



Impact of it revolution on microfinance institutions in India

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Abstract

“A good information system is a necessary tool for managing an MFI successfully.”

Microfinance Institutions (MFIs) play an imperative role in the upliftment of economically and socially disadvantaged sections of society. MFIs provide easy financial access to households for gathering resources which enables them to manage their social and financial susceptibilities. Non banking financial intermediaries, credit unions, non governmental organisations and some commercial banks can be understood as different kinds of MFIs. Microfinance industry in India is at the very stage of growth and diversification where technology's potential has highlighted its importance. For improving effectiveness and efficiency of Microfinance Institutions (MFIs), information technology can act as a strategic tool. By using appropriate Management Information System (MIS) and by adopting different strategies as integration of products and services, the outreach of Microfinance Institutions can be increased economically. In today's era of technology revolution, IT has made an impression on almost all segments of the industry be it manufacturing, marketing, human resource management and so on. This paper makes an attempt to highlight the extent to which Microfinance Institutions are using Information Technology for delivering business services and for increasing outreach.

Keywords: information technology, microfinance institutions

1. Introduction

Microfinance is a medium of budgetary administrations for individuals who lack access to finance. Microfinance empowers them to take out advances for either starting or expanding their businesses. The microfinance industry has made good progress in improving understanding about issues related to institutional performance. For further enhancing the performance of MFIs, technology can be and has been acting as a catalyst for the delivery of multiple services.

2. Objective

The main objectives of this paper are to highlight the importance of Information Technology initiatives and to study that how these innovations in information technology have supported the growth of various Microfinance institutions in India.

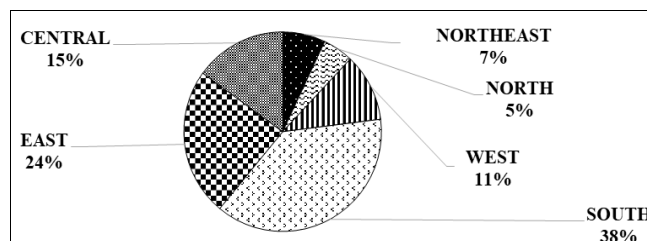
3. Research Methodology

For the purpose of this paper, secondary data has been procured from various reliable sources. Numerous journal articles, news articles and books have been referred for the study.

4. What is Microfinance?

Microfinance is not a very new concept. Different researchers have propounded various scholarly definitions for better understanding of the concept. Robinson states that microfinance refers to financial services provided in both urban and rural areas at small scale for activities like fishing, beekeeping, herding, agriculture to people who work on wage-Basis and others at native levels in developing nations

[Robinson 1996] ^[9]. Further ADB extends the definition of microfinance by mentioning that apart from loans it includes numerous categories of services like money transfers, deposits and insurance of different types like crop insurance, dairy insurance etc. [ADB 2000] ^[11]. RBI characterizes “microfinance as the arrangement of thrift, credit and other money related administrations and results of little adds up to the poor in provincial, semi-urban and urban zones for empowering them to raise their wage levels and enhance their ways of life”.

