

# Digitalization of Micro Finance Services in India – Challenges and Prospects

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## Abstract

Micro finance is one of the recent policy initiatives taken by the various governments across nations to penetrate the financial services to the masses and excluded sections of the society. Provision of micro finance in developing countries like India is subject to serious limitations, especially where the personalization is cumbersome and finally not feasible. Micro finance institutions have not been able to modify their business models in India in the digitalization age. Given the explosion of mobile usage and emerging technologies, it is imperative for the Micro Finance Institutions to reinvent their business model that can reduce cost, increase outreach and deepen client engagement.

In this paper, we examine the various problems and opportunities of digitization of micro finance services in India. We also critically analyse the policy initiatives of the government and discuss the success stories in counter part nations.

**Key Words:** Microfinance Institutions, Digitalization, Internet, Business Model, Client Engagement

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## INTRODUCTION

A well-developed financial sector is needed for the economic growth of the country, where individuals, government, businesses and financial institutions conduct their transactions smoothly. The financial system in India has gone through a significant change over the last couple of decades. Reforms in the financial sector has opened the doors for private sector banks, increased competition and technological development in the financial products and services. The recent developments in technology, both in access of financial services and delivery channels have revolutionized the financial institutions from brick and mortar infrastructure to some modern financial services such as internet banking, credit/debit cards, online money transfer, automated teller machines (ATM) etc. In the developing economies, individuals and businesses do not have means to access the basic financial services which is enjoyed by their counterparts in the advanced nations. Access to financial services is necessary for the development and growth of developing and emerging economies. Financial inclusion helps economies to address the broader agenda of poverty reduction, health improvement, promotion of education and businesses. Financial inclusion has become a continuous and versatile process of economy enrichment and social upliftment via management of scarce resources, promotion of savings and also empowering skills and knowledge among masses to take the right financial decision.

In developing economies, the growth of micro finance is viewed as a policy initiative to promote financial inclusion. Over the last few years, microfinance institutions offer financial services to individuals who are not served by the formal financial intermediaries due to high transaction cost, lack of collateral, geographic isolation, etc. Evidence shows that poor benefit not only by accessing micro enterprise loans, but they get access to a wide variety of services such as insurance, micro-savings, remittances and transfers, which help them better manage their life and plan out emergencies. They continually work on providing customer friendly products to its clients and increase their outreach to the poor people. Microfinance has proved that even the very poor are worthy of credit and will repay the loan amount. (Yunus, 1998).

Provision of microfinance is subject to serious limitations, especially where the personalization is cumbersome and finally not feasible. Microfinance institutions incur high operating costs not only in terms of sourcing and disbursement of funds, but also in supervising and collection, which restricts their capacity to increase their reach. As a result, the problem of financial exclusion persists. Financial exclusion is an indicator of low income and poverty. However, various researchers found that there is a direct relation between poverty and financial exclusion in the developing economies (Norman & Chaturvedi, 2015). These individuals and households remain dependent on loan sharks and generally have low levels of financial literacy. Hence, digital inclusion is therefore an evident solution to the problem of financial exclusion.

In today's globalized world, digital technology is spreading at an incredible speed as a larger driver of innovation and growth. Digital economy provides immense support for promoting financial inclusion to achieve sustainable economic development. With an aim of reaching billions of new customers, microfinance institutions should make best use of emerging technologies such as mobile banking. Digitalization of financial services will act as a catalyst for the growth of the microfinance industry. Countries like Bangladesh and Kenya have made an effective use of mobile phones by enabling people to access a wider range of financial services rather than just online payment services. Similarly, India can take lessons from these unbanked economies and should make the utmost use of the mobile penetration and reach larger sections of its population through the digital platform. Therefore, it is imperative for the microfinance institutions to reinvent their business model which reduces cost, increased outreach and focus on deepening client engagement. The growth and acceptance of digital technology will enable the service providers to achieve greater scale, penetrate new markets and understand their customers better. In order to remain competitive in the changing market landscape, microfinance institutions have to focus on innovation led strategies, digital alliances and partnerships. Also, government should also come forward to strengthen the digital ecosystem to ensure connectivity and reduced operating cost. Digitization has the sheer capacity to transform the

lives of its citizens and positively impact the society and the environment.

