Microfinance Landscape: Technology Disruption & Challenges in adoption

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ABSTRACT

The advent of digital technologies in the progression of a digitally literate population and an enabled microfinance sector in India in the last few years for the customary microfinance institution (MFI) borrowers has been set in motion by the internet revolution and the evolution into a more tech savvy, social media-friendly community has been propelled by growth in mobile penetration across rural markets as the advancement towards experience-driven customer continues. India's rural consumption saga has become a highly pursued-after strategic priority for both developmental institutions and banking and financial services companies equally. Many companies whether Indian or multinational have started initiatives to empower millions of women focusing on rural areas and last-mile connectivity or a technology-enabled distribution platform's enterprise to empower rural retailers so as to remove dependency on wholesale channels and provide financial assistance using digital channels are some examples in this direction. MFIs also have now begun to adapt to new technology trends for faster loan origination, efficient customer service and flexible loan requirements using alternate channels. The drive towards realizing a digital economy was further propelled by the governments' Digital India program. The shift from the traditional banking system to a digital model was aided by Aadhaar, which provided a supporting ecosystem for enabling technology players to launch electronic 'know your customer' (e-KYC) and authentication services. This conceptual paper shares insights on Future roadmap & challenges faced by MFI in adoption of Technology in India.

Keywords: *Microfinance, MFI, Fin-tech, Digitization, Digital Finance Services*

1.0 Introduction

1.1 Global outlook of the MFI sector

Globally, the microfinance sector has advanced rapidly over the past few decades since its inventor Mohammed Yunus, associated with Grameen Bank, set the base for modern-day concepts of micro financing. The concerted efforts taken by global bodies like the World Bank, United Nations and several governments across

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the world to alleviate poverty and provide affordable credit to the financially excluded has led to growth of the microfinance sector.

The World Bank Group is committed to increasing the access to finance for the world's poor. Through International Finance Corporation (IFC), its sister organization, the group has invested over USD320 million in debt and equity in fin-tech companies around the globe1,The UN Capital Development Fund (UNCDF) offers last mile finance models through innovative financing solutions for financial inclusion . Various governments and their central banks have set the required framework to support the digital revolution presented by fin-tech innovations.

For instance, Tunisia has passed a Start-up Act to boost growth innovative entrepreneurship in the technology sector development of regulatory sandboxes, in countries such as Nigeria, Kenya and Mauritius and in Europe, the revised Payment Services Directive (PSD2) has made open banking Application Program Interfaces (APIs) a norm for facilitating access to account information through APIs. Increasing internet and mobile coverage across the world since the late 2000s has also enabled the development of financial technologies that have spurred the microfinance sector. Since 2014, the mobile coverage gap has reduced to 10 per cent of the global population and with mobile technology and data science on the growth path the world is getting interconnected by the second.

2.0 Objectives of the Study

The objectives of this conceptual study focus on the impact of technology utilization in the Microfinance Sector in India.

- To comprehend the role of technology and digital systems in the MFI Sector.
- To garner an understanding of the benefits and constraints in the technical implementation and adoption of DFS in the MFI Sector in India.

The concept of Innovation is regularly a prospect even for MFIs towards risk mitigation, even though it involves some potential unwanted side effects. While the effect of risk factors on MF continues to be an under investigated field, it is always a case that money intermediation is inherently a risky business, Technology (ie M-banking, mobile payments, PDA…), cutting through complexity, de-atomizes the business model, making it rigorous and more robust to external shocks, albeit requiring initial investments on both sides, concerning not only MFIs but also increasingly sophisticated clients. Technology stands out as a big disrupting factor, which segments haves from haves not, so creating a market barrier among different MFIs.

