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Evolving Landscape of Microfinance and Role of Technology

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Abstract:

Microfinance institutions have been addressing the financial needs of people with low-income communities. This fundamental role of the microfinance institutions is undergoing a gradual shift due to digital technology and the COVID-19 Pandemic. From a business standpoint, the COVID-19 Pandemic has disrupted several industries across the globe and altered their business operations. The microfinancing industry has not been immune from the effects of the pandemic, as it has had ripple effects on the functioning of the microfinance institutions. Considering the changes in the business environment and implications of the COVID-2019 Pandemic, the mode of functioning of microfinance institutions has diversified and their role has expanded beyond directly catering to the poor. The online mode of offering microcredit is gaining significance driven by many factors

. However, the market scenario in India suggests that the increasing integration of technology in the business operations of microfinance institutions and use of online mode of lending has benefits as well as challenges. The spurt of Chinese microloan apps during the pandemic and their modus operandi requires that the regulatory authorities exercise proper supervision over the business practices of MFIs in order to maintain people's confidence in the online model of microfinancing.

KEY WORDS: Microcredit, Microfinance, Microlending, Microloans, COVID-2019 Pandemic, Microfinancing Institutions, Microfinancing Services

1. Introduction:

The modern efforts to include the poor within the ambit of banking began around the 19th century. In 2006, the Nobel Committee honored Dr. Muhammad Yunus[1] with the 'Nobel Peace Prize' for creating economic and social development. The Professor of Economics at the University of Chittagong, Bangladesh, Dr. Yunus's journey on this path began when he lent from his pocket, 2289 Bangladeshi takas to 42 local women in the Jobra village, located near the University, for procuring raw materials to make bamboo furniture. An act performed out of a

[1] The Nobel Peace Prize 2006. *Nobelprize.org*. Retrieved on June 13, 2021 from https://www.nobelprize.org/prizes/peace/2006/summary/

desire to help his famine-hit country marked a pivotal moment in building a strong foundation for microlending.

Microlending or Microcredit refers to disbursement of small and collateral-free loans to poor communities and enables them to create self-employment and generate income by starting their businesses (Morduch, 1999b; Simeyo et al 2011)[2]. Historically, lower-income households, especially the rural poor, have grappled with access to credit. Lengthy procedure for loan sanction, demand for collateral security, and short loan term have been major deterrents for people from rural backgrounds in borrowing from institutional sources. Mr. Ashok Khemka, an Indian Administrative Services Officer (1991 Batch, Haryana Cadre), also mentioned about the plight of farmers who are compelled to borrow high-interest loans from arthiyas (middlemen who facilitate transactions between farmers and actual buyers) because of the procedural nightmare of procuring a bank loan (Khemka, 2021)[3].

The microlending initiative addressed the above concerns. Beginning in the 1970s, government and non-government organizations, across the globe, started to explore different avenues to assist the poor to generate economic growth through entrepreneurial initiatives (Bruton, Khavul & Chavez, 2011)[4]. Modern microfinancing owes its expansion in broad measure to the Grameen Bank of Bangladesh. Founded by Muhammad Yunus, the Grameen Bank operates more than 2500 branches and has inspired many developing countries with its group-lending model (Hermes & Lensink, 2007; Grameen Bank Annual Report, 2019)[5].

Early 21st century onwards, microlending began receiving widespread attention. The year 2005 was declared as the Year of Microcredit by the United Nations and in 2006, the Nobel Committee awarded the 'Nobel Peace Prize' to Muhammad Yunus for creating economic and social development through a robust microlending model. Despite increasing interest and development in the microfinancing sphere, the industry was still in its nascent stages in 2008. The $17 billion loans outstanding in 2008 were reported to represent only 10% of the potential microfinance (Swibel, 2008)[6].

In the context of the Indian economy (from 2003 to 2007), the share of Microfinance Institutions (MFIs) in loan disbursement increased from 28 percent to 47 percent of all Indian microfinance

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[2] Morduch, J. (1999b). The Microfinance Promise. *Journal of Economic Literature*, 37, 1596-1614 and Simeyo, O., Martin, L., Nyamao N. R., Patrick, O., & Odondo, A. J. (2011). Effect of Provision of microfinance on the performance of micro enterprises: Kenya Rural Enterprise. *African Journal of Business Management*, 5(20), 8290-8300

[3] Khemka, A. [@AshokKhemka_IAS]. (2021, June 5). *To obtain a bank loan is a procedural nightmare. No wonder farmers* [Tweet]. Twitter. https://twitter.com/AshokKhemka_IAS/status/1401092819226222592

[4] Bruton, G. D., Khavul, S. and Chavez, H. (2011). Microlending in emerging economies: Building a new line of inquiry from the ground up. *Journal of International Business Studies*, 42(5), 718-739.

[5] Hermes, N. & Lensink R. (2007). Impact of Microfinance: A Critical Survey. *Economic and Political Weekly*, 42(6), 462-465 and Grameen Bank Annual Report, 2019 (2019). *Grameenbank.org*. Retrieved on June 16, 2021, from https://grameenbank.org/wp-content/uploads/bsk-pdf-manager/AnnualReportPDF_2019.pdf

[6] Swibel, M. (2008). Microfinance Fever. *Forbes*. Retrieved on June 16, 2021 from – https://www.forbes.com/forbes/2008/0107/050.html?sh=74e49cf16bd1.

loans. It was reported that India was the world's largest microfinance market given its average growth rate of 50%. Despite the double-digit growth, the estimate was that the industry was having only a small pie of the potential market: the then supply of micro-credit constituted only seven percent of potential demand (Thakur, 2008)[7]. The growth since then has been phenomenal. Over the period 2015-2019, the amount lent by MFIs globally has increased at an average annual growth rate of 11.5 percent (Thakur, 2008)[8]. To put it into perspective, this is 25% more than the compounded annual growth in revenue from the financial services sector in the period 2016-2020. Further, in 2018, the microfinance sector witnessed a growth of 8.5 percent, benefitting 139.9 million borrowers with total loan disbursement being $124 billion (Microfinance Barometer, 2019, Convergence; Damodaran, 2021)[9].