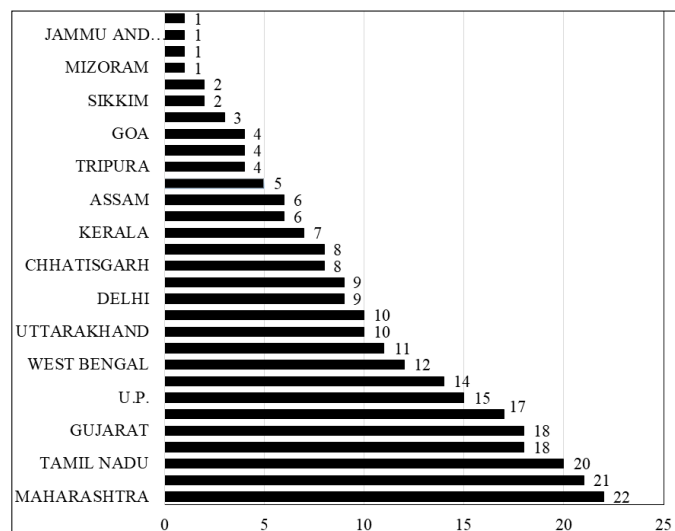


Source: the bharat microfinance report 2015

Fig 1: region-wise breakup of client outreach in India

World Development Report (2000/2001) ^[10] describes “microfinance as a market-based formal mechanism to mitigate the risks faced by poor people as against the informal group based mechanisms like savings and credit association”. Microfinance Industry refers to all the institutions that share a common commitment of serving low income clients who do not have access to formal banking system. (Morduch, 1999) ^[12]. Microfinance products and services are extended by various Microfinance Institutions (MFIs). Microfinance

products include loan facility, savings facility and even insurance products. Figure 1 shows the region-wise breakup of client outreach in India. In 2015, there was a total clientele base of 371 lacs out of which major clients were in Southern region accounting for 38% followed by eastern region accounting for 25%. Northern region has least clients in terms of outreach being only 5%. Figure 2 shows the presence of NBFC-MFIs across states in Financial Year 2014 highest being in Maharashtra followed by Madhya Pradesh, Tamil Nadu, Gujarat, Bihar, Uttar Pradesh and so on with the lowest number in Mizoram, Manipur, Jammu and Kashmir.



Source: micrometer issue 9, 2014

Fig2: NBFC-MFIs presence across states (FY 2014)

5. Information Technology

India has witnessed rapid advancement in past decade in field of Information Technology (IT). It is a universal term which covers all the stages from procurement to distribution of information including processing and storage. Information Technology is an application of technology which enables flow of information from its level of generation to the level where it can be utilized. Weill and Vitale (2001) [13] identified the following eight components of IT hierarchy:

5.1 Communications

Communication is one of the main components of Information Technology. IT has led to development of a new form of organisation commonly termed as 'flat organisation' as there is easy communication through a number of devices like telephone, mobile phones, facsimile machines etc. Digital communication across the organisation has been digitalized by using hardware and software.

5.2 Applications

Some authors have stated that application as a software program which can be used with a computer for transforming electronic inputs into expressive forms. Management of application is a wholesome task in itself and generally includes acquisition of software, modification of application,

configuration, installation and other technical support in order to enable the user with an easy access to application.

5.3 Security

Along with advantages of a using new technology, an organisation also has to face a few challenges with regard to it. In case of Information Technology, security is a major concern. There is always a risk of losing sensitive information to unreliable people. In order to protect a company from such risks, certain software have been developed which helps in avoiding data contamination.

5.4 Information technology management

Information Technology management activities like project management, planning of Information System, negotiation etc are one of the supplementary components of Information technology.

5.5 Data Management

In earlier days it was organisation and storage of data was a tedious task. But now any kind and any quantity of data can be managed with just a click. This management is termed as data management and it helps organisations in handling information sources, both internal and external.

5.6 IT research and development

Stagnation in any segment is not acceptable in any industry. Same is the case with IT industry. IT research and development is a segment which is necessary and it includes identification of newer technologies for better evaluation of business proposals.

5.7 IT Education

Under IT education, certain trainings are conducted to equip the users of technology with appropriate methods of using technology. It includes formal classes and self-training programs providing hands on experience. Such training helps in adding more value to the firm.

5.8 Channel Management

For distribution of products and for dissemination of information various channels are to be passed. Emerging technologies have allowed corporations to establish direct connections between suppliers, retailers and customers.

6. Information technology and MFIs

In some cases Microcredit bears higher interest rates as compared to other forms of loans. This is primarily done by institutes to cover the costs of administering the loans. Microfinance loans tend to have high interest rates in order to recover the high costs of loan administration. Information and communication technology (ICT) has assisted MFIs in reducing such administration costs. Technology's potential has shown its importance by offering easy and affordable means of providing microfinance products and services. Table 1 shows some of the technologies used in different MFIs, the time at which those respective services are used in the organization and their primary functionalities.