3.0 India Outlook

The adoption of Technology has been a primary facet of the Indian microfinance sector starting from the new millennium. Some NGOs like Pradan initiated pilot project namely Computer Munshi (CM) to improve the book-keeping quality of microfinance collectives or for that matter e-Gama, a pilot program of setting up village information centres certainly prove that technology adoption has been on the schedule of the MFI sector. Management Information Systems (MIS), Loan Management Systems (LMS) and Customer relationship management (CRM) software are the key forms of software adopted by MFIs since the start of the new millennium. The banking correspondent evolution and the Rangarajan committee report in 2008 suggested the need for leveraging technology-based solutions for financial inclusion. It formed the basis for formation of a Financial Inclusion Technology Fund (FITF) for investing in information and communication technology. However, the big push for MFIs to invest in technology came when the RBI allowed NBFCs to become Banking Correspondents (BCs) for commercial banks in 2016.

MFIs which had access to technology were able to take advantage of this regulatory intervention and make head way in the market thereby creating competition and ensuring that more MFIs were investing in technology. Another major push came with the telecom revolution that resulted in mobile penetration to the depths of the country. The other catalyst of technology advancement in MFIs was the Govt of India promoting growth of financial technology through the JanDhan, Aadhaar-Mobile (JAM) trinity, which comprises the paperless, cashless and approval layers allowing lenders to unbundle their services and rollout products in collaboration with financial technology companies to create products and value for different customer needs.

The government led initiatives in the country have proved a major boost to the digital push in the banking and financial sectors, a few of the same are as below:

- **Aadhaar card authentication**: The Aadhar authentication APIs for customer identification offer a solution for the borrower which does not need the personal presence of the borrower to prove his/her identity and thereby the microfinance lender can authenticate the customer's identity in real time
- **E-KYC:** digitizes the KYC process through a paperless solution allowing the MFI to authenticate the identity of the customer in real time and electronically reduce the turnaround time to loan approval and disbursal
- **E-signatures**: offer convenience to the customer by allowing the applicant to legally sign a form/ document anytime, anywhere electronically resulting in improved efficiency

- **Unified Payment Interface (UPI)**: Aadhaar-Enabled Payment System (AEPS) and Aadhar Payment Bridge System (APBS) provide the cashless layer for direct disbursement and repayment of loans to the customer's account reducing leaks and fraudulent activities
- **Digi Locker**: is a dedicated cloud storage linked to the customer's Aadhaar number allowing for digital issuance and verification of documents.

In the present times technology is truly the most potent transmittable tool within an interconnected world, even while subject to extraordinary and more often than not awe-inspiring movement of capital, merchandises, people and their know-how, a universality which denotes the software, Information and communication technologies (ICT) are substantial drivers in the fast growing microfinance industry. MFIs provide financial services to the poor, which are unbanked, in order to eradicate poverty and to promote economic development in developing nations. As the industry matures, MFIs face an increasingly competitive environment that forces them to balance the dual goals of sustainability and outreach.

The Digital financial services (DFS) which are providing digital access to and use of financial services by the BFSI customers are a boon to the excluded and underserved populaces. Therefore, these services must be suited to the customers' requirements and also delivered with responsibility so that the cost is both affordable to the customers and justifiable for the providers.

The three key components of DFS are as under:

- A digital transaction platform
- Retail agents
- The usage by customers and agents of a digital connected device like a mobile phone so as to transact using the digital platform.

