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TECHNOLOGY APPLICATION FOR FINANCIAL INCLUSION



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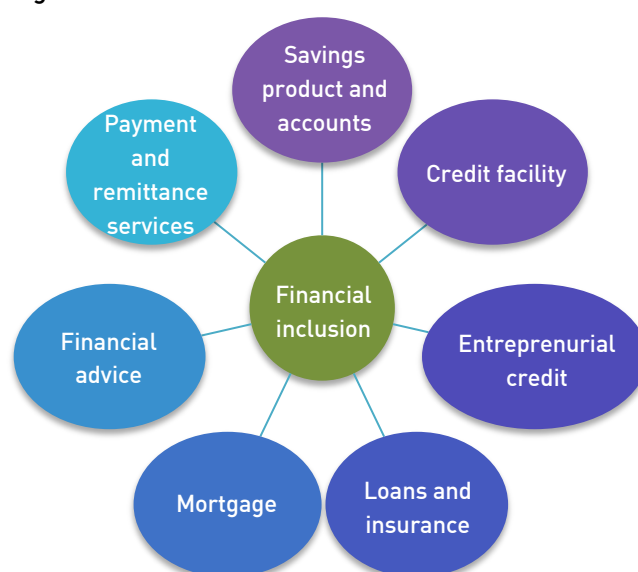
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1. FINANCIAL INCLUSION

- Financial inclusion is the delivery of financial services at affordable costs to sections of disadvantaged and low income segments of society.
- According to the Rangarajan Committee Report, 2008, financial inclusion is, "The process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost".
- The Reserve Bank of India (RBI) stated in December 2009 that the facilities under financial inclusion are not restricted merely to opening of bank accounts, but also includes other financial services such as credit facility, remittance facility, and financial advisory services.

Figure 1: Facilities Identified Under Financial Inclusion



Sources: Rangarajan Committee Report on Financial Inclusion, 2008, RBI; IMaCS Research

- At the Pittsburgh Summit in September 2009, G20 leaders committed to improving access to financial services for poor people.
- The aim is to support safe and sound spread of new modes of quality yet low-cost financial service delivery capable of reaching the poor and help provide a framework of incentives to banks, insurance and non-bank players while ensuring fair competition.

Table 1: Reasons for Thrust on Financial Inclusion

Importance of Financial Inclusion
<ul style="list-style-type: none"> Financial inclusion leads to economic growth by mobilising greater savings into productive investments. It helps in enhancing financial literacy of the vulnerable and weaker section of society through financial advice and decreases dependence on unreliable and expensive finance. Financial inclusion promotes innovation for cost-effective delivery of financial products through the use of technology. It helps the poor stabilise their income and build productive assets. Financial inclusion leads to economic growth by mobilising greater savings into productive investments. It helps in enhancing financial literacy of the vulnerable and weaker section of society through financial advice. Also, decreases dependence on unreliable and expensive finance. Financial inclusion promotes innovation for cost-effective delivery of financial products through the use of technology. It helps the poor stabilise their income and build productive assets. Transaction history of previously served people can be transformed into an asset, which the customer could use to access financial services during lean periods as well. Financial Inclusion promotes competition and helps provide market-based incentives delivery of sustainable financial access.
<p>Sources: Innovative Financial Inclusion, Principles and Report on Innovative Financial Inclusion from the Access through Innovation Sub-group of the G20 Financial Inclusion Experts Group, May 25, 2010; IMaCS Research</p>

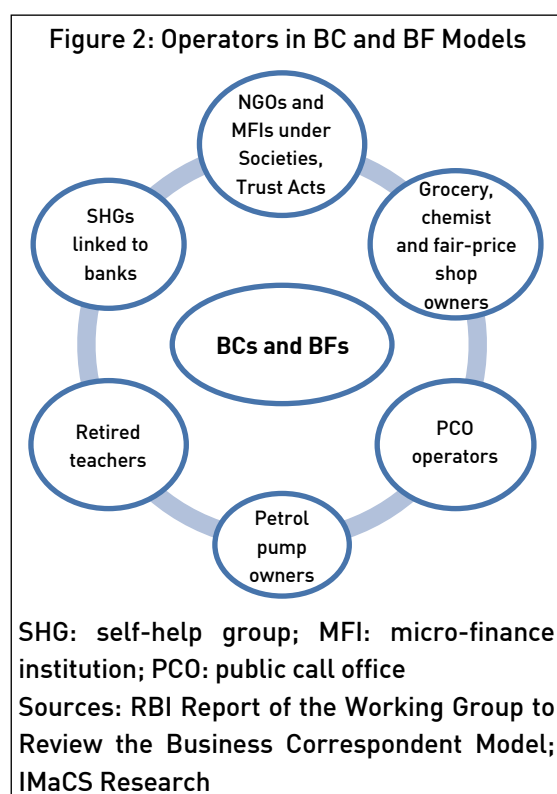
2. MODELS FOR FINANCIAL INCLUSION

- World over, several business models have been tried and examined to ensure proper implementation and sustenance of branchless financial inclusion.
- In India, the most widely used models for financial inclusion are the business correspondent based model and non-business correspondent based model.

2.1 Business Correspondent Based Model

- In 2006, RBI permitted banks to engage intermediaries to provide banking services and increase their reach.

