

Impact Assessment of Technology Adoption in Microfinance in India

B L Mishra

Dr. Manesh Chowbwy

**Centre for Microfinance Research
Bankers Institute of Rural Development
Chandragupt Institute of Management, Patna**

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ABBREVIATION

ATMs	Automated teller machines
ACH	Automated Clearing House
BC	Business correspondent
CA	Correspondent Agent
CD	Cash Dispensers
CGAP	Consultative group to assist the poor
CRDB	Co-operative Rural Development Bank
CSC	Common Service Centre
FOCCAS	Foundation for Credit Community Assistance

FINCA	Foundation for International Community Assistance
GCC	Gulf Cooperation Council The
GK	Grameen Koota
GSM	Global System for Mobile Communications
GXI	G-Xchange Inc
ICICI	Industrial Credit and Investment Corporation of India
ICT	information and communication technology
JCS	Jitegemea Credit Scheme
LFIs	Local Financial Institutions
mFIs	Microfinance Institutions
MITRA	Mobile Based Information and Transactions
MFT	Micro development Finance Team
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NRI	Non- Resident Indians (NRIs).
OIBM	OPPORTUNITY INTERNATIONAL BANK OF MALAWI
OTC	Over-the-counter
PDA's	Personal Digital Assistants
POS	Point of Sale
PRODEM	Fondo Financiero Privado
RBAP	Rural Bankers Association of the Philippines
RTS	Remote transaction system
SBI	State Bank of India
SECDEP	Saint Elizabeth Community Development Enterprise Philippines
SHGs	self-help groups
TAD	Text-a-Deposit
UML	Uganda Microfinance Limited (UML)
UMU	Uganda Microfinance Union
USAID	United States Agency for International Development
USSD	Unstructured supplementary service data
VSAT	Very Small Aperture Terminal

Executive Summary

Microfinance institutions in India face a number of constraints in trying to serve the poor. Many of these constraints can be linked to insufficient availability and use of technology. There is no reporting mechanism that correctly captures performance data. Information on the financial and operational performance of microfinance institutions (MFIs) is paper-centric and not timely, while data are not complete and cannot be independently verified. This situation is detrimental to MFIs, microfinance clients, and microfinance industry regulatory bodies. Paper-based operations consume a significant amount of loan officers' time. There is not, in most MFIs, a timely connection between the head office, the branch offices, and the loan officers in the field due to lack of, or incomplete use of, appropriate technology applications. Technology can help microfinance institutions to reduce costs, improve efficiency, and increase outreaches. Modern technology based solution proves proficient in enabling micro financing institutions to conceptualize, develop and operate projects for financial inclusion.

Thus there are only few studies explaining impact of technology adoption in microfinance institutions in India. The need remains, however, to examine the use of various technology products and channels in the delivery of micro finance in India. In Bihar there is hardly any study to understand local technological and socioeconomic environment to understand the adoption processes of modern technology. The current study "Impact Assessment of Technology Adoption in Microfinance in India" is an attempt in this direction.

The objectives of the project are stated as follows:

- To review presently available technology for microfinance (for delivery channels and MIS) in India. Extent of usage of modern technology in Indian Microfinance. Compare the same with other countries based on secondary data.
- To analyze the factors influencing the use of technology in microfinance in India. Compare the same with other countries based on secondary data.
- To analyse awareness about modern technology among MFIs and bankers, compare the impact of use of technology on cost structure, outreach and delivery efficiency, adaptability etc. Separately for banks and MFIs.

- Management information system on microfinance by banks and awareness of this among bankers.
- To formulate the strategies for penetration of technology based microfinance products and processes.

Keeping the broad aspects of the study, two sets of questionnaires were prepared for Banks officials & mFIs officials and clients. Stratified random sampling was used for the study. The primary data were collected from 10 banks situated in Bihar and 20 mFIs from Bihar, Andhra Pradesh, Orissa, Karnatka, West Bengal and Gujrat. Twenty clients each were selected from 10 banks and 10 mFIs.

Advanced and specialized tools like SPSS software were used to ensure authentic data analysis. Cross-tabulation, comparison and processing were done to get detailed insights.

Major findings of the study are follows

- Fully computerized public sector bank's branches were 95.7% of total branches which 81.4% branches were under core banking solution. Out of 171 banks 95 banks in the country did using NEFT mechanism for transfer of funds constitutes 55.56% of the entire banking system NEFT facility is still out of reach of the vast section of economy.
- In private sector banks percent of ATMs to branch was three times as compared to public sector banks. There was large variation amongst private banks in terms of percent of ATMs to branches. Highest percent of ATMs to branches was found in Axis bank (457.4%) followed by ICICI bank (334.5%) and HDFC bank (234%).
- In India various experiments of technology use in micro financing and financial inclusion has been attempted. Few examples are ICICI Bank's partnership with FINO, Business Correspondents (BC) model- ICICI, ICICI Bank - I-Express, HDFC Bank financial inclusion programme, SBI ties up with OXIGEN, Technology Assisted Financial Inclusion- by BASIX, Dhanna X, E-Docs and real time monitoring by Equitas, mobile banking by Eko financial services as business correspondence of SBI and ICICI, These organizations use various types of technology which had helped micro financing and financial inclusion.