Digital Inclusion can be described as the “digital access to and use of formal financial services by excluding and underserved populations. Such services should be suited to the customers' needs and delivered responsibly, at a cost both affordable to customers and sustainable for providers” (CGAP Brief, 2015). The growth and acceptance of digital technology will enable the service providers to achieve greater scale, penetrate new markets and understand their customers better.

India is home to around 47 per cent of unbanked population (Raj, 2017). Thus, technology will play a big role in promoting financial inclusion of the unbanked people in the country. The introduction of Pradhan Mantri Jan- Dhan Yojana has shown significant results. As on 5<sup>th</sup> April, 2017, 28.23 crore accounts have been opened (Singh, 2017). The plan is an integrated approach to provide access to credit, insurance, pension facility and routes all government benefits directly into the beneficiary's account.

In India, the beginning of “Digital India campaign” in 2015 by the government intends to make the citizens of the country digitally equip with the recent development in technology. Digital India is mainly for poor and underprivileged people. The objective is to fill the divide between the digital haves and have notes by using technology for the citizens.

## LITERATURE REVIEW

The goal of microfinance is to supply formal financial services to the marginalized poor, mainly brick and mortar infrastructure and aimed to attain the twin goal of sustainability and outreach (Mahajan & Ramola, 1996). Hermes *et. al* (2011) promote the view that sustainability and outreach cannot be achieved together. Hence, it violates the imperative basis of existence of microfinance institutions.

The 2008 financial crisis led to reduced confidence in financial institutions, making it tougher and costly for banks to impart loans. Researchers, policy makers have begun to realize that the financial products and services should be tailored to meet the customized needs of the poor. Mobile

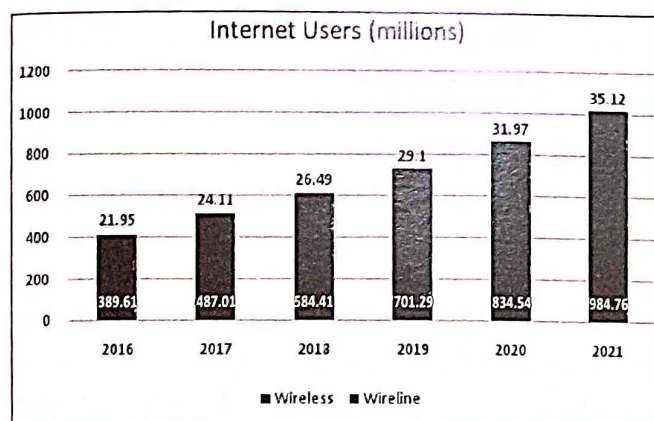
Banking and Digital Finance have changed the outlook of financial inclusion. The digital revolution has created trust among the customers. reduced entry barriers and offer user friendly ways to borrow money, transfer and invest. But one of the biggest challenge lies in linking microfinance with the recent developments of information and communication technology (Hammond, 2001). Further, it has been identified that the adoption of ICT may help microfinance institutions to attain their objectives (Diniz, Pozzebon & Jayo, 2008).

With the rapid growth in technology, the acceptance of mobile internet has been perceived as an effective and efficient channel for delivery of microfinance services in developing countries. India is witnessing a rapid growth in adoption of digital technology (CII, 2016).

In consonance with the Boston Consulting Group, more than half of internet users will be rural and rural users will comprise about 48% of all internet users in India by 2020 (Jain & Sanghi, 2016). Howrick & Whally (2008) mentioned that if socio-economic benefits have to be realized in rural and distant areas with the use of internet adoption, then the suitable policy initiatives need to be adopted by the government to speed up the diffusion process. Whitacre, Gallardo & Strover (2014) pointed out that in united states, non metropolitan and rural areas that exhibit significant levels of internet availability and adoption had inevitable increase in income level and lower unemployment rate.