- These intermediaries, called business correspondents (BC) or business facilitators (BF) were allowed to provide banking services as agents of bank at places other than bank premises.
- RBI's Working Group for Reviewing the Business Correspondent Model also recommended the types of individuals or entities who could act as BCs or BFs in the rural and semi-urban areas.



- The BCs are permitted to carry out transactions on behalf of the bank as agents.
- The BFs can refer clients, pursue the clients' proposal and facilitate the bank to carry out its transactions, but not transact on behalf of the bank.

2.1.1 BCs and BFs undertake facilitation of the following services:

- Identifying borrowers and fitment of financial activities.
- Collecting and preliminary processing of loan applications including verifying primary information.

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- Creating awareness about savings and other products.
 - Educating and advising on managing money, and debt counselling.
 - Processing and submitting applications.
 - Promoting and nurturing self-help groups (SHG) or joint-liability groups (JLG)
 - Post-sanction monitoring and handholding of SHGs, JLGs, credit groups and others.
 - Following-up for recovery.
- In India, the concept of financial inclusion has gained significance since the late 1980s; it has drawn attention to the role of 'micro-credit' as an alternative source of finance.
 - India is among the largest micro-finance markets in the world, especially, in the growth of women's savings and credit groups.

2.2 Financial Inclusion via 'No Frills' Banks Accounts and Micro-credit

- An example of innovative products for financial inclusion through banking and micro-credit services, are the Punjab National Bank's Rickshaw Puller's Projects.
- It is estimated that there are 8 million rickshaw pullers in India, 95 per cent of whom, pay daily rentals for their rickshaws; there is the additional cost of any accidental damage to the vehicle.
- Low disposable income restricts access to formal banking services such as loans, savings and insurance.
- In order to address these concerns, the Punjab National Bank (PNB) has drawn up convenient schemes for rickshaw pullers: the 'PNB Jan Mitra Rickshaw Project' and 'PNB Micro-finance Rickshaw Project'.

Table 2: Punjab National Bank's Financial Inclusion Initiative

The PNB Rickshaw Puller's Projects

PNB's Jan Mitra Rickshaw Project: The project was launched on pilot basis in Varanasi in February 2008. PNB launched it in association with a non-government organisation, Centre for Rural Development (CRD). The scheme provides rickshaw pullers with access to quality rickshaws, which they may own in three years. A rickshaw puller has to open a "No Frills" Account with PNB. To manage their savings, repair and update their business records, the rickshaw pullers organised in groups of five from a common garage. Subsequently, PNB links other products or services with the account, thus giving the rickshaw puller integrated banking facility. Other products include small household loans for renovation, buying cooking gadgets, education and housing. Health cover is also given.

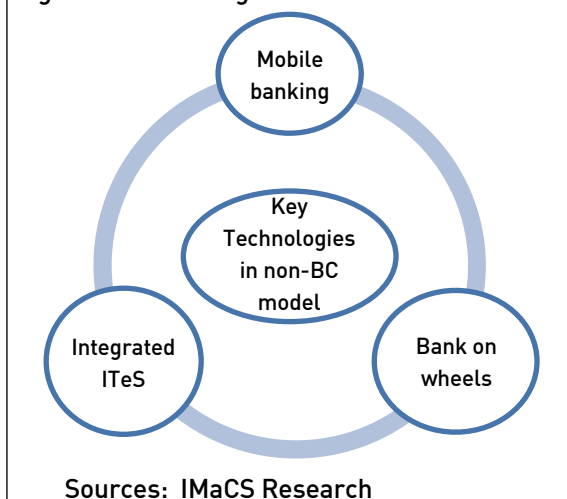
PNB's rickshaw project under micro finance: The bank launched a second rickshaw project in March 2008 in Patna, Bihar, based on micro-finance model. It was launched in association with a micro-finance institution, "SammaaN Foundation", a non-profit organisation. Rickshaws are given free of cost to the rickshaw pullers. They pay a maintenance cost of US\$ 0.22 (INR 10) per day. The surplus earnings from the rides go to the rickshaw puller. Additional income is generated from selling water, soft drinks, simple merchandises, etc., to the passengers. Profit from such sales is shared between SammaaN and the driver. Rickshaw pullers are given free uniforms, identity cards and insurance coverage.

Source: Punjab National Bank, IMaCS Research

2.3 Non-business Correspondent Based Model

- The non-business correspondent based model makes use of technology to provide banking services to rural and semi urban areas; technologies such as cellular phones, broadband and ITeS services and mobile banks are being promoted for delivery of financial services to unbanked, but potential areas.

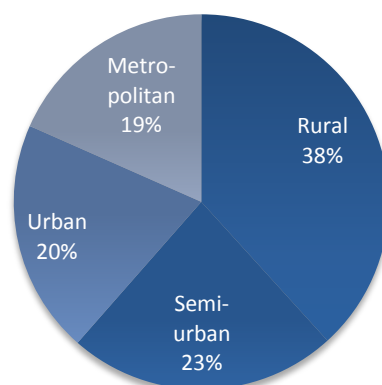
Figure 3: Technologies in Use in Non-BC Model



3. THE BANKING SCENARIO

- There has been a significant growth in the Indian banking sector since the 1970s: the total number of bank branches has increased from 8,700 at the time of nationalisation of banks in 1969 to 85,300 in 2010.
- Of these, rural branches account for about 37.5 per cent or about 32,000.
- In 2009, rural branches accounted for the largest share with 38 per cent of total branches.
- Semi-urban, urban and metropolitan areas accounted for 23 per cent, 20 per cent and 19 per cent of the total branches, respectively.