3. Objectives of the Study:

The study is conducted to explore the evolving landscape of microfinance and role of technology with the following objectives:

1) To study the evolving landscape of microfinance;
2) To study the increasing adoption of technology in the microfinancing industry;
3) To evaluate the factors triggering the adoption of technology; and
4) To study the ripple effects of the COVID-2019 pandemic on the microfinancing industry.

2. Review of Literature:

In late 1970s, Dr. Muhummad Yunus realized that even very small loans could make a disproportionate difference in the life of a poor person. In 2006, he was honored for his contribution to the underprivileged communities and inspired microfinancing models across countries. Since then, microfinancing has witnessed phenomenal growth.

2.1. The Inception of Microfinance and its Impact:

The genesis of microfinancing was the poor communities' need for collateral-free money in relatively small amounts. The feature that distinguishes microlending from other forms of lending is the group-based lending process. Under this model, the group plays a pivotal role in supporting and monitoring the efforts of its members to repay their individual loan. A group typically consists of five members. Around five to eight such groups (25 to 40 individuals) together constitute a larger local community and is serviced by a single loan officer representing the microlending institution. The leader of each group is responsible for monitoring loan

[7] Thakur, R. A. (2008). Macro potential for microfinance industry. *India Brand Equity Foundation*. Retrieved on June 17, 2021 from- https://www.findevgateway.org/paper/2008/01/macro-potential-microfinance-industry

[8] Ibid; see Footnote- 7.

[9] Damodaran A. (2021). *NYU Stern.* Retrieved on June 16, 2021, from- http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histgr.html and Convergences (2019) 10 Years Already! A Look Back at The Trends in Microfinance. *Microfinance Barometer 2019*.

repayment and managing the overall group stability (Bruton, Khavul & Chavez, 2011)[10]. The group lending model works as it helps solve the problems of screening, repayment, and auditing (Ray S. et al, 2018)[11]. In fact, the success of microfinance institutions rested upon making repayment an implicit social compact, wherein it was the community's responsibility to ensure that the loans were repaid (Banerjee & Duflo, 2011)[12].

The impact of microfinance on the poor has been extensively studied and documented. Microfinance for the poor represented the potential to build a better future for themselves and eventually lift themselves out of poverty. An idea, basic to microfinance is that with availability of microfinance, women get economic power, which has helped in achieving the Millennium Development Goals, such as universal primary education, maternal health, and child mortality. Moreover, the women cared about these things more than men did (Banerjee & Duflo, 2011)[13]. In fact, microfinance institutions have systemically targeted women as their customers. The reason for this is two-fold. The first is from the point of view of financial risk, women are more likely than men to invest the capital and spend profits on family and children. Secondly, from a social capital viewpoint, women are favored microlending customers because they share strong bonds within the local community (Bruton, Khavul & Chavez, 2011)[14].

It was a shared commitment of the microfinance institutions to serve clients that had been excluded from the formal banking sector. Largely, the purpose behind borrowing was to finance self-employment activities; and it showed positive results. In a Randomized Controlled Trial (RCTs) performed in Hyderabad, India, it was observed that the neighborhoods who borrowed were more likely to start a business and spend towards purchase of items holding long-term value such as large durable goods. The decision to start a business also had an impact on the consumption of the household. The households that did not start a new business were consuming more than those who had started a new business as the latter aimed at making the best use of the new opportunity. Contrary to the reckless spending feared by a few observers, households reduced their spending on what they considered as small "wasteful" expenditure (like tea, snacks) (Banerjee & Duflo, 2011)[15]. Having said the above, the authors also highlighted the absence of a sign of any radical transformation in the lives of the borrowers and noted that the microloans hadn't strongly encouraged poor people to take the entrepreneurial route.

[10] Ibid; see Footnote-5.
[11] Ray, S., Paul, S. and Miglani, S. (2018). Innovation, efficiency and inclusion: Integration of digital technologies in the Indian microfinance sector. Working Paper, No. 366*, Indian Council for Research on International Economic Relations (ICRIER).*
[12] Ibid; see Footnote-13.
[13] Banerjee, A. and Duflo, E. (2011) *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.* United States: Public Affairs.
[14] Ibid; see Footnote- 5
[15] Ibid; see Footnote-13.

Despite this finding, in their view microcredit was rightfully regarded as one of the important tools in alleviating poverty (Banerjee & Duflo, 2011)[16].

2.2 Emergence of For-Profit Microfinance Institutions

With time, many for-profit microfinance institutions began emerging across the globe, co-existing with non-profit institutions. Microcredit presented a good business opportunity because while the interest rates offered on microcredit were lucrative for the borrowers as they were less than the rate charged by local moneylenders, it was of interest to investors and businesses as well because these interest rates were much higher than the rate enjoyed by middle class borrowers (Thakur, 2008)[17].

Consequently, there was a rise in the for-profits microfinance institutions - some of the prominent ones among them were MicroPlace, MicroVest, and Oikocredit. Financial institutions began expressing interest in for-profit microfinance institutions, such as Banco Agrícola Comercial in El Salvador, Banco del Pacífico in Ecuador and Banco del Desarrollo in Chile. There were also instances wherein non-profit MFIs had turned into for-profit MFIs- BancoSol in Brazil and Caja de Ahorro y Crédito Los Andes in Bolivia (Barry, 2012)[18]. However, there was a clear distinction between the lending method of for-profit MFIs and the non-profit MFIs. For instance, the average size of loan lent by non-profits was quite smaller in comparison to for-profit MFIs. Also, the non-profits serviced a larger number of women as a percentage of the total customers. In comparison, the average size of loans lent by commercial microfinance banks was about four times larger than the loans given by their non-profit counterparts. This also suggested that the former usually lend to borrowers who are better-off (Barry, 2012)[19].

