card technology. IDRBT, Hyderabad recommended security standards are adopted. Bank issued 32K [IDBRT specified] Smart Cards to 1,23,243 customers. Bank's micro-ATMs are as per IDBRT specified standards. Bank has set up three Financial Inclusion Resource Centers in Karnataka. It has designed Micro-insurance product with Tata-AIG providing risk cover of Rs.25,000 @ premium of Rs.30 plus tax per annum and sold to 5814 customers.

Corporation Bank initiated pilot projects on branchless banking in Karnataka, Andhra Pradesh, Tamil Nadu and Goa, surveyed 1200 villages during 2009-10, assisted rural households to open bank accounts and issued Smart Cards to 5.47 lakh customers

Indian Bank, Andhra Bank, SBI, State Bank of Hyderabad, Union Bank, Canara Bank, Axis Bank, HDFC Bank and other banks are using Smart Card-based technology solutions

Advantages of Technology in Financial Inclusion:

- Indian Banks have transformed in the post reforms era to a great extent to be on par with their foreign counterparts.
- Staying in touch with people.
- Technology makes tasks easier, quicker, more efficient, and better.
- High Penetration of mobiles in the country.
- Entry barrier to own a mobile phone is very low.
- Tariffs from mobile service providers are one of the lowest in the world.
- Any person, across the literacy barrier, can operate a mobile phone.
- Cost benefit analysis
- Bring down the cost and procedural implications for banking services
- Government subsidy and schemes money routed through banks.

Challenges:

- Outreach of banking services in rural as well as in urban poor is still to reach.
- Nation-wide coverage of banking services has remained low.
- Interoperability of payment services have not yet been developed.
- Lopsided development of services only for the already savvy urban areas
- Security and Identity management remain primary concerns
- There are more regulatory issues than technology issues in utilizing mobile commerce for inclusive growth.
- Technology can make people lazier.

Conclusion:

Offering banking services to customers is a challenging task to every banker. Every banker has to satisfy the customers by providing doorstep services for their survival in the computer era. Bank has to go beyond traditional system to cater the customer for its sustainability and include the marginalized and vulnerable section of the people in the finance stream to achieve the financial inclusion.

This paper gave an idea about how technology can play vital role in bringing the financial inclusion in India. The study also proved that Technology through banking services helped to achieve financial inclusion to some extent. Technology brought the unbanked people become regular customer to the banker. Technology is the only mantra to achieve financial inclusion. Modern technical methods like mobile banking, net-banking, bank on wheel, ATM, Debit Card, Credit Card, Smart card etc., are created maximum awareness in the minds of the customer and that leads to achieve financial inclusion.

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