The growth of digital infrastructure and rise in adoption of high speed network is setting the basis for the digital eco- system. As per the Global Digital Report 2018, 4.021 billion people around the world are using internet, an increase of 7% year- on- year while the number of mobile phone users is 5.135 billion, representing an increase of 4% every year (Kemp, 2018). In India, the usual speed of broadband is 6.5 Mbps, posting a 7% increase for Quarter 1 in 2017. The broadband adoption rate in India is 42%, representing a yearly growth rate of 81% (Akamai state of internet Q1, 2017). In India, the wireless users is expected to cross 984.76 million in 2021 from 487.01 in 2017 (KPMG , 2018) as shown in Figure 1. Mobile broadband connections have also increased rapidly after the introduction of Reliance Jio (Jain, 2016).

Figure 1: Internet users in India



Source: KPMG Report, 2018

Various studies have advocated that in rural areas access to broadband favourably influence the employment level along with other issues of quality of life such as health care, education, social relationships (Katz *et.al* 2009; Straubhaar *et al.*, 2011). Holt *et.al* (2009) also examine a positive relationship between adoption of internet and economic growth, but the impact of information and communication technology may be achieved in the long run. Access to digital financial services is improving in Asia, but the usage remains inadequate. The new digital financial inclusion has concentrated especially on mobile money. Since

2001, there has been a rapid increase in the usage of mobile money, with 411 million mobile money accounts and 271 service providers by the end of 2015 (Asian Development Bank, 2016).

Financial Inclusion begins with having an account. In 2017, around 69 percent of the adults in the world have bank account. The corresponding value has increased from 51 percent in 2011. However, in case of developing countries, the rise in account ownership is not consistent. In India, account ownership has increased by more than 50 percent since 2011. The main factor behind this increase was launched of Pradhan Mantri Jan Dhan Yojana in 2014 to increase bank account ownership, especially among the poor masses in the country through biometric identification number. Still, these programs have not benefitted the Indian unbanked poor. There are more than 100 million unbanked Indians; In May 2016, Jan Dhan Yojana has 61% dormant accounts. Countries like Indonesia, Pakistan, Bangladesh, Phillipines, Egypt, Russia Federation and Ethopia have gained in account ownership while the others have remained unchanged (as seen from Table 1).

Table 1: Account Ownership in Developing Countries

Adults with an account (%)

Countries	2011	2014	2017
Bangladesh	32	31	50
Indonesia	20	36	49
India	35	53	80
Brazil	56	68	70
China	64	79	80
Egypt, Arab Republic	10	14	33
Ethopia	-	22	35
Malaysia	66	81	85
Mexico	27	39	37
Nigeria	30	44	40
Pakistan	10	13	21
Phillipines	27	31	34
Russian Federation	48	67	76
South Africa	54	70	69

Source: Global Findex database

Note : Data is not available for Ethopia 2011

Having access to mobile phone and internet brings new possibility of experiencing a broad range of financial services within reach. As per the Global Findex Database, 2017 79 percent of the adults own mobile phones in developing countries and in India, the corresponding value is 69 percent (World Bank Group, 2017). Despite having the most economical mobile data rates in the world, still around 48 percent of bank accounts in India remain inactive (D'Souza, 2019). In India, nearly 66 percent of the dormant account holders and population exceeding 50 percent of the unbanked poor have mobile phone (D'Souza, 2019).

In India, women in particular, are excluded from mobile phone penetration and internet usage. 65% of women owns a mobile phone as against 84% of men and 8% of women had used internet on mobile in last three months compared to 26% of men (GSMA Connected Women, 2018). Such low levels of usage are influenced by the dominance of non- smartphone subscriber. In 2016, mobile internet use among smartphone female and male users is 38% and 55%, respectively (GSMA Intelligence, 2017).

In this regard, the study provide insights that digitalisation of microfinance services can act as an effectual solution for eradication of poverty among the developing nations especially India. This article will help the policy makers to comprehend the opportunities and challenges involved with digitalisation of financial services. We also critically analyze the policy initiatives of the government and discuss the success stories in counterparts – nations.