In a survey of 124 microfinance institutions in 49 countries, Cull et al, 2007[20] analyzed the institutions' lending method and addressed, inter alia, the question of a trade-off between the pursuit of profitability by the MFIs and the depth of outreach to the poor. The survey revealed that issuance of smaller loans by institutions was not always linked to lower profitability. But a larger loan size helped in lowering the average costs for all lenders (individual based as well as group lenders). This implied less outreach to the poor (Cull et al. 2007)[21]. Overall, the results suggested that institutional orientation and design were important in evaluating trade-offs in microfinance. There were a few institutions that managed to achieve the dual objective of

[16] Ibid; see Footnote-13.
[17] Ibid; see Footnote-7.
[18] Barry, J. J. (2012). Microfinance, the Market and Political Development in the Internet Age. *Third World Quarterly*, 33(1), 125-141
[19] Ibid; see Footnote-20.
[20] Cull, R., Demirgüç-Kunt, A. and Morduch, J. (2007). Financial Performance and Outreach: A Global Analysis of Leading Microbanks. *The Economic Journal*, 117(517), F107-F133.
[21] Ibid; see Footnote- 22.

profitability and notable outreach to the poor (fulfilling the ultimate promise of microfinance) but these institutions were an exception (Cull et al, 2007)[22].

The low-income population in developing countries was considered the largest, most underserved market per capita. Being a significantly underpenetrated market, it was eyed as a huge opportunity for a profitable business. Investment dollars were being pumped into the industry. Leaders such as Nobel laureate Muhammad Yunus had catalyzed a flood of funds and firms investing in this space. Global players - from large private institutions like Citibank to development banks like Germany's KFW- did not want to miss the boat on the rising tide (Kuper, 2008)[23].

2.3 Developments in Microfinancing Landscape in India:

The story in India was not different. In 1998, Vikram Akula, a former McKinsey partner, had created SKS Microfinance, which started as an NGO. In 2007, SKS Microfinance was backed by Sequoia Capital, a leading 'Silicon Valley' based venture capital firm. With the $11.5 million investment by Sequoia, SKS Microfinance became the world's largest for-profit microfinance institution (Brennan, 2007)[24].

However, as the microfinancing industry proliferated, there were instances when the motivation behind entering the industry didn't align with its main purpose. In Andhra Pradesh (a state in India), a microfinance crisis played out in October 2010 when the state government passed an ordinance that suspended the operations of MFIs in the state and allowed the borrowers to altogether stop making repayments for their loans. It was alleged that the MFIs and their coercive collection practices had led to suicides of 54 men and women. While the need to protect the poor was cited as the rationale behind the move, the government's intention was all too well known. The Andhra Pradesh Ordinance was alleged to be geared more towards giving the state government program a monopoly over the poor than with preventing strong-armed debt collection (Rai, 2010)[25.]

2.4 Introduction of the Digital Medium for Microfinancing Services:

The launch pad for the microfinance industry was in an offline context. However, with increase in internet penetration, the use of technology started making inroads into the microfinancing

[22] Ibid; see Footnote- 22.
[23] Kuper, A. (2008) From Microfinance into Microinsurance. *Forbes.* Retrieved on June 23, 2021 from https://www.forbes.com/2008/11/26/aig-insurance-zurich-pf-ii-in_ak_1126soapbox_inl.html?sh=5e7e53214df9.
[24] Brennan, M. (2007). Sequoia Invests $11.5 Million in Microfinance Fund. *CNBC.* Retrieved on June 28, 2021 from https://www.cnbc.com/id/17844093
[25] Rai, V. (2010). India's Microfinance Crisis is a Battle to Monopolize the Poor. *Harvard Business Review.* Retrieved on June 20, 2021 from https://hbr.org/2010/11/indias-microfinance-crisis-is

industry. The use of technology was considered for standardizing products and operational processes and minimizing the transaction costs and margin of error (Akula, 2008)[26].

Technology has come to be of increasing importance, especially for non-profits. In comparison to the for-profits, the non-profits appeared to rely on the internet more for raising awareness about their initiative as well as procuring funding for it. In fact, a case study that examined seven prominent institutions, including for-profit as well as non-profit microfinance institutions, demonstrated that with use of internet to build a personal connection between the lender and borrower, the financing options available to non-profits found substantial success (Barry, 2012)[27].

Sengupta and Aubuchon, 2008[28] argue that Kiva.org, an online person-to-person microlending website, made the microfinance movement accessible to the lenders, through extensive and frequent exposure to mass media. This paper also presents the increasing adoption of technology in microfinancing and the factors triggering the same.

2.5 Impact of the COVID-2019 Pandemic on the Microfinance Institutions:

The year 2020 witnessed the COVID-2019 pandemic causing unprecedented chaos leading to loss of lives and livelihood and triggering financial instability across countries. In the context of the Indian economy, while the pandemic impacted all economic sectors, micro and small enterprises, which engage around 40% of India's total non-farm workforce, were affected most severely. As per surveys, a permanent shutdown for about 35% of all MSMEs was likely. A major loss in employment was another fallout of the pandemic - at least 13 million people were dismissed from the labor force between February and October 2020 (Ramakumar, 2021)[29]. The pandemic caused a disruption in supply and induced a decline in demand - about 73% of the Micro, Small and Medium Enterprises (MSMEs) reported a drop in customer orders and about 50% of the MSMEs recorded a rise in levels of inventory by more than 15% (GAME, 2020)[30].