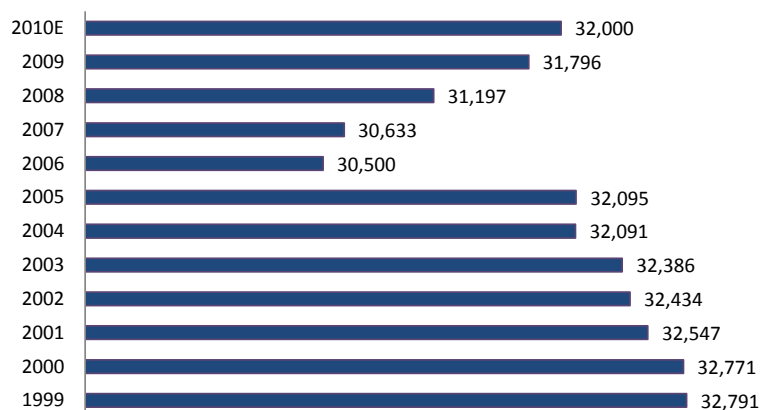
Figure 4: Demographic Distribution of Bank Branches (March 2009)



Sources: RBI Reports on State and Population Group-wise Distribution of Offices of Commercial Banks, 2009 and 2010; IMaCS Research

- It is estimated that the ratio of deposit accounts to total adult population is 59 per cent.
- Also, the ratio of population covered by a bank branch has improved from 63,000 in 1969 to 15,000 in 2009.
- The Finance Ministry indicates that the Government's target to bring 73,000 villages under the branchless banking net by March 2012 is expected to lead to the opening of over 50 million new bank accounts in rural areas.

Figure 5: Number of Rural Branches in India



E-estimate

Sources: Reports on Bank Group and Population Group-wise Distribution of Commercial Bank Branches in India, 1999-2009; Ministry of Finance; IMaCS Research

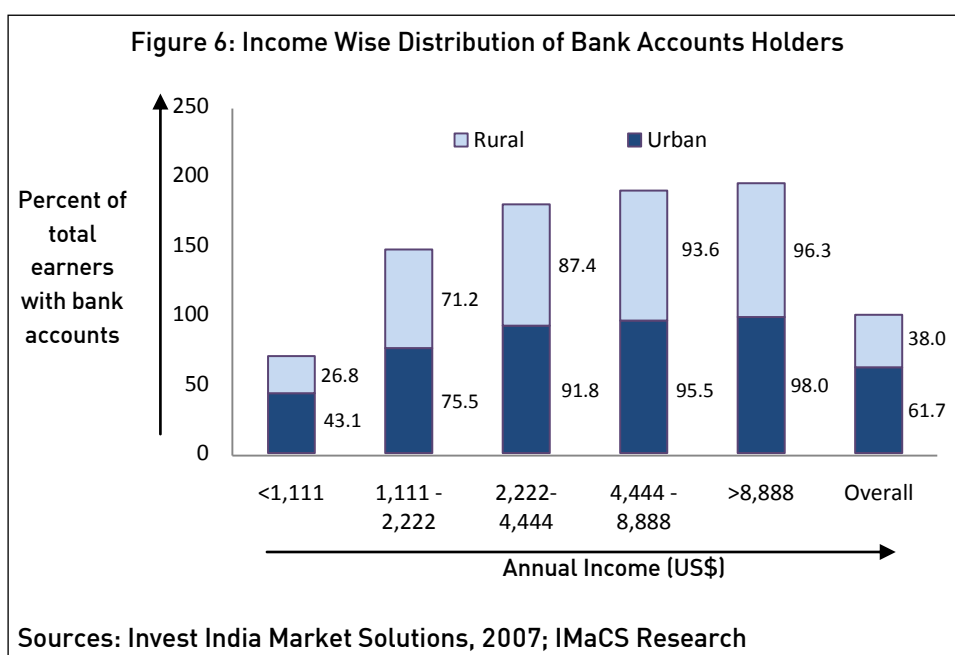
- The following table provides a snapshot of penetration of various financial products as a percentage of total population; it indicates that savings accounts with banks account for 40 per cent of the total population.
- They are followed by debit cards at 13 per cent, life insurance (10 per cent), credit cards (2 per cent) and non-life insurance products at 0.6 per cent.
- There is substantial potential for financial inclusion.

Table 3: Penetration of Select Financial Services in India (2009)

Financial service	% of population covered
Bank account (savings)	40.0%
Debit cards	13.0%
Life insurance	10.0%
Credit cards	2.0%
Non-life insurance	0.6%

Sources: A Presentation by Dr. K.C.Chakrabarty Deputy Governor, RBI, July 2009; IMaCS Research