### OPPORTUNITIES

The existing microfinance model is primarily based on cash transactions which is a hinderence to the grown of the microfinance sector and its borrowers. Exclusion from digitalisation impares the financial profile of the borrowers which deprive them to enter into mainstream banking sector whereas acceptance of the digitalization has numerous benefits as given below:

One, digitalisation of MFIs operations will enable the recognition of these transactions by banking system. This will provide visibility to their entrepreneurial skills and financial viability. Which help them to enter into next level i.e. from

micro to small and medium enterprises and above or movement from unorganized sector to the organized one. The borrowers will become *empowered* and leads to their holistic development.

Two, overall development of borrowers will improvise their savings, investments and expenditure level. Which leads to overall growth of the sector and will ultimately *contribute more towards the GDP*. By 2021, digitalization can boost India's GDP level by USD 154 billion (Gadgets Now, 2018).

Three, digitalisation of services will help MFIs to *increase their outreach* in a cost effective manner. The collaboration between the institutions and other financial service providers will open more avenues of handling operations with less resources and can concentrate more towards qualitative services and expansion of their operations.

Four, digitalisation of the financial services will *bring efficiencies* in day to day operations and avoid multiple risks such as pilferage, cash storage and transit risks. Under such environment, institutions can offer numerous customer centric products at low cost which will strengthen the financial status of the borrowers.

### CHALLENGES

Despite the benefits offered by digital finance, there are challenges which need to be addressed. These benefits are of no use, until and unless the shortcomings of the technological era for rural development is answered.

The biggest challenge being faced by developing nation is *weak infrastructure*. Developing countries take ages to adapt the latest technologies and that too in tier one and urban cities. At times, if technology is adopted, it does not spread across the rural areas. These technologies takes time to reach across the last mile due to low priority given to them in development agendas. Private sectors are also reluctant to invest in rural areas due to low income level and interest of the people.

*Electricity* is essential to realize the benefits of digitalization. In India, nearly 45 million (25%) of the rural households have no electricity across the country (Patil, 2017) which is essential for internet connectivity. Moreover, many households do not

have enough money to pay for the cost of connection. Technological innovation seems to be the only possible solution in rural areas, keeping in mind the weak infrastructure and short supply of electricity.

Another major challenge faced by developing nations is *illiteracy level* of the people which has direct impact on digitalisation of MFI. The survival of digital services require basic level of literacy and these people are far away from it. In India, illiteracy rates are still very high. Nearly 34% of the world's population are illiterate and in India one out of every three persons is illiterate (Times of India, 2017). Majority of the information is exchanged in English language over internet and english is now referred as a global language. However, only 20 percent of the world's people speaks English (Lyons, 2017).

Presently the way technology is changing, *skilled manpower* is required to handle such changes. In absence of desired level of skills it is very difficult to make them adapted with latest technology even with the help of training and development of infrastructure.

Moreover, members do not use digital platform due to *inadequate knowledge*. Even if, they are aware about the platform they don't use it either because they are not comfortable with the technology or they don't know the advantages.

Furthermore, members are not inclined to use their personal information through digital platform due to *lack of trust*. Inadequate knowledge about the security features, laws and their rights restrict trust building.

## **POLICY INITIATIVES TAKEN BY INDIAN GOVERNMENT**

In 2015, government of India launched "Digital India Campaign" with an aim to make country empowered in the field of technology. The program works on three core elements which includes providing a safe and digital infrastructure, providing all government services electronically on demand and facilitates digitally empowerment of citizens. The various policy initiatives taken by government to promote digital technology among the rural areas. Major initiatives taken by government are as follows-

"*Pradhan Mantri Jan Dhan Yojana (PMJDY)*", a program initiated by government of India in 2014 to promote financial inclusion in the country. It aims to provide easy and economical way to access financial services. The program consist of six pillars: basic bank account with overdraft and RuPay debit card, formulation of credit guarantee fund, insurance, pension schemes, remittances. From March 2018-19, the number of zero balance account has decided from 5.10 crore to 5.07 crore. Moreover, the deposit in the account has crossed 1 lakh crore and is continuously rising (The Economic Times, 2019).