3. Objectives of the Study:

The study is conducted to explore the evolving landscape of microfinance and role of technology with the following objectives:

1) To study the evolving landscape of microfinance;

[26] Akula, V. (2008). Business Basics at the Base of the Pyramid. *Harvard Business Review*. 53(7). Retrieved on July 23, 2021 from https://hbr.org/2008/06/business-basics-at-the-base-of-the-pyramid
[27] Ibid; see Footnote- 20
[28] Sengupta, R. and P. C. Aubuchon. (2008) The Microfinance revolution: an overview. *Federal Reserve Bank of St. Louis Review*. 90 (1), 1-23.
[29] Ramakumar, R., and Kanitkar, T. (2021). Impact of COVID-19 Pandemic on the Indian Economy. *Investigación Económica*. 80(315), 3-32.
[30] Global Alliance for Mass Entrepreneurship, GAME (2020). Improving Economic Dynamism and Accelerating MSME Growth. *National Task Force Report*.

2) To study the increasing adoption of technology in the microfinancing industry;
3) To evaluate the factors triggering the adoption of technology; and
4) To study the ripple effects of the COVID-2019 pandemic on the microfinancing industry.

4. Methodology of the Study:

The methodology adopted for conducting this study is as follows:

The critical thematic review of literature was done to conduct this study. In order to study the evolving landscape of microfinance and role of technology, the developments in the microfinance industry all over the globe have been thoroughly studied over a long period of time, since its inception. The data available in the literature was analyzed to conclude the findings of this paper. The present study was conducted during the COVID-2019 Pandemic with number of constraints and limitations.

5. Diversification in Business of Microfinance Institutions:

There have been multiple inflection points in the growth story of microfinancing. The microfinance institutions set out with the objective of lending to the poor. Gradually, the offerings of these institutions expanded and covered within its ambit, financial services such as insurance and money transfer services. Overtime, for-profit microfinance institutions emerged, and the MFIs hopped onto the digital wave.

Subsequently, specific events have left a significant impact on the microfinancing industry. For instance, in India, the demonetization of 500 and 1000-Rupee notes announced by the government in 2016 had significant ramifications for the microfinance sector. The MFIs reported a decrease in the number of clients, average loan disbursed per account and the total loans disbursed. Further, the collection rates worsened and the Portfolio at Risk (PAR) greater than 30 days rose drastically in majority of the states (Gaurav, 2017)[31].

Now, COVID-2019 is operating as a factor of change for the microfinancing sector. The pandemic has put microfinance institutions into focus for reasons beyond microcredit. This development begets an analysis of the changes triggered by the pandemic.

5.1. Role of Microfinance Institutions - A Renewed Perspective:

The objective of the MFIs has been to provide the poor community access to financial services. Interestingly, with the onslaught of the pandemic, businesses and international governments have begun to look at MFIs with renewed interest. The contraction in consumer demand resulted in a working capital crunch, affecting businesses globally and leading to a search for

[31] Gaurav, S. and Mankar, P. (2017). Demonetisation's blow to microfinance-sector. *Livemint.com.* Retrieved on July 28, 2021 from https://www.livemint.com/Opinion/jVE367mp7AamTbHD5dG0lK/Demonetisations-blow-to-microfinance-sector.html.

sources of finance. Dasewicz, Simon and Ramanujam, 2020[32] suggest investment by micro-credit institutions as an important measure, among multiple short-term and medium-term solutions to help MSMEs tide over the wave of the pandemic. They argue that partnering with local communities shall provide these institutions access to information about borrowers, who might not otherwise have proper identity documents, to make an assessment about their creditworthiness. In addition to the conventional role played by MFIs, they are also being regarded as potential sources of development finance and as a means for mobilizing capital for financing sustainable development goals.

Before the negative economic and social consequences kicked in due to the current COVID-19 Pandemic, there was a deficit of approximately $2.5 trillion per annum in achieving the 17 Sustainable Development Goals (SDGs) in developing countries by the targeted timeline of 2030 (UN Deputy Secretary General, 2019)[33]. As of 2019, none of the 193 member states were on the course to honor the goals by the schedule timeline of 2030 (Bertelsmann Stiftung, Sustainable Development Report 2019, vii)[34]. The multi-faceted implications of COVID-2019 on the economy, health and society have exacerbated this challenge and increased the difficulty for implementation of the 17 SDGs.

Against this backdrop, innovative solutions are being explored to plug the financing gap: MFIs are being considered to facilitate the achievement of the Sustainable Development Goals. For example, to support the progress towards achievement of SDG 6 'Clean Water and Sanitation', WaterEquity's WaterCredit Investment Fund 3 (WCIF3) intends to put financial resources in microfinance institutions in Asia that disburse loans to families for the purpose of clean drinking water or building toilets in their homes (Runde, 2020)[35]. In March 2019, WCIF3 attracted investments from a range of impact investors, such as high-net-worth individuals, development finance institutions and foundations. From the capital sourced through these investors, WCIF3 deployed seven loans to microfinance institutions, because of which 60,000 microloans were issued to families living in poverty (Convergence, 2019)[36].

5.2. The Pandemic's Influence on the Operations of Microcredit Institutions:

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[32] Dasewicz, A., Simon, J., and Ramanujam, S. R. (2020). Financing Small Business Is Critical for a Strong Post-Covid Recovery. *Center for Strategic and International Studies (CSIS)*

[33] United Nations Deputy Secretary-General (2019). Citing $2.5 Trillion Annual Financing Gap during SDG Business Forum Event, Deputy Secretary-General Says Poverty Falling Too Slowly. *Press Release. United Nations*.

[34] Bertelsmann Stiftung and Sustainable Development Solutions Network, Sustainable Development Report 2019: Transformations to achieve the Sustainable Development Goals (2019), vii. Retrieved on July 31, 2021 from https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_sustainable_development_report.pdf.

