Progress and Challenges in Digitalisation of Financial Inclusion: The Indian Context

Anusandhan-NDIM's Journal of Business and Management Research
Vol.5, Issue 2
August - 2023
https://qtanalytics.in/journals/index.php/ANUSANDHAN
https://doi.org/10.56411/anusandhan.2023.v5i1.60-71

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Abstract: This study examines the influence of digital innovations on financial inclusion in India. Digital technologies, including mobile banking, fintech solutions, and digital payment systems, have the potential to revolutionize financial services and expand access to underserved populations. In this study, an attempt is made to analyse the role of digital innovations and evaluate their effectiveness in promoting financial inclusion in the Indian context and assess its implications. Different digital techniques introduced in the financial sector are explored along with advantages and important technological and infrastructure barriers that adversely affect the efficiency level of such digitalisation. The study analyses the secondary data with the help of a simple percentage method to give observations on progress of digital financial inclusion in India. The inferences drawn and observations made in this study help to have a deeper understanding of the benefits and challenges associated with digital innovations in providing financial services, give insights for policymakers and microfinance institutions. On the basis of observations made in the study, policy implications and suggestions to improve the effectiveness and outreach of digital financial services are also given so as to attain the goal of financial inclusion and sustainability.

Keywords: Digital innovations, microfinance, financial inclusion, digital payment system, fintech.

JEL classification code: C13, F49, G21.

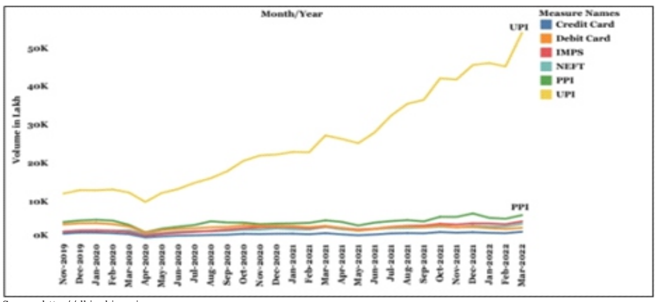
1. Introduction

Financial inclusion refers to the process of providing access to financial services at an affordable cost to all individuals of the nation irrespective of their income level or terrestrial location. Its main objective is to extend financial solutions to the economically underprivileged segment of the society without any kind of biasedness. In India, microfinance is an important instrument that helps to ensure provision of financial services to the otherwise neglected section of the population. The concept of microfinance originated in the 1970s and has gained significant attention as a tool for poverty alleviation and financial inclusion. It refers to the provision of small-scale financial services, including microloans, savings accounts, insurance, and payment services, to low-income individuals, typically ignored by the formal banking sector. India, with its diverse socio-economic landscape and significant population, has a considerable proportion of its citizens excluded from mainstream financial services. As per the Global Findex Database (2021), around 123 million adults in India did not have access to a bank account. This deprivation of access to formal financial services creates barriers for individuals and communities to engage in economic activities, save money, invest, and protect themselves against risks.

The Reserve Bank of India (RBI) has performed a pivotal role in shaping the microfinance segment and fostering financial inclusion in the country. In 1998, the RBI introduced guidelines for the establishment of microfinance institutions (MFIs) and encouraged the growth of self-help groups (SHGs) as a platform for microfinance delivery. Over the years, the sector has witnessed significant expansion, with the emergence of various types of MFIs, including non-banking financial companies and small finance banks. The advent of fintech companies and startups has disrupted traditional banking models and extended financial services to the underserved section of the population. These fintech firms leverage innovative technologies, big data analytics, and artificial intelligence to extend customized financial services that cater to the specific requirements of their customers (RBI, 2018). One of the significant ways digitalisation has influenced financial inclusion in India is through the proliferation of mobile banking and digital payment platforms. The "Digital India" initiative introduced by the Government of India has performed a pivotal role in fostering the development of digital payment systems, transforming how financial transactions take place across the country. While celebrating 75 years of independence, the government established 75 Digital Banking Units (DBUs) in 75 districts, aiming to promote the implementation of digital banking methods in the country. As of March 31, 2023, the number of functioning DBUs had increased to 84 across the nation (RBI Annual Report 2023).