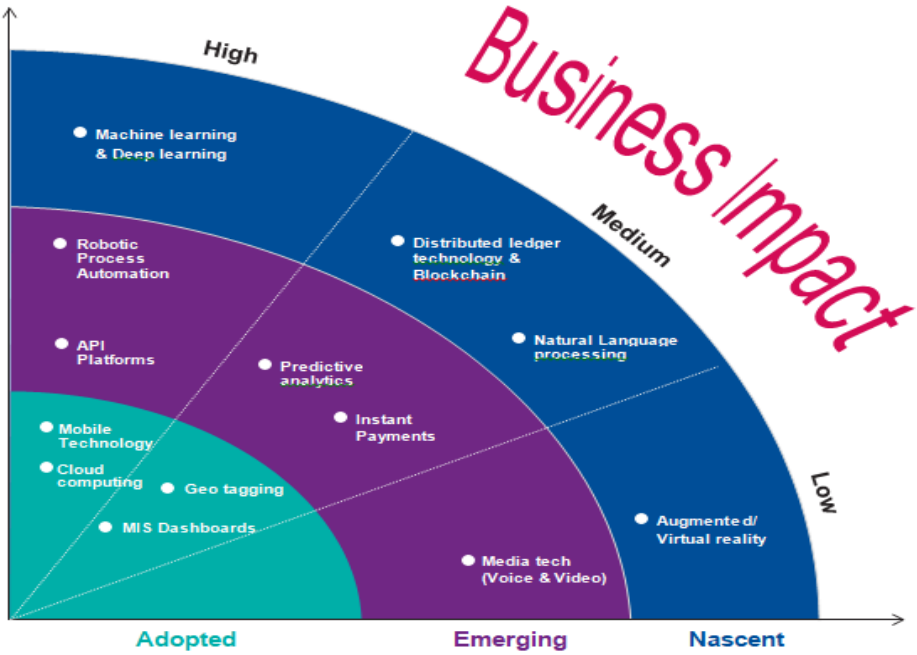
4.0 Disruptive Technology in Microfinance

The emergence of DFS provides an exceptional opportunity for the MFIs to develop better service delivery, improve transparency and accountability, enhance operational efficiencies and lead to lesser costs of operation. Delivering financial services by using technological innovations, inclusive of mobile money, shall be a catalyst for the provision and use of a varied set of other financial services by the MFIs. The part of the population which is presently excluded can thereby relish expanded access to money transfer, micro-savings, and micro-insurance services.

For the micro-entrepreneurs, the adoption of DFS by the MFIs, along with providing efficient access to finance, can open up opportunities to adopt electronic

payment systems, secure a varied menu of financial products and a chance to build a financial history. Innovations in electronic payment technology like mobile and prepaid services will enable the MFI members to lead more secure, empowered and included lives.

Figure 1: Disruptive Technology in Microfinance



Source: *home.kpmg/in*

The benefits of technology implementation by the MFIs are countless such as:

- The MFI members can be empowered through access to digital financial services in many ways. The growth in quantum of different financial services generally expands over time as the customers gain familiarity with and trust in the digital transactional platform.
- Normally, lower costs of digital transactional platforms, both to the MFIs and the customers; permit the customers to transact locally in consistent and small amounts, thereby assisting them to manage their irregular income and expenses.
- Additional financial services fashioned as per the requirement of the members' needs and financial circumstances are conceivable for the MFIs using the payment, transfer, and value storage services rooted in the digital transaction platform itself and the data generated within it.

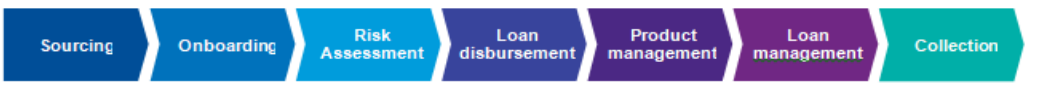
- The MFIs can gain reduced risks of loss, theft, and other financial crimes posed by cash-based transactions as well as reduced costs relative to transactions in cash.
- Digital transformation will lead to the promotion of economic empowerment by assisting asset accumulation for the womenfolk and will thus result in increasing their economic participation and welfare.

Apparently, there could also be diverse risks that the MFIs may encounter due to digital transformation, such as novelty risks for the members resulting from their lack of awareness about digital products and services, thus the creation of susceptibility to exploitation and abuse, also, agent-related risks due to the offering of services by the fresh entrants which may not be regulated according to consumer protection provisions and the far-reaching digital technology-related risks which can lead to disrupted service and loss of data, inclusive of payment instructions in addition to the risk of privacy or security breach as a result of digital transmission and storage of data. Yet, customer uptake of digital financial services in different markets puts forward that on balance, these risks do not offset the benefits of being financially included, specifically due to the existence of appropriate regulation and supervision.