[35] Runde, D. F., Metzger, C., and Abdullah, H. F. (2020). COVID-19 Demands Innovative Ideas for Financing the SDGs. *Center for Strategic and International Studies (CSIS).* Retrieved on June 25, 2021 from https://www.csis.org/analysis/covid-19-demands-innovative-ideas-financing-sdgs

[36] Convergence. (2019). *WaterCredit Investment Fund 3 Case Study.* Retrieved on June 29, 2021 from https://www.convergence.finance/resource/9dda6dd2-8620-497a-a550-62b261cfc11a/view.

In the VUCA (volatile, uncertain, complex, and ambiguous) world that businesses operate in, every industry, across its lifecycle, is faced with critical situations, which warrant difficult decisions. When the COVID-19 pandemic set in, everyone - be it individuals, businesses, institutions, or governments - was searching and exploring for solutions to contain the pandemic's impact on both personal and professional fronts. Similar to other industries, MFIs also took different measures to respond to the disruption in business and operations caused by the pandemic.

The Global Pulse Survey of Microfinance Institutions, conducted during the period June 2020 to December 2020 by the Consultative Group to Assist the Poor (CGAP) - an independent think tank at the World Bank and committed to improving access of poor people to the financial services- offers insight into the impact of COVID-2019 on the microfinance sector at global, regional, and national levels.

A total of 99 microfinance institutions were surveyed and it was observed that the second most common response of MFIs to the pandemic has been to cut back on their lending. Because of COVID-2019, more than two-thirds of all respondent MFIs reduced their disbursements. Two-thirds responded that they were lending less than fifty percent of what they were lending prior to COVID-2019 and only a third said that they had cut lending by less than half. In fact, some institutions stopped lending completely (10% of the institutions). The cutback on lending can be attributed to multiple reasons- lower demand from clients, lower risk tolerance by the MFI, increased riskiness of clients, stricter regulatory standards, or general hoarding of cash to prepare for an uncertain future. These findings indicate a contraction in the core business of MFIs which will not just impact their growth story but also the proportion of people from the low-income section, who rely heavily on microfinance to support their livelihoods (Zetterli, 2020)[37.]

While a lower demand of loans did contribute to cutback in lending, the increased likelihood of default and lower collection rates was what primarily held back the microfinancing institutions from lending. It was reported that in India, before Covid-19, approximate 2% of all loans were affected by repayment delays. By September-end, the number had multiplied ten-fold to 20% and eased to 10-15% in December 2020. Further, the collection rate of 98% before the pandemic dropped to 85-90% in November 2020 after the pandemic. The borrowers' inability to repay their loans further impacted the ability of MFIs to pay back their creditor (Ghosh, 2021)[38]. Large microfinance institutions have been, however, better positioned to wither the setback because of their stable and strong financial backups (Bandyopadhyay, S., 2021)[39].

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[37] Ibid; see Footnote- 41.
[38] Ghosh, S. and Srivastav, S. (2021). Millions of defaults threaten microfinance's future in Covid-hit India. *Business Standard*.
[39] Bandyopadhyay, S. (2021). *The Resilience of Indian Microfinance: Why the Sector Has Successfully Navigated the COVID-19 Pandemic*. Retrieved on August 16, 2021 from https://nextbillion.net/resilience-indian-microfinance-covid19-pandemic/.

6. Impact of Technology on Microfinance Institutions:

The increasing adoption of technology in microfinancing and the factors triggering the same are studied to conduct the study. Also, the ripple effects of the COVID-2019 pandemic on the microfinancing industry are critically analyzed.

6.1. Technology Acted as a Facilitator during the Pandemic:

The COVID-2019 pandemic has also accentuated the use of online platforms for lending. As per the CGAP survey cited above, to reach customers as they manage their health and finances from their homes, MFIs have been scaling up remote channels by expanding the call center operations (35%), expanding the existing digital customer channels (31%) or by implementing new digital channels for customers (29%).

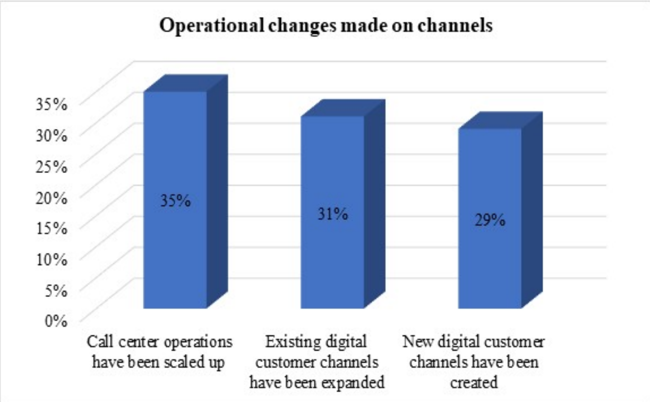

Figure -1: Operational Changes Made on Microfinancing Channels During Covid-19

Source: CGAP Global Pulse Survey of Microfinance Institutions (Data as of 22-Jul-2020)[40]

6.2 Increasing Penetration of Technology in the Microfinancing Industry:

Over the past few years, India has seen an explosion in integration of technology within business and the results can be seen in microfinancing sector as well.

The growing use of technology has been affected by many factors. One of them being the expanding smartphone user base of India. The number of smartphone users in India has witnessed a rapid increase over the years: India witnessed an increase in the smartphone user base by 240 million during the period 2013 to 2017. The smartphone penetration rate was 5.5 phones per 100 in 2013 and by 2017, it had increased to 22.2 phones per 100 (Kaka et al, 2019)[41]

[40] Ibid; see Footnote-41.