Table1: basic technologies used by MFIs

Technology	Time of entry into the institution	Primary Functionality
Information System Technologies (MIS)	First form of technology in any organization.	Data and information recording and reporting
Point of Sale (POS) Technologies	Introduced after MIS is installed successfully, POS is introduced. POS provides functions in addition to MIS	Primarily helps in increasing outreach. Also assists in improving efficiency of operations and reduction of costs.
Integration Technologies	Generally used in organisations operating on large scale and are in growth stage.	It integrates organizational system and processes with technology (POS, MIS).

Following are a few benefits derived by MFIs through usage of Information Technology.

6.1 Facilitating integration

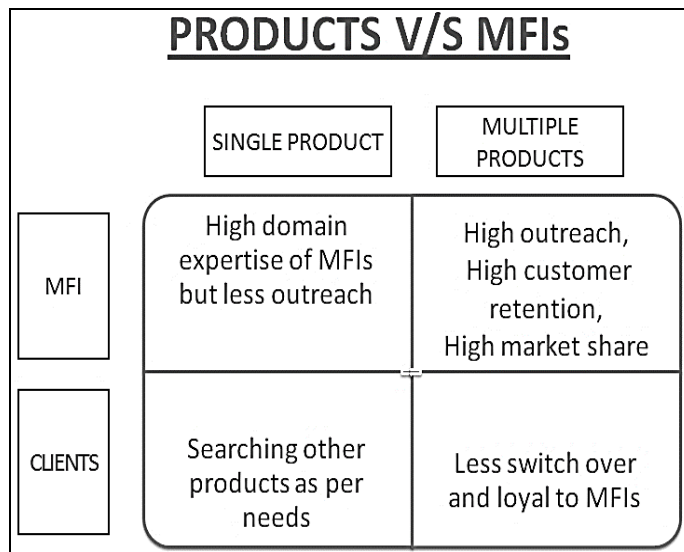
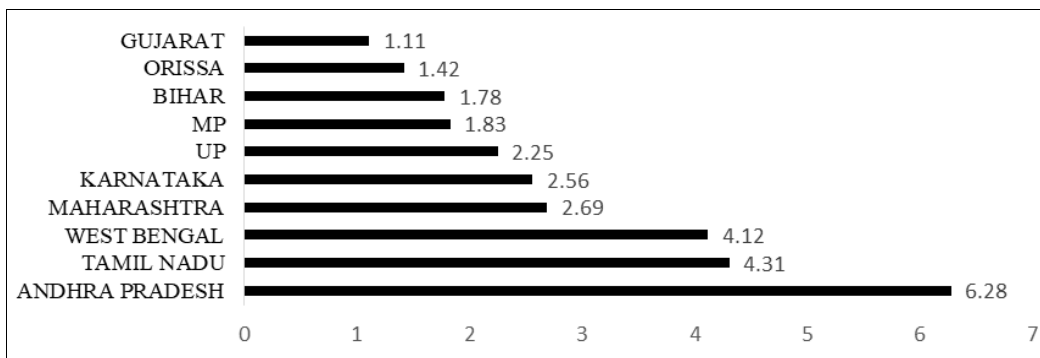


Fig 3: Products Matrix

MFIs have come up with the provision of various microfinance products together as a package or as an individual product to the clients. For example; MFIs provide credit, savings, money transfer, insurance etc. together. ADHIKAR Micro fin in collaboration with ICICI bank had

financed Rs 20,000 to 530 poor households for construction and repair of the house, provided life insurance and provided payment transfer services to clients. Its remittance work started from Gandhidham.