5.0 Fin-tech in the Microfinance Lending Value Chain

Microfinance companies are putting to use and updating themselves to novel technologies and solutions for enhanced client outreach, decision-making and operations. Technology is nowadays transforming the way financial services are delivered and these disruptions are having an effect on the technology backdrop of the microfinance sector.

Figure 2: Microfinance Lending Value Chain



Source: *www.oecd.org/competition*

6.0 The Challenges in Technology Implementation and Adoption for MFIs

1. **Digital Adoption:** The trials faced by MFIs are exceptional as they frequently have to deal with employees and business correspondent partners who have limited and minimal formal education and financial literacy. This inadequate understanding of the banking infrastructure and digital services available leads to restricted adoption in the ecosystem. When the ecosystem continues to be cash based, even the customers who receive loans disbursed directly into their bank accounts end up withdrawing these amounts to expend in cash. Since customers

fail to see any worth in holding their money in digital format, the loan repayments are thus made in cash.

The expenses of motivating the adoption of digital by any MFI include:

- Direct transaction linked costs like e-KYC and mandate associated (setting/default) charges etc.
- Indirect costs which are imperceptible kike the costs for educating employees, educating customers and promotional activities for digital channels

2. **The Human Touch:** The microfinance sector has always been characterized by its high-touch delivery model. With technology making inroads into the sector, there are mixed responses on how the customer service equations are changing. The field agents or the on-ground employees are the most significant interactive channels for the target segment of the MFIs in order to comprehend the financial options that the MFIs provide. Consequently, any technology implementation must be about upholding the customer connect as well as using the resources of the company in the most optimal way.

Similarly the repayment challenge as regards Big data, the ML generated algorithms based on different sources of data fail to take into consideration some human assessment aspects that the field agents are capable of. Consequently it is demonstrated that much of the algorithm-based lending runs a risk of higher default rates. While the Self-Help Group (SHG) or Joint Lending Group (JLG) structures ensure that there are group guarantees providing the peer pressure to repay the loan and the center meetings reinforce the repayment habit, MFIs have to take a multipronged approach for finding an answer to this conundrum. In this scenario of the human touch decreasing it is essential to ensure that the loan is employed productively and with responsibility, inter alia having a trickle-down effect on the repayment rate. Continuing high customer interaction through the imparting of entrepreneurship training which is aimed at developing financial skills and market orientation delivers the push to the borrowers for putting to use the loan money to productive use and responsibly develop their businesses.

3. **Digital Talent Gap:** While digital adoption rates and internet connectivity across the country see an incremental steadiness, there is a lack of talent which can adapt to the up-to-date and latest digital interventions in value chain. This is mostly due to the fact that the geographic concentration of NBFC-MFIs are mainly the rural and semi-urban regions and the staff requirements are directly recruited from the locally existing pool of applicants and where significant digital skill gaps prevail. According to a latest report, only 19.3% of the rural population in the age group of 14-29 was able to operate a computer as compared to 52.9% in urban areas.

4. **Technology Partnership:** There are still many parts of the country that lack adequate infrastructure. As per a World Bank report, roughly around 30 per cent of villages do not still have access to all-weather roads and during the monsoon season these areas are cut off , most of the north-eastern regions of India are also not fully linked and face issues pertaining to electricity, internet and payment infrastructure.
5. **Regulations:** As regards Data Security many concerns have been voiced related to the lack of specific IT guidelines, that are inclusive of business continuity, data protection and security and cyber security, especially for MFIs this would mean a breach in security which consequently may lead to MFI customer's lack of confidence in sharing personal data with lenders.
6. The Personal Data Protection Bill may resolve some of the concerns voiced and the MFIs will be required to comply and upgrade their IT infrastructure accordingly. Fin-tech companies, too, will be required to make their solutions compliant with the bill in order to be relevant and competitive in the market. Challenges for provisioning a consent-based framework for the protection of personal information like "right to be forgotten", ensuring a secure and encrypted database for storing personal data and the format of the consent will require significant design and implementation work.