[41] Kaka, N., Madgavkar, A., Kshirsagar, A., Gupta, R., Manyika, J., Bahl, K. and Gupta, S. (2019). Digital India Technology to transform a connected nation. *McKinsey Global Institute*.

Further, the smartphone user base is projected to be 829 million in 2022, accounting for 60% of the population (India Cellular & Electronics Association, 2017)[42].

Adding to this is the fact that mobile data in today's day and age has become an extremely affordable commodity. Since 2013, the data costs in India have reduced by more than 95 percent: at approximately $12.45, the cost of one gigabyte was approximately 9.8 percent of per capita monthly GDP in 2013 and it fell drastically to 0.37 percent in 2017 (Kaka et al, 2019)[43].

Together, the increase in the smartphone user base and reduction in the cost of data consumption has translated into an increase in the number of rural internet subscribers in India- from 112.16 million as of December 2015, it has more than doubled to 308.17 million as of December 2020, thus, expanding the reach of digital lending to potential consumers (The Indian Telecom Services Performance Indicators, 2020)[44]. Infrastructure, however, remains a challenge that the microfinance institutions will need to overcome.

The shift to digital medium in the financial services sector has also been propelled by the Pradhan Mantri Jan-Dhan Yojana (PMJDY) and the demonetization scheme introduced by the Indian government in 2014 and 2016 respectively, which resulted in increase in the number of new bank accounts opened (Progress Report, 2021)[45] and led to a phenomenal growth in the new age instruments such as Aadhaar Enabled Payment System (AEPS), prepaid payment instruments (PPIs), Unified Payments Interface (UPI), along with well-established ones such as Real Time Gross Settlement (RTGS), National Electronic Fund Transfer (NEFT) and cards (Lele and Jain, 2017)[46].

6.3 Digital Lending - Benefits and Challenges:

It is no surprise that digital lending should find support and hold great promise: the adoption of technology in the microlending business creates a win-win situation for both lenders and borrowers. Integrating financial technology and artificial intelligence in the microfinancing industry allows lenders to collect credit data about the borrowers, reducing the problem of high information costs faced by formal institutions. Further, post demonetization, many market players came up with innovative solutions such as the disbursement of instant loans based on the footprint generated by digital payments (Lele and Jain, 2017)[47]. Owing to such measures and

[42] India Cellular & Electronics Association. (2020). Contribution of Smartphones to Digital Governance In India.
[43] Ibid; See Footnote- 41.
[44] The Indian Telecom Services Performance Indicator: October – December 2020. (2021). *Telecom Regulatory Authority of India*.
[45] Department of Financial Services (2021). Progress report. *Pradhan Mantri Jan - Dhan Yojana*.
[46] Lele, S. and Jain, A. (2017). Demonetisation effect: Digital payments gain new momentum. *PwC.in*. Retrieved on June 28, 2021 from https://www.pwc.in/consulting/financial-services/fintech/fintech-insights/demonetisation-effect-digital-payment-gain-new-momentum.html
[47] Ibid; see Footnote- 52.

the introduction of cashless disbursements, the borrowers benefit from the reduced turnaround time for loan disbursement.

Having said the above, the microfinancing sector faces a challenge in adopting the digital mode of lending: the human touch and the group-based lending which have been the hallmarks of microfinancing will be eliminated in online lending. The microfinancing model has always been participatory. Absence of the loan officers at the field who held discussions with borrowers and monitored the repayment might impact the borrowing and repayment rate.

6.4 Flip Side of Microfinancing Turning Digital and Faceless:

While technology has yielded benefits for the microlenders and borrowers, there is a downside to microlending becoming digital and faceless. The financial difficulties due to joblessness and pay cuts caused by the pandemic spurred the presence of many online microlending applications (mostly originating from China) lending money at exorbitant interest rates- which could range from 2-3 percent per month, adding up to an average of 24-36 percent per year - and indulging in coercive collection practices.

A multitude of Chinese microloan apps such as Go Cash, SnapItLoan, Udhaar Loan and OK Cash have cropped up in the Google Play Store and within 10 months, scam microloan transactions equivalent of at least $3 billion have taken place (Pinapala, 2021)[48]. The modus operandi of such apps is lending to borrowers an amount higher than the borrower's request and demanding repayments for an even higher amount. Failure to repay results in harassment and threats by collection agents. The borrowers' personal data collected by these apps only aggravates the situation and gives them the power to exploit. Payment gateways, such as PayTM, Razorpay, and Cashfree, providing online wallets to these companies have been accused by critics of being negligent in conducting due diligence of such apps, thereby contributing to the fiasco (Rao, 2021)[49]. It is important to note that these incidents not only create financial loss but also corrode consumer confidence and make them wary of borrowing through digital platforms. Regulatory and law enforcement authorities have begun to take note of such malpractices. A working group consisting of 6 members has been organized to study digital lending in the regulated as well as the unregulated financial sector and draft a regulatory framework to monitor the same (Anonymous, 2021)[50].

[48] Pinapala, A. (2021). Chinese microloan app scam: How it's going to affect Indian lending industry? *CNBCTV18.com*. Retrieved on July 20, 2021 from https://www.cnbctv18.com/finance/chinese-microloan-app-scam-how-its-going-to-affect-indian-lending-industry-8484921.htm.

[49] Rao, R. (2021). Scams, terror, and national security: Problems with Chinese microloan apps in India. *ZDNet*. Retrieved on June 30, 2021 from https://www.zdnet.com/article/scams-terror-and-national-security-problems-with-chinese-microloan-apps-in-india/

[50] Anonymous (2021). Instant loan apps arrests: What's the Chinese link? *Business Today*. Retrieved on June 30, 2021 from https://www.businesstoday.in/industry/banks/story/instant-loan-apps-arrests-whats-the-chinese-link-mobile-applications-284483-2021-01-15.