Banks have introduced *mobile banking vans (MBV)* to facilitate banking services in rural areas. This initiative of bank will enable banking services to reach to the masses.

Government has announced a new initiative namely, *Digital Village program* targeting 1,50,000 villages with an aim to provide affordable internet facility. With this view, government has already installed optical fibre for 1.55 lac kms across the country (Singh, 2017). Government is running DigiGaon campaign to strengthen digital india program by providing its access to households in rural and remote areas of the country. Under which various services such as internet education accessibility, computer lab facility, start up and entrepreneurship program etc. are available.

With the help of NABARD, financial support has been extended to banks for dispersing POS devices in villages having population less than 10,000. These devices will be displayed at cooperative societies to promote the transactions via electronic means. This initiative of government will help farmers of 1 lakh villages to transact without any exchange of cash for their agri- needs.

Government has also extended assistance to cooperative and rural regional banks to disperse "*rupay kisan cards*" to holders of Kisan credit cards to encourage them to do transactions through ATMs/POS devices.

## **EXPERIENCES IN OTHER NATIONS**

Many countries have started making use of digital technology to enable the unbanked people to get engage in financial system. There are a number of

success stories where digitalisation of MFIs have succeeded.

#### i. Grameen Village Phone Program

After the success of Grameen microcredit program in Bangladesh, Mohammad Yunus has introduced village phone program to provide communication services to rural community. Mobile technology acts as a distinct business idea to bridge the information gap between rural and urban Bangladesh. The aim is to alleviate poverty, make communication easy at the doorsteps of the poor which in turn helps to develop a community with technological advancement. Grameen phone was introduced in association between Grameen Telecom and Grameen Bank. Village phone facility was provided only to the members of Grameen microcredit program. Members of Grameen Microcredit program were given easy loans to purchase or lease mobile phones from Grameen Bank. These members are called as village phone operator (VPO). On behalf of the Grameen borrowers, Grameen Telecom bought a mobile subscription, provided connection and training to them regarding the use of mobile phone. The VPO provided payphone services i.e. making and receiving a call to the villagers. The VPO is responsible for maintaining the handset and making payments to the bank. The revenue

collected from the users will be used to repay the loan amount and also provides a new source of income to the VPO.

This initiative will help the clients to get access to a wide range of services from the mobile phones more conveniently and effectively. The services will be available at affordable cost and will also help in increasing the outreach to the unreached poor. The village phone concept will enable to bring socio-economic empowerment, bridging the technological gap between the urban and rural people, improves standard of living, creates opportunities for income generating activities.

#### ii. M-Pesa in Kenya

It is reasonable to mention that Kenya is not considered a developed country. Although over the years, there has been a tremendous growth. A significant proportion of the Kenya's population was relying on informal services and less than 27% of the population could access the formal financial services (Ndung'u, 2017). To reduce the gap of financial exclusion, the M-Pesa was introduced in 2007 in partnership between Safaricom, a leading mobile operator and Bank of Africa. It allows microfinance borrowers to do the transactions using their mobile phones.

**Table 2: Access to Financial Services by Urban, Rural, Male and Female (%)**

Financial Category	Urban	Rural	Male	Female
<b>2006</b>				
Formal	25.9	11.4	19.6	10.7
Other Formal	9.6	12.4	13.6	9.9
Informal	21.6	35.5	26	37.7
Excluded	42.8	40.7	40.7	41.7
<b>2016</b>				
Formal	59.9	32.1	50.4	34.6
Other Formal	26.4	36.9	29.3	36.6
Informal	4.1	9	4.1	10.2
Excluded	9.5	22	16.2	18.6

Source: Kenya FinAccess Household Survey, 2016

M- Pesa is a mobile money transfer application. Users of this service need to have a SIM card of a telecommunication company called Safaricom and should be registered with any M- Pesa agent to be able to use it. There are 4 types of financial services provided by M- Pesa: Person to person (P2P), individual to business, cash withdrawal facility and payment or receipt of loans

Using this application, the user can send, receive or transfer money without any delay in the clearing process. It enables the users to receive or make payment to people who are located in different places. The development of M- Pesa has led to substantial reduction in transaction cost, providing access to reliable and quick money transfer. FSD Kenya (2015) advocated that users of M- Pesa have a strong ability to absorb financial shocks being compared to the non- users.