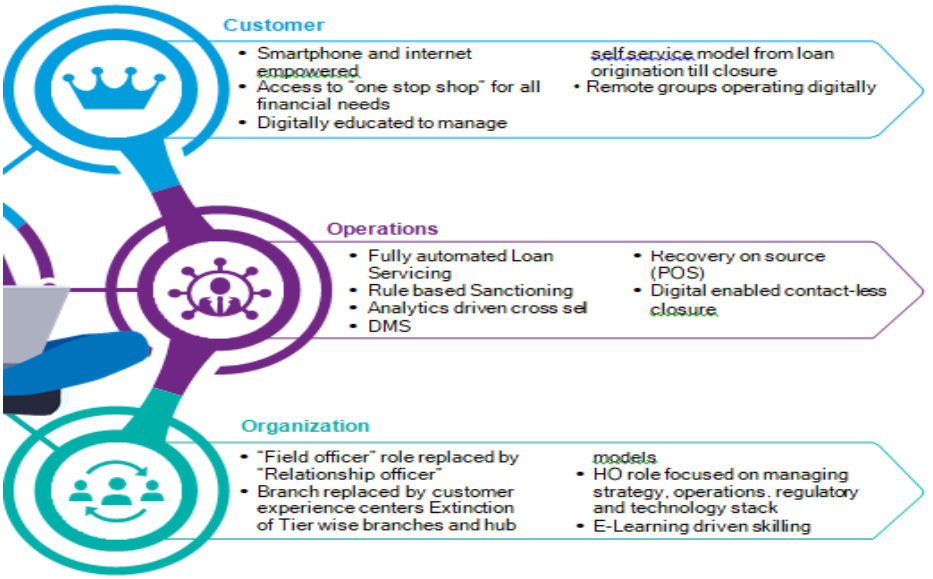
7.0 Microfinance Institutions – The Roadmap Ahead

The ongoing increase in literacy and penetration of cell phones amongst the poor and rural regions also will increase the customer's exposure and their expectations from microfinance institutes shall also change. Like an expectation for personalized solutions delivered through automated analytics, Machine Learning and Artificial Intelligence that are directly connected to their life or business events. Unrelenting digitization could be erroneously perceived as diminishing human connection. The successful players can deliver competitively priced and high-quality solutions through intuitive and user friendly platforms. Furthermore, as innovations reduce the cost to serve, many new entrants are expected to raise the competition in the microfinance sector.

Improved and incremental adoption of digital solutions all across the value chain shall aid the MFI companies to increase the overall productivity and efficiency in operations. Manpower expenditure is a major spend category for MFI companies. In the last few years the MFIs in the country have fashioned their distinctive space as vital intermediaries with a substantial value proposition to their client base and

providing a host of financial products even in the remotest areas by use of their extensive network and infrastructure. The MFIs have also gained experience in providing financial services to low income and rural populations and have gained in critical areas of performance, such as ready access to an established client base, experience in cash management, established internal audit and monitoring systems, experienced field staff and local branches, client discernments for new product development, and experience in client relationship management.

Figure 3: Microfinance Institutions Roadmap



Source: *SIDBI Microfinance pulse report*

Despite significant positive achievements, the challenge for the MFIs is their high transaction costs--large volume of resources traditionally needed to support large number of small transactions resulting in high costs with low returns per transaction as a unique feature of their operations. For disabling this challenge, the adoption of digital technology is the foremost enabler which has proven its potency, it is scalable, secure and cost-effective, and going forward it should be sustainable also. Financial institutions cannot compete with each and every fin-tech opportunity simultaneously, so a protocol of prioritization about the significant to the trivial is necessarily critical for all the MFIs which are looking for the most value out of their investments and activities. It would include evaluating multiple factors, such as the MFI's future roadmap in terms of product mix, target customer segment, organizational capabilities

and target book size, and align with specific initiatives that might not be big today but will be a significant focus area in the future.

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