7. Conclusion:

The microfinancing model was made popular by Prof. (Dr.) Muhammad Yunus, who set out with the objective of providing the poor and low-income groups with better access to finance and help in alleviation of poverty. The microfinance institutions were also committed to serve clients that had been kept out from the formal banking sector. Many microlending institutions started out as non-profit institutions, including SKS Microfinance, the microfinance institution in India, which was later backed up by Sequoia Capital. With the increasing popularity of microcredit and considering the potential of serving low-income population in developing countries, microfinance institutions were seen as a good business opportunity and venture capital firms and funds began investing in them.

In studies performed to evaluate whether microcredit had worked, it was evident that it had brought about a change in the behavior of the borrowers - starting a business, purchasing large durable goods, and reducing small "wasteful" expenditures. Though, a radical transformation in the borrowers' lives was missing, many economists were of the view that microcredit was rightfully regarded as one of the most important instruments in alleviating poverty.

The different economic and socio-political events have been shaping the microfinancing industry. For instance, in 2016, the demonetization of 500/- and 1000/- rupee notes announced by the Indian government saw a decline in the total loans disbursed, number of clients and average loan disbursed per account (when compared in the periods pre-and-post demonetization). At the same time, the introduction of Pradhan Mantri Jan-Dhan Yojana (PMJDY) and the demonetization scheme in 2014 and 2016 respectively, has also contributed to the acceptance and use of online platforms.

Now, the COVID-2019 pandemic has further created a dynamic shift in the microfinance industry. During the pandemic, the MFIs cut back on their lending due to reasons such as lower demand from clients, lower risk tolerance by the MFI, increased riskiness of clients or stricter regulatory standards. On a positive note, microfinancing institutions are also being regarded as potential sources of development finance, as a means for mobilizing capital for financing sustainable development goals and as means to help MSMEs tide over the wave of the pandemic.

The COVID-2019 pandemic has also propelled the adoption of technology. MFIs have been responding during the crisis by scaling up remote channels- either scaling up call center operations or expanding existing digital channels or creating new digital channels- to reach out to customers stuck at home. In India, too, MFIs have got an impetus owing to technology. A consistent increase in the smartphone user base and reduction in the cost of data consumption is reducing the digital divide and has together resulted in increase in the number of rural internet subscribers.

On the flip side, the pandemic saw the emergence of unscrupulous Chinese microloan apps which, through their modus operandi, have subjected many innocent people to mental agony, financial loss and in some cases, loss of life too. Given the ramifications of such malpractices, regulatory authorities have started taking actions against such fraudulent service providers. To thrive in a sustainable manner, the microfinancing industry needs to be well-regulated by the law enforcement agencies. Proper supervision over the business practices adopted by the MFIs shall strengthen people's confidence in the microfinancing model even when the human touch is absent in a digital model.

References:

Akhtaruzzaman, M., Boubaker, S. and Sensoy, A. (2021). Financial contagion during COVID–19 crisis. *Finance Research Letters.* 38 (2021), 106104.

Akula, V. (2008). Business Basics at the Base of the Pyramid. *Harvard Business Review*. 53(7). Retrieved on July 23, 2021 from https://hbr.org/2008/06/business-basics-at-the-base-of-the-pyramid

Anonymous (2021). Instant loan apps arrests: What's the Chinese link? *Business Today*. Retrieved on June 30, 2021 from https://www.businesstoday.in/industry/banks/story/instant-loan-apps-arrests-whats-the-chinese-link-mobile-applications-284483-2021-01-15

Banerjee, A. and Duflo, E. (2011) *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.* United States: Public Affairs.

Bandyopadhyay, S. (2021). *The Resilience of Indian Microfinance: Why the Sector Has Successfully Navigated the COVID-19 Pandemic*. Retrieved on August 16, 2021 from-
https://nextbillion.net/resilience-indian-microfinance-covid19-pandemic/ .

Barry, J. J. (2012). Microfinance, the Market and Political Development in the Internet Age. *Third World Quarterly*, 33(1), 125-141

Bertelsmann Stiftung and Sustainable Development Solutions Network, Sustainable Development Report 2019: Transformations to achieve the Sustainable Development Goals (2019), vii. Retrieved on July 31, 2021 from-
https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_sustainable_development_report.pdf .

Brennan, M. (2007). Sequoia Invests $11.5 Million in Microfinance Fund. *CNBC*. Retrieved on June 28, 2021 from- https://www.cnbc.com/id/17844093

Bruton, G. D., Khavul, S. and Chavez, H. (2011). Microlending in emerging economies: Building a new line of inquiry from the ground up. *Journal of International Business Studies*, 42(5), 718-739.

Convergence. (2019). *WaterCredit Investment Fund 3 Case Study.* Retreived on June 29, 2021 from-
https://www.convergence.finance/resource/9dda6dd2-8620-497a-a550-62b261cfc11a/view

Convergences (2019) 10 Years Already! A Look Back at The Trends in Microfinance. *Microfinance Barometer 2019*

Cull, R., Demirgüç-Kunt, A. and Morduch, J. (2007). Financial Performance and Outreach: A Global Analysis of Leading Microbanks. *The Economic Journal*, 117(517), F107-F133.

Damodaran A. (2021). *NYU Stern.* Retrieved on June 16, 2021, from http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histgr.html

Dasewicz, A., Simon, J., and Ramanujam, S. R. (2020). Financing Small Business Is Critical for a Strong Post-Covid Recovery. *Center for Strategic and International Studies (CSIS)*

Department of Financial Services (2021). Progress report. *Pradhan Mantri Jan - Dhan Yojana*.
Gajjala, V., Gajjala, R., Birzescu, A. and Anarbaeva, S. (2011). Microfinance in online space: a visual analysis of kiva.org. *Development in Practice*, 21(6), 880-893

Gaurav, S. and Mankar, P. (2017). Demonetisation's blow to microfinance-sector. *Livemint.com.* Retrieved on July 28, 2021 from https://www.livemint.com/Opinion/jVE367mp7AamTbHD5dG0lK/Demonetisations-blow-to-microfinance-sector.html.