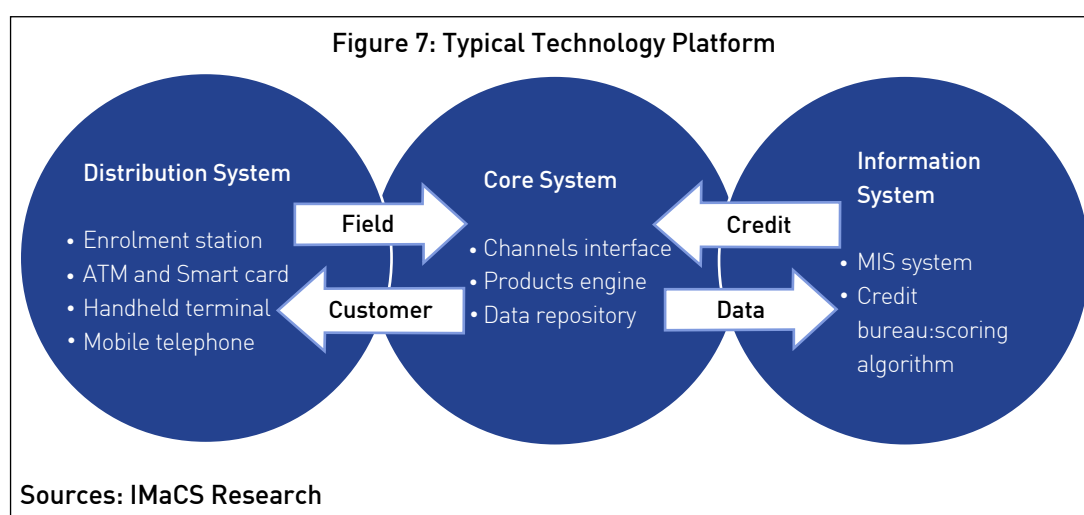
- Sixty two per cent of total earners in urban areas and 38 per cent in rural areas possessed bank accounts in 2007.
- There is significant need for financial inclusion of persons earning less than US\$ 1,111 and up to US\$ 2,222, annually.



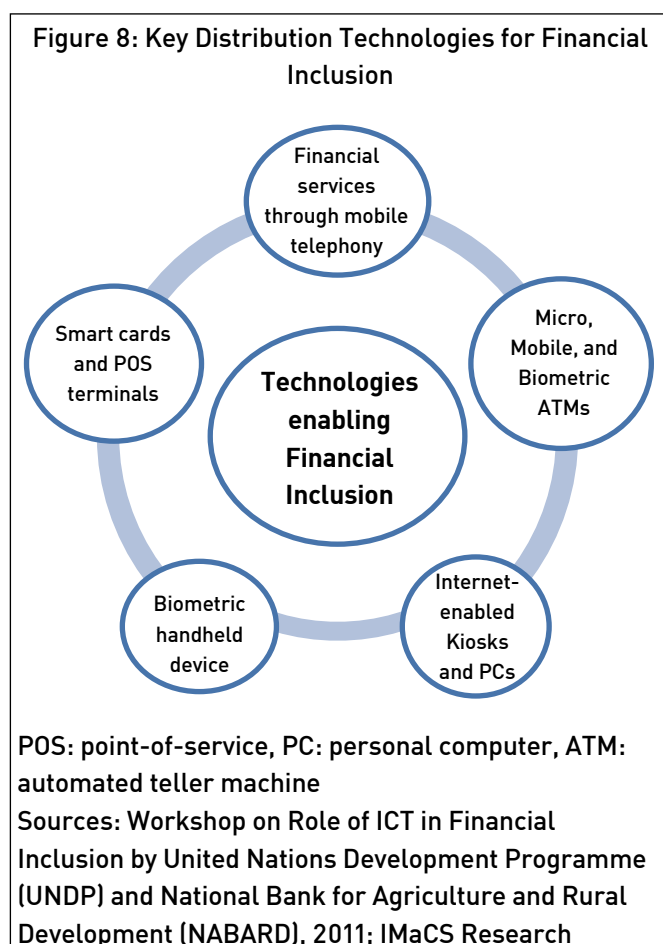
4. ROLE OF TECHNOLOGY FOR FINANCIAL INCLUSION

- Among the key constraints cited world over in achieving significant financial inclusion is the cost of servicing small value and unprofitable customer segments or providing credit facilities to those with irregular income history.
- The combination of IT and mobile telephony along with other IT-enabled services has emerged as a viable solution for greater financial inclusion.
- Essentially, this combination of technologies minimises the need for setting up physical branches at all locations with trained persons to man them.
- It allows the servicing banks to improve efficiency and provides for use of multiple channels to work together as an inter-connected system.

- The rapid growth of technology and communication infrastructure in India is a great enabler for establishing rural information infrastructure.
- Short Message Service (SMS), Unstructured Supplementary Services Delivery (USSD), Wireless Application Protocol (WAP), General packet radio service (GPRS), phone-based applications such as Java 2 Micro Edition (J2ME)/Binary Runtime Environment for Wireless (BREW), Subscriber Identity Module (SIM) - based application, and Near Field Communication (NFC) are the various technology applications available, which can help improve the level of financial inclusion in the country.



- Providing branchless banking services through mobile phones helps banks access with lower investment.
- Significant telecommunications and technology penetration in rural areas is a positive aspect of enhancing banking reach and affordability.
- Existing technology providers for financial inclusion in rural areas have concluded as follows:
 - Building rural information infrastructure is possible using technology.
 - There is demand for such information systems from service providers.