6.2 Improving outreach



Source: Microfinance India, The Social Performance Report 2014

Fig 4: TOP 10 states by number of clients, March 2014 (in millions)

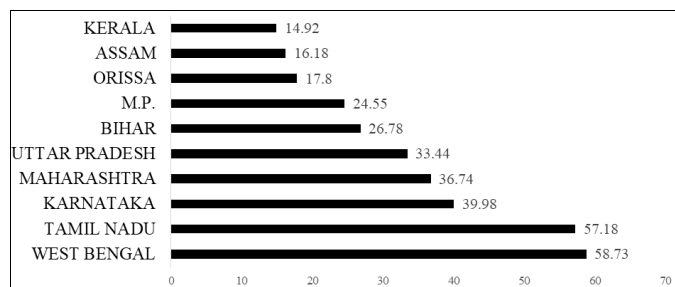
There are many banks operating on a large scale with wide reach and capital access which could ease many problems

associated with microfinance but they were reluctant to extend their services for rural poor due to massive costs involved in

establishment and maintenance of physical bank branches at different areas across the nation. To deal with it, various initiatives have been taken using developments in ICT such as smart cards, handhelds, and modified ATMs, to dodge the traditional methods of providing bank services. This has enabled the banks to lower their transaction costs and increase their outreach. Another way of increasing outreach of an MFI is to customize the products according to the needs of the customers. For example, Union Bank of India has designed a “biometric smart card technology” for the hawkers of Mumbai. Even an illiterate hawker can transfer the amounts instantly through the bank network spread across India. It was done to protect the hawkers from private moneylenders (for loans) and non-formal agencies (for savings).

6.3 Manageable identity issues

People residing in rural area often face problem while getting loans due to improper identity proofs. Information Communication and Technology have provided solution to this as well by introducing biometrics and smart cards and have allowed access to many people who were in dire need of credit. For instance PRODEM, a Venezuelan Microbank uses Information Technology for verifying identity of customers. It uses a combination of biometrics and smart card. Biometrics are installed in all of its ATMs and branches which allows identification through fingerprints. Such biometric verification confirms that all the transactions are made by a single person who is the account holder unlike the traditional ATM systems which needed a PIN only. The hassle of memorizing the personal identification number or other code has also been sorted out with this system enabling an easy way for customers. All the financial data of customers are saved in smart cards and no documentation is required. Consequently ATMs are in a position to verify customer’s identity through smart card itself. Till May, 2003, there were 32000 smart card holders for PRODEM. Adopting a path of growth by using ICT, the microbank used Micro development Finance Group (MFG), an initiative summoned by Hewlett-Packard. Emerging MFIs are aiming at capital markets, so MFG developed a new “end-to-end” technology solution for microfinance institutes and for other companies in order to enable them to improve products and services like pooling loans across various other institutes.



Source: Microfinance India, the social performance report 2014

Fig 5: Top 10 states by amount of loan disbursed in financial Year 2014 (Rs. Billion)

6.4 Efficiency

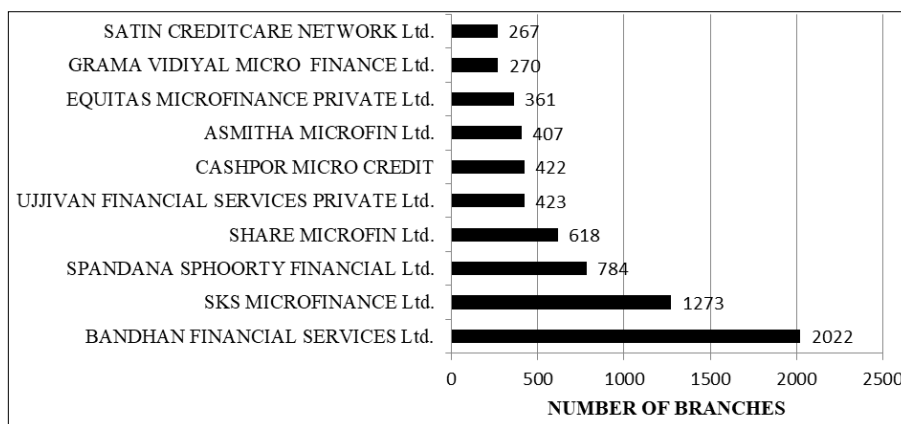
Technology also helps Microfinance Institutes in achieving sustainability by reducing the overhead costs and improving

their efficiency. For Instance Development of Humane Action (DHAN) Foundation, incorporated as a trust in 1997 is restructuring its microfinance activities through usage of a combination of organisers (hand-helds) and smart cards. The employees of this foundation are quite comfortable with the new technologies used as burden of loan officer is reduced with electronic record keeping and more accurate accounting systems. The overhead cost is also reduced as the field officers are no more needed to make multiple visits to the site. Entire data pertaining to a customer is stored in smart card and field officers can communicate their decisions on the spot with just a click of a button. Following are examples of few more Indian MFIs which are enjoying the benefits of technology:

- 6.4.1 India's largest microfinance institution, BASIX has been testing with smart card technology and handhelds for automating the process of credit approvals in order to shrink administration costs and labor costs. A new Management Information System named Mobile Portfolio Management System is being used which helps to reduce accounting errors.
- 6.4.2 *Swayamkrushi* is an Andhra Pradesh based lending cooperative in India. It primarily focuses on women and experimented with computers for its operations and noted improved efficiency in working. The computers which are used for routine operations are also used by members of the cooperative to access internet which provides supplementary benefits.
- 6.4.3 Rajasthan based MFI *Sahayata* has also used technology for empowering people at grass root. A very creative operational model is being used at *Sahayata* which clearly segregates the task of all the officers (Field officer, loan officer etc). It helps employees in saving time of making entries and other paper work, rather they can utilize that time in interacting with customers. A software named BR.net (Information System) developed by Craft Silicon is used by all branches and a central processing unit (CPU) is installed in Jaipur. All the branches send scanned forms by electronic mail to Jaipur Head Office where a team of approximately 14 data entry specialists duly enter the information in the MFI’s information system. To streamline work, a mail is sent to all branches at the end of the day so that all the staff members across the nation are prepared with the next task.

It is estimated that there will be an annual growth of 19% for next five years rising from US\$ 5.7 billion in 2014 to nearly US\$ 14 billion in 2019 in microfinance market at a global level (Microfinance Market Outlook 2015) [7, 14]. With the advent of Information Technology, various MFIs were able to expand their branches across the nations and it became easy for them to manage data by using Management Information System (MIS).

Figure 6 shows that Bandhan Financial Services has got the highest number of branches in India. Bandhan Financial services has its branches spread across 22 states and Union territories has disbursed 1,601 Crore rupees up to June, 2015 and has 13067 employees working with it.



Source: The Bharat microfinance report 2015

Fig 6: List of top 10 microfinance institutions (As per number of branches)

Table 2: Some Technologies Used By MFIs

Technology	Purpose	Website
Artoo	Through Artoo, clients can use tablets/smartphones to capture and analyze information.	http://artoo.in/
Infrasoft Tech	A software OMNI Enterprise Microfinance Solution has been developed. It is a robust software which will automate all processes of an organisation into a single technology platform.	www.infrasofttech.com
Datavision Software Solution Pvt. Ltd	Has developed MICROMATE a mobile based application tailored for field personnel.	www.datavsn.com
FINO	Has worked on linking the back-end data with the front-end for smart cards.	www.fino.co.in
MFIFlex	It has a cloud based banking solution designed for Micro-Finance Institutions.	www.mfiflex.com
Ekgaon	Has proposed ICT solutions.	www.ekgaon.com

7. Conclusion

Microfinance Institutions have been well recognized not just in India but across the globe. MFIs are on verge of growth and diversification are developing into a full-fledged industry. The demand for microcredit is increasing at a higher rate than the increase in number of MFIs in India. Such huge expansion is accompanied by various challenges like administration costs, data management, outreach issues, security problems etc. There is a rapid growth in number of MFIs. Various Microfinance Institutions (MFIs) have adopted lot of technological solutions successfully so far. The technologies like Biometric systems, Automated Teller Machines and use of Management Information System (MIS) have proved to be a boon for microfinance industry in India. In a nutshell we can say that IT developments have enables MFIs to reach every corner of the nation from north to south and from east to west. Different need based technologies are still being developed to meet the growing demand of different segments of nation.

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