Since 2006, the formal financial inclusion in urban area is approximately double than that of rural area. Financial exclusion is falling at a higher rate in case of urban areas as compared to rural area. Compared to women, formal financial inclusion in the case of men has increased steadily (as depicted from table 2).

### iii. Alibaba Microfinance

Over the years, China has made a remarkable progress in promoting financial inclusion. Nearly 80% of the adults have access to financial account (Roest, 2018). By 2014, 79% of the Chinese adults have bank accounts whereas the corresponding figure is 53% in case of India. (The World Bank, 2014). Digitalization has attracted the attention of government and policy makers to drive economic development and expand financial inclusion. According to McKinsey Global Institute 2016, digital finance can increase the annual GDP by 6% (McKinsey Global Institute, 2016) and in case of China, there will be an additional increase of 4.2% in current GDP level (China Internet Watch, 2017). Digital finance offers many benefits to its users such as it is fast, cheap and safe way to store value than carrying physical cash.

In China, Alipay and WeChat are the two most widely used digital payment services. Users can easily pay their utility bills, medical insurance, airline tickets, instalments of microloans etc. These digital payment Apps also offer a wide range of financial facilities such as savings, investment,

credit, wealth management etc. These financial services accelerate digitalization and financial inclusion.

One of the biggest challenge faced by China's financial industry is lack of accurate credit information about the potential borrowers. In 2014, World Bank found that nearly 79% of the China's adult population own a bank account and only 10% borrow money from formal financial institutions (The World Bank, 2014). This situation has made difficult for lenders to access the credit worthiness of the borrowers. As a result, individuals and microenterprises find it challenging to get formal credit.

In 2015, "People's Bank of China" (PBOC) has issued licenses to eight companies to start with consumer credit rating business. One of the most popular rating firms is Ant Financial, an affiliate of Alibaba Group, which launch a Sesame Credit product. In this, customer receives a credit score based on five elements- credit history of the User, Identity, ability to fulfil the contractual terms and conditions, financial behavior and Online Shopping Habits. Sesame Credit plays an effective role in fostering formal financial services among the unbanked in China.

Alibaba and Ant Financial has opened a new online bank in china known as MyBank which is dedicated to provide the loan services to both urban, rural and small microenterprises. Due to the absence of physical branch, the bank offered it services at low operational costs. MyBank will use the sesame credit score of the individuals and companies to determine the credit worthiness of the borrowers and developed 3-1-0 online model of lending which means the transaction will take 3-minute to process application, 1 second to grant the loan amount with zero manual intervention. Over the past five years, 4 million small and microenterprises have been benefitted with this digital revolution (Ant Financial, 2017).

### CONCLUSION

It can be derived from the experience of Kenya, Bangladesh and China that mobile banking services will play a crucial role in the social and economic development in the emerging economy like India as also evident from experience of Kenya, Bangladesh and China. To serve the rural unbanked effectively, microfinance institutions

should collaborate with mobile network providers in order to reach the customers at the last mile and both of them needs to better understand their respective roles. Mobile network operators need to develop distinct products and services especially for the rural poor. In addition, we establish that micro finance institutions should enhance their efforts to increase penetration. We suggest that customer acquaintance should be enhanced through training coupled with the latest technologies. Improvement in financial literacy rates in India will help the micro finance institutions to better communicate their products and services.

Digital finance offers many benefits to the lower income individuals than the conventional banking. Despite the benefits, digital finance carries some challenges for promoting financial stability in the country. A large number of people in India do not have access to banking services, so this shows that MFIs can increase their reach to the unbanked poor through mobile phones. Applications using mobile technology will be an appropriate tool for India's financial inclusion plan.

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