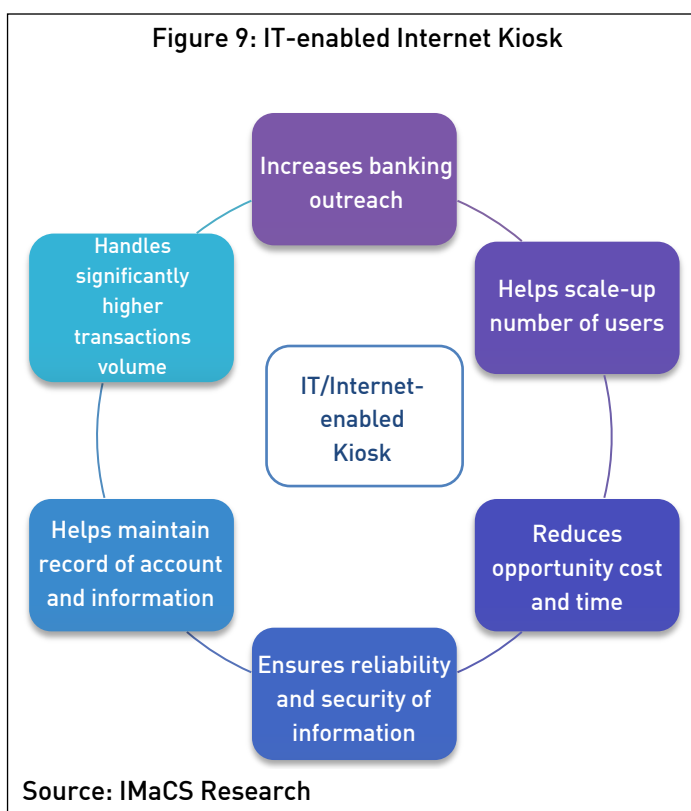
- Computerisation of may prove the primary agricultural cooperative societies (PACS) may prove to be beneficial with potential for improving governance through linkage to the credit delivery system.
- ATM-based mobile service delivery systems can be deployed in rural areas using available mobile telephony technologies.

Some of the commonly promoted distribution technologies for financial inclusion in India include the following:

IT-enabled Kiosks for Financial Inclusion

- IT-Kiosks are among the most common forms of delivering products for financial inclusion.

- They are small and self-operated IT-enabled centres that provide the customers with banking features such as cheque or cash deposit, internet banking, non-cash ATM transaction and teller enquiries.
- Kiosks are located in areas where the financial inclusion initiative is likely to lead to significant increase in transactions volume as well as the number of users.



4.1 Mobile phone based financial services

- India had about 771.18 million mobile-phone users as of January 2011. According to the Telecom Regulatory Authority of India (TRAI), 9 million new users subscribe to a mobile service every year. Mobile based financial services refers to a broad range of financial activities that consumers can access using their mobile phones. Mobile-phone transactions include the use of network airtime or e-currencies for deposit, transfer of funds or credits, and payment of services. Mobile based banking services, mainly, fall under two categories:

Mobile banking (m-banking)

- Since mobile technology has the potential to reach out to the large unbanked population in remote areas, mobile banking provides technology support for increasing outreach for financial inclusion.

Mobile payments (m-payments)

- With the help of mobile payments, even a remotely located banking customer can conduct payment transactions via a mobile device without the help of an intermediary.

4.2 Automated Teller Machines (ATM)

- Since ATMs are computerised telecommunications devices providing facilities for financial transactions in a public space without the need for a cashier, human clerk or bank teller - they rely on authorisation of a financial transaction by the card issuer or other authorising institution via a communication network.
- Several new-technology ATM devices have been designed to improve financial services in rural and remote areas so that even the illiterate customers in unbanked areas can avail ATM facilities. They include biometric-, mobile- and micro-ATMs.

Biometric ATM

- Enables the illiterate and semi-literate customers to avail ATM facilities.
- Eliminates the need for pin numbers; thumb impression of the cardholder is scanned and stored for authentication - users scan their thumb to access their account through the ATM.

Mobile ATM

- Provides ATM services on a van; the van moves to pre-determined places providing facilities such as opening of accounts and handling enquiries; it helps in providing ATM facilities to customers in unbanked areas.
- Provides banking access to biometric card holders also.

Micro ATM

- Provides a low-cost ATM alternative with basic features such as cash withdrawal and balance enquiry.
- Can be located at easily accessible locations where rural people visit frequently, such as petrol pumps and markets.

4.3 Biometric handheld device

- It is a handheld device for use by BCs.
- The device provides facility for thumb impression scanning or retina detection for user identification.
- While images can be read by the device, it can also provide audio confirmations of transactions and issue receipts.