Global Alliance for Mass Entrepreneurship, GAME (2020). Improving Economic Dynamism and Accelerating MSME Growth. *National Task Force Report*.

Ghosh, S. and Srivastav, S. (2021). Millions of defaults threaten microfinance's future in Covid-hit India. *Business Standard*.

Grameen Bank Annual Report, 2019 (2019). *Grameenbank.org*. Retrieved on June 16, 2021, from https://grameenbank.org/wp-content/uploads/bsk-pdf-manager/AnnualReportPDF_2019.pdf

Hermes, N. & Lensink R. (2007). Impact of Microfinance: A Critical Survey. *Economic and Political Weekly*, 42(6), 462-465

India Cellular & Electronics Association. (2020). Contribution of Smartphones to Digital Governance In India
Kaka, N., Madgavkar, A., Kshirsagar, A., Gupta, R., Manyika, J., Bahl, K. and Gupta, S. (2019). Digital India Technology to transform a connected nation. *McKinsey Global Institute*

Khavul, S. (2010). Microfinancing: Creating opportunities for the poor? *Academy of Management Perspectives*, 24(3), 58-72.

Khemka, A. [@AshokKhemka_IAS]. (2021, June 5). *To obtain a bank loan is a procedural nightmare. No wonder farmers* [Tweet]. Twitter. https://twitter.com/AshokKhemka_IAS/status/1401092819226222592 .

Kuper, A. (2008) From Microfinance into Microinsurance. *Forbes.* Retrieved on June 23, 2021 from https://www.forbes.com/2008/11/26/aig-insurance-zurich-pf-ii-in_ak_1126soapbox_inl.html?sh=5e7e53214df9

Lele, S. and Jain, A. (2017). Demonetisation effect: Digital payments gain new momentum. *PwC.in*. Retrieved on June 28, 2021 from https://www.pwc.in/consulting/financial-services/fintech/fintech-insights/demonetisation-effect-digital-payment-gain-new-momentum.html

Morduch, J. (1999b). The Microfinance Promise. *Journal of Economic Literature*, 37, 1596-1614

National Bank for Agriculture and Rural Development (2018). *NABARD All India Rural Financial Inclusion Survey 2016-17*. Retrieved on June 16, 2021, from- https://www.nabard.org/auth/writereaddata/tender/1608180417NABARD-Repo-16_Web_P.pdf .

Pinapala, A. (2021). Chinese microloan app scam: How it's going to affect Indian lending industry? *CNBCTV18.com*. Retrieved on July 20, 2021 from- https://www.cnbctv18.com/finance/chinese-microloan-app-scam-how-its-going-to-affect-indian-lending-industry-8484921.htm .

Rai, V. (2010). India's Microfinance Crisis is a Battle to Monopolize the Poor. *Harvard Business Review*. Retrieved on June 20, 2021 from https://hbr.org/2010/11/indias-microfinance-crisis-is

Ramakumar, R., and Kanitkar, T. (2021). Impact of COVID-19 Pandemic on the Indian Economy. *Investigación Económica*. 80(315), 3-32

Rao, R. (2021). Scams, terror, and national security: Problems with Chinese microloan apps in India. *ZDNet*. Retrieved on June 30, 2021 from https://www.zdnet.com/article/scams-terror-and-national-security-problems-with-chinese-microloan-apps-in-india/

Ray, S., Paul, S. and Miglani, S. (2018). Innovation, efficiency and inclusion: Integration of digital technologies in the Indian microfinance sector. Working Paper, No. 366*, Indian Council for Research on International Economic Relations (ICRIER).*

Runde, D. F., Metzger, C., and Abdullah, H. F. (2020). COVID-19 Demands Innovative Ideas for Financing the SDGs. *Center for Strategic and International Studies (CSIS).* Retrieved on June 25, 2021 from https://www.csis.org/analysis/covid-19-demands-innovative-ideas-financing-sdgs

Sengupta, R. and P. C. Aubuchon. (2008) The Microfinance revolution: an overview. *Federal Reserve Bank of St. Louis Review.* 90 (1), 1-23.

Simeyo, O., Martin, L., Nyamao N. R., Patrick, O., & Odondo, A. J. (2011). Effect of Provision of microfinance on the performance of micro enterprises: Kenya Rural Enterprise. *African Journal of Business Management*, 5(20), 8290-8300

Swibel, M. (2008). Microfinance Fever. *Forbes*. Retrieved on June 16, 2021 from https://www.forbes.com/forbes/2008/0107/050.html?sh=74e49cf16bd1 .

Thakur, R. A. (2008). Macro potential for microfinance industry. *India Brand Equity Foundation*. Retrieved on June 17, 2021 from https://www.findevgateway.org/paper/2008/01/macro-potential-microfinance-industry.

The Indian Telecom Services Performance Indicator: October – December 2020. (2021). *Telecom Regulatory Authority of India.*

The World Bank (2020). *The Global Economic Outlook During the COVID-19 Pandemic: A Changed World.*

United Nations Deputy Secretary-General (2019). Citing $2.5 Trillion Annual Financing Gap during SDG Business Forum Event, Deputy Secretary-General Says Poverty Falling Too Slowly. *Press Release. United Nations*.

Zetterli, P. (2020). Global Pulse Survey of Microfinance Institutions*. Consultative Group to Assist the Poor (CGAP).* Retrieved on august 12, 2021 from https://www.cgap.org/blog/four-ways-microfinance-institutions-are-responding-covid-19