- In other countries, ATM networks are being rolled out by a number of banks and have been tested by a handful of microfinance institutions as well. MFI clients in the Dominican Republic can even access international ATM networks. Many of mFis has stated using technology eg. Smart card, mobile banking, PDA etc.
- Banks officials were generally more aware about the various technologies than the MFI officials. Majority of the officials surveyed, were of the view that usage of technology have reduced the transaction cost, total cost and bad debts. While most of them also said that after adoption of technology they have experienced increased return on fund, productivity per employee and productivity per branch. Technology had helped them to satisfy their clients in better manner through proving quick transaction, loan amount assessment, processing of loan, transfer of funds and other financial services. There was improvement in disbursement, average debt per borrower, recovery % because monitoring of borrowers became faster than earlier. Officials were not able to quantify the impact and some were not clear about actual impact.
- Availability of finance/capital and technological awareness were the major factors that affected the adoption of technology in their organization. 40% of the bank officials and 50% of the MFI officials ranked availability of finance/capital as the main factor affecting the adoption of technology. The factors which were least important according to the officials were Government regulation, demand of customer and degree of diffusion of technology.
- Major technology provider to microfinance institutions are RM IT solution, Hyderabad, Jayam Solution, Hyderabad, BASIX /Sathguru Hyderabad, Elitser IT Solutions, Hyderabad, Force ten Technology, Kolkata, Graditum IT, Bangluru, Craft Silikan, Bangluru, Surya Software Solution, Bangluru, Financial Information Network & Operations Ltd, Zero Mass foundation, Kredits, USA, Bangalore (In India), Snowwood, Chennai, Surya Software Systems, FINO, Mumbai, Eko India Financial Services Pvt. Ltd, New Delhi, Eko India Financial Services Pvt. Ltd, New Delhi, ClassifEye's solution etc.
- That there are various types of management information softwares used in various microfinance institutions in India and abroad. There is no uniformity of the softwares. These are location specific and designed according to need of its local and regional customers.

- Various management information systems used by various microfinance institutions are South Asia major Apparent Microfinance Manager, Common Cents 101 Micro Finance Software, Southtech Ascend Banking, BEACON, IMP@CT, BankSoft, W-Bank, MFASYS-Mobile Enabled Micro Finance, Micro Financer Standard Edition, Themepro™ Universal Micro Finance Solution (UMFS), Finance Solutions, McFinancier, Microfin360.
- The various software used in Africa are Delta-Bank, e-Finance, El Mohassil 1.3, ELOGE BANK, Delta Loan Tracking System, eMerge 1.0, EVOLAN PACK for Financial Companies, Fin@ncia, FINCORESOFT, FinnOne Loans, GLOBAL BANK, Kredits 5.5503, Kredits 5.5539, LMS (Loan Management System, Loan Performer, Loan Tracker, Loan Tracking System (LTS), M2, Margill Loan Manager (MLM), MaxiSoftCB Banking Software, MBWin - FAO-GTZ MicroBanking System, Microbank Information System 2.00, MICROFINA, Microfins, Mifos, MLAS (Microloans Administration System), Octopus Micro Finance Suite.
- In Latin America major software used are BANTOTAL COBIS, Conexus, CoopLeader, eSIACOM, eConx, Emortelle, SIFCO, Topaz Microfinance, Orion, SIMCO PLUS, eConx, SIFC Net. In North America the various microfinance institutions were using various kinds of software. major software used are Mercury, Down Home Loan Manager 2.05, SYSDE BANCA, Mimota etc.
- In India different mFIs used different MIS softwares. FIMO developed by Jayam Solution was major MIS software used by different mFIs. Other software were FAMIS developed by BASIX and Sathguru, Hyderabad, BIJLI developed by Force ten Technology, Kolkata, mf expert developed by RM IT solution.

Recommendations

- Infrastructure support like increasing power supply and increasing connectivity may be adequately provided for increasing use of technology. Capacity of micro financial institutions has to be increase by providing them technical and financial support.

- Awareness about technology should be increased by capacity building of different stakeholders.
- Due to high initial cost micro financing institutions were not able to adopt latest technology. Costs can be shared by assisting technology provider with financial support which will reduce the cost by scaling up of technology. mFIs may get technology at subsidized/ reduced costs. Incentive should be provided to mFIs who adopts technology. It will help them in to scale up their business.
- Appropriately staffing should be done by the mFIs to handle latest technology. Recruitment of technical staff and their regular training on updates of latest technology would help in adoption of technology.
- Regular feedback should be provided to the service provider regarding functioning of the software and other technology tools.
- Requirement of mFIs differ amongst MFIs according to size, organizational form, technical competency and adequacy of the technical staff. Tailor made solution should be provided according to the need of mFIs.
- Systems should be introduced to make for transparent reporting regarding their loan portfolio and produce reports. It will help mFIs in timely and appropriate decision making.
- In choosing an appropriate technology, it is highly recommended that MFIs get their core MIS right first before building any kind of delivery system on top of it. Technology provider should address the problem of mFIs promptly.
- Research done on mFIs about those who have successfully introduced new technologies should share the finding with others which will help in penetration of technology.