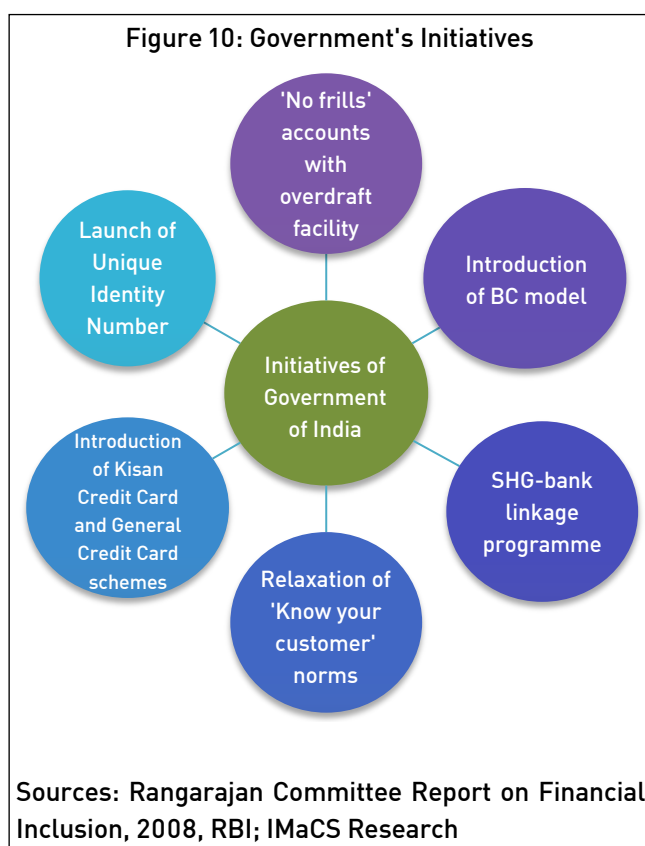
4.4 Smart cards and POS

- Smart cards help store all customer information including a photographs and finger prints.
- The smart card user can deposit or withdraw by swiping it at a point-of-service (POS) terminal, which saves transactions information for uploading on the bank's main servers.

5. GOVERNMENT INITIATIVES FOR FINANCIAL INCLUSION

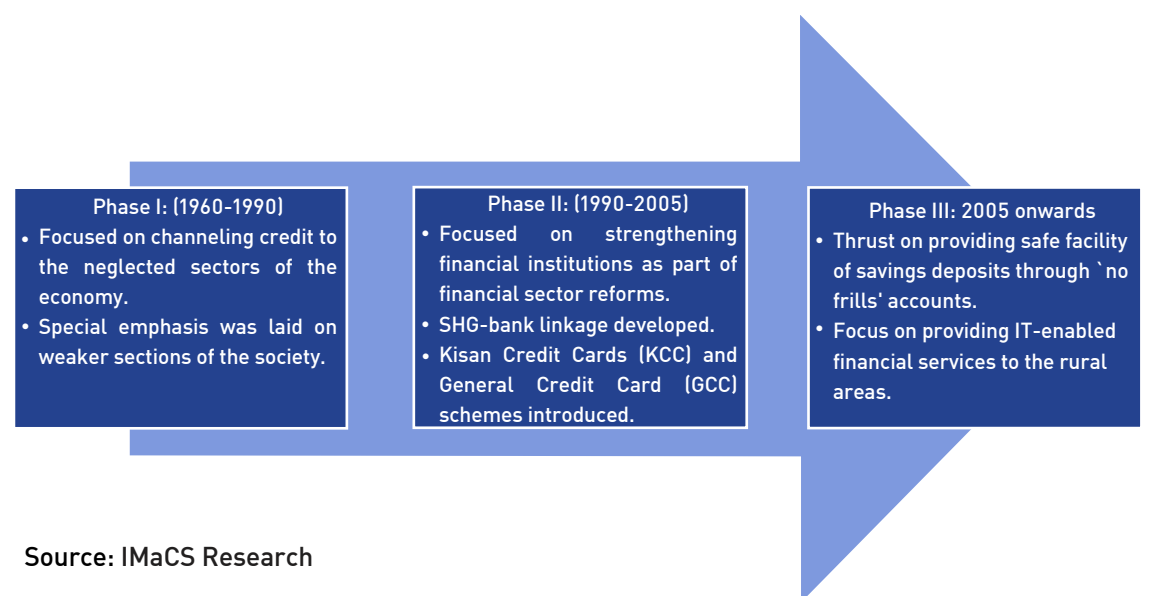
- Through RBI, the Government of India has introduced several initiatives since the 1906s to increase the reach of banking services in the country.
- Starting the facility of 'No-Frill Account', overdraft facility in saving Bank Accounts, liberalization in branch expansion norms, formulation of policies for setting up of ATMs, introducing technology-based products and services, initiating facility for pre-paid cards, developing a financial literacy program, etc., are few initiatives taken in this direction.
- In order to address the need of banks in rural areas, the Finance Ministry has directed all banks to provide appropriate banking facilities to places having population over 2,000 by March 2012 using branchless banking, through business correspondents.

- Accordingly, the banks have formulated their road maps through the forum of state level banker committees for financial inclusion and have identified over 73,000 habitants having a population of over 2,000 for providing banking facilities.



- According to RBI, the number of no-frill accounts has increased from 489,497 in 2006 to about 33 million in 2009.
- The total number of SHG linked with banks has also increased to 6.9 million in 2010 from 82,000 in 1999-2000.
- The total loan disbursed via SHG-bank linkage in 2009-2010 was US\$ 3,212 million (INR 144,533 million) as compared to US\$ 30.2 million (INR 1,360 million) in 1999-2000.
- The growth is indicative of India's level of commitment towards greater financial inclusion.

Figure 11: Phases of Government's Financial Inclusion Initiatives



- The use of technology in expanding the banking outreach has been an area of focus for the Indian Government.
- Technological innovation has not only enabled a broader reach for consumer banking and financial services, but has enhanced its capacity for continued and inclusive growth.
- Banks and financial institutions rely on gathering, processing, analyzing information in order to improve its service and meet the expectations of customers.

RBI and the Government have taken the following steps to increase the reach of banking services using technological advancements:

- In 2006-07, the Government of India initiated pilot projects to use smart cards with biometric identification for opening bank accounts; system integration was initiated to link mobile or handheld-connectivity devices to banking infrastructure to ensure that the transactions are recorded in the banks' books on real-time basis.

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- RBI ensures that banks adopt smart card-based Electronic Benefit Transfer (EBT) mechanism.
 - The bank also reimburses the commercial banks a part of the cost of opening accounts with biometric access or smart cards.
 - ATMs can be located without prior authorisation.
 - In addition, the RBI announced, a US\$ 112 million, Financial Inclusion Technology Fund (FITF) in 2007 to meet the cost of technology adoption.

The objectives of FITF are to:

- Enhance investment in ICT for promoting financial inclusion
 - Stimulate research and technology in financial inclusion
 - Increase the technological absorption capacity of financial service providers and users
 - Encourage an environment of innovation and cooperation among the stakeholders
- RBI's Annual Policy, 2007-08, urged the banks to scale up efforts on IT-based financial inclusion and develop technologies that are highly secure, amenable to audit and follow widely accepted standards.
 - RBI introduced two initiatives - the SBI Tiny and Government of Andhra Pradesh's project on social security payments, both, using smart cards.
 - In October 2008, RBI issued guidelines for mobile payments in India for regulating mobile banking to ensure appropriate safeguards and security of financial transactions.
 - In 2010-11, RBI's Regional Directors identified villages to be monitored for extending future outreach activities to achieve 100 per cent sustainable BC-ICT based financial inclusion.
 - In February 2011, the Government mooted a dual-licensing policy: one a basic banking licence exclusively to meet financial inclusion obligation and the other for private sector aspirants that will offer all commercial banking services. The Government also launched the 'Swabhimaan' campaign to enable small and marginal farmers obtain credit at lower rates from banks and other financial institutions.

Table 4: State Bank of India's Financial Inclusion Initiative

SBI Tiny

The SBI Tiny project was introduced in 2006, across the country to test the validity of the IT-enabled Financial Inclusion for business correspondents. The "SBI Tiny no frills account" was issued for the urban slum communities and rural population in November 2006. Under the project, smart cards with biometric identification (called as 'Tiny card') were issued in Mizoram (Aizwal), Andhra Pradesh (Medak) and Uttaranchal (Pithoragarh).

Following categories of applications can be activated on the card:

- Micro-savings (SBI-Tiny no-frills pre-paid account)
- Micro-credit (including KCC and GCC)
- Micro-insurance
- Cash withdrawals
- Cashless payments to merchants
- Passbook
- Equated monthly Instalment (EMI)
- Government benefits
- SHG saving-cum-credit accounts and attendance systems
- Salary disbursements under Employment Guarantee Scheme
- Utility payments
- Coupons, vouchers and tickets
- Loyalty points
- Automatic fare collection systems

The SBI Tiny also provides facility for the local poor NGOs to become Customer Service Providers (CSP). CSP acts like a local branch at each slum dweller/villager's door step. The NGO receives a percentage share of benefits for providing banking services.

Key Features of SBI Tiny:

- No "KYC" documents required
- Account can be opened with zero balance
- Deposit or withdraw US\$ 0.22-222 (INR 10-10,000)
- Upper limit for account: US\$ 1,111 (INR 50,000)
- ATM-Tiny Card with biometric identification facility
- Card can also be used to access pension funds and wages under Government's schemes

The "Tiny" card is also expected to help RBI generate a database for the ongoing UID project to help inclusive growth.

Sources: IMaCS Research

6. KEY MARKET PARTICIPANTS FOR FINANCIAL INCLUSION

Key market participants for financial inclusion in the country are as follows:

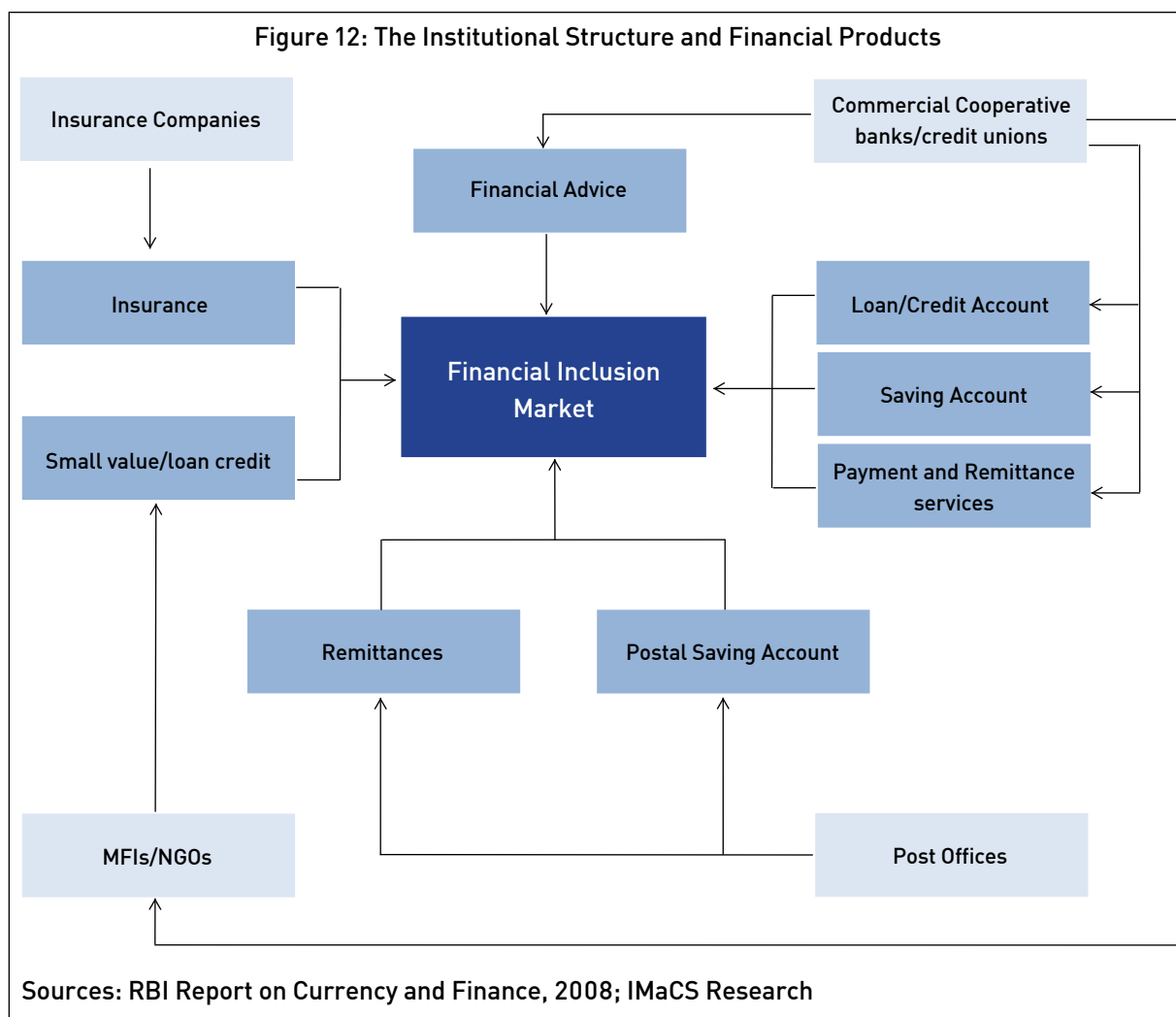
- **Scheduled Commercial Banks (SCB):** SCBs comprise 28 public sector banks - SBI and its seven associates, 19 nationalised banks and the IDBI Bank, eight new private sector banks, 17 old private sector banks and 29 foreign banks. Being the largest banking group, they have an important role to play in financial inclusion of the urban and rural poor and other unbanked segments through the deployment of technology and BCs.
- **Regional Rural Banks (RRB):** Regional Rural Banks were established in September 1975 with an objective of ensuring sufficient institutional credit for agriculture and other rural sectors. RRBs play an important role in the last-mile financial inclusion in rural economy.
- **Primary Agricultural Credit Societies (PACS):** Primary Agricultural Credit Societies are credit institutions at the grass-root level. They deal directly with individual farmers and others involved in activities of the rural sector.
- **Urban Cooperative Banks (UCB):** UCBs are community banks providing services, usually, not offered by the commercial banks.
- **Self-help groups (SHG):** In 1992, the Government started a SHG-bank linkage programme, under which NGOs and banks interact with the poor, especially women, to form small but homogenous borrowing groups.
- **Post offices:** Banks make use of local post offices to extend financial products in commercially unviable or unbanked areas.

Table 5: Business Correspondents for Select Banks

SBI Tiny	Business Correspondents
State Bank of India	Zero Mass Foundation, Oxygen Services, India Post, EKO Foundation, Indian Grameen Services, Drishti Foundation, Sri Sanchari
Punjab National Bank	Panchayati Raj Institutions, Society for Education Welfare and Economic Development, Kabon Gram Asa Kashung Shang Social Upliftment Society, Fintech Foundation, Zero Mass Foundation, I-25 Mobile Commercial Services, PNB Farmers' Welfare Trust
United Bank of India	Farmers' Club, Fintech Foundation, Zero Mass Foundation
Oriental Bank of Commerce	Fintech Foundation, Zero Mass Foundation
Axis Bank	Indian Grameen Services, Rural Cooperative Credit Societies, Zero Mass Foundation
Corporation Bank	Fintech Foundation

Sources: IMaCS Research

- Other players in the financial inclusion market include non-bank financial service providers, especially, insurance and micro-finance companies and enablers such as NGOs.



7. EMERGING TRENDS IN FINANCIAL INCLUSION MECHANISM

- The recently launched Unique Identity Number (UID) would be an important element of Financial Inclusion.
 - It is expected to usher in a significant change in the way banks or financial institutions reach out to the rural population.
 - The UID would serve as identity proof for all purposes including the opening of a bank account; it is likely to make it easier to link financial transactions to the payment gateways providing banking access to rural, urban poor and remote population.

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- Efforts are underway to link the UID project with financial inclusion for a strong foundation of delivery of better services in an efficient way.
 - All public sector banks are acting as Registrars to undertake enrolment and authenticated services to their clientele and also other residents using technology-embedded outsourced model.
 - With the advent of 3rd generation of mobile telecommunications (3G), it is expected that technology will further enhance the mobile broadband penetration among people residing in rural regions.
 - Franchising with different types of financial services institutions such as cooperatives, RRBs, etc., may extend the scope of financial inclusion with minimal intermediation cost.

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