The demonetization policy implemented in India had a substantial impact on the economy and it played a significant role in accelerating the growth of digital payments. Prior to the demonetization move, digital payments constituted only around 10% of all transactions in India. This strategic step of demonetization had the unintended consequence of driving aggressive promotion and widespread adoption of the digital ecosystem in India.

Digital innovations have brought a transformative wave in the Indian financial sector. The widespread adoption of mobile phones, increased internet penetration, and the government's push for digitalisation through initiatives like Digital India and Jan Dhan Yojana have opened new avenues for extending financial services to the underbanked population. Mobile banking, fintech solutions, and digital payment systems have the potential to leapfrog traditional banking practices and provide convenient and affordable financial services to the underserved population. During 2021-22, retail digital payments accounted for over 99 percent of total retail payments in terms of volume and 87% or more in terms of value of transactions. (RBI, NABARD report on financial inclusion in India, 2022)



Source: http://dbie.rbi.org.in

Figure 1 Trends in usage of various retail digital payments in India

Digital innovations in the Indian financial sector hold immense significance in driving financial inclusion, improving efficiency, reducing costs, empowering individuals, and stimulating economic growth.

Against this backdrop, understanding the influence of digital innovations on financial inclusion in India becomes crucial. Despite the evident benefits of digitalisation on financial inclusion in India, challenges remain. Cybersecurity concerns, digital illiteracy, and infrastructural limitations in remote areas hinder the seamless adoption of digital financial services (Singh & Dholakia, 2020). Evaluating the benefits and challenges associated with digital technologies can help policymakers, regulators, microfinance institutions, and other stakeholders in shaping strategies that promote inclusive and sustainable financial systems.

Digitalisation Boosting Financial Inclusion

Digitalisation of financial services has acted as a booster in achieving the goal of financial inclusion. The significance of digital innovations in the Indian financial sector is profound, particularly in the context of promoting financial inclusion and transforming traditional banking practices. Some key aspects highlighting the significance of digitalisation in boosting financial inclusion are:

- Expanding Access to Financial Services: Digital innovations, including mobile banking, digital payment systems, and fintech solutions, have the potential to bridge the gap between the unbanked population and formal financial services, in a country like India.

- Enabling Convenience and Efficiency: Digital technologies allow users to undertake various financial transactions, including fund transfer, bill payments, and loan applications, anytime and anywhere.

- Reducing Transaction Costs: Digital innovations in the Indian financial sector have the potential to significantly reduce transaction costs by removing the need for physical infrastructure and paper-based processes.

- Stimulating Innovation and Entrepreneurship: Digital innovations in the financial sector provide an environment conducive to innovation and entrepreneurship. Fintech startups in India are leveraging digital technologies to develop innovative financial services, catering to the specific needs of underserved segments.

- Encouraging Financial Inclusion and Socio-economic Development: Digital technologies empower the underbanked population to have access to credit, accumulate savings, and manage financial risks. It will lead to improved livelihoods, poverty reduction, and overall economic development.

2. Research Objectives

Following research objectives can be outlined for studying the influence of digital innovations on financial inclusion in India:

- To review the success of digital innovations in promoting financial inclusion, including increased availability of financial services and improved financial literacy.

- To identify and evaluate the risks and security concerns associated with digitalisation of financial services in the Indian context

• To provide insights and recommendations for policymakers and regulators, to foster the responsible and sustainable integration of digital innovations in financial inclusion in India.

3. Literature Review

Financial inclusion encompasses various dimensions that measure the accessibility and usage of financial services. As per World Bank (2014), financial inclusion comprises three core components: having access to formal financial services, availing of these services, and quality and affordability of the financial products. Scholars such as Demirgüç-Kunt and Klapper (2012) and Arun and Hulme (2011) have proposed frameworks that capture the multidimensional nature of financial inclusion, incorporating aspects like access, usage, and the empowerment of individuals and communities.

Various theoretical frameworks help to explain the linkage between digital innovations and financial inclusion. The technology acceptance model (Davis, 1989) provides insights into the factors influencing the implementation of digital financial services, such as perceived benefits and ease of use. The transmission of innovation theory (Rogers, 2003) offers a framework for understanding the spread of digital innovations and the adoption patterns across different user segments. Institutional theory (North, 1990) helps to analyse the function of regulatory and institutional environments in shaping the acceptance and impact of digital innovations in enhancing financial inclusion. Empirical research has analysed the impact of digital innovations on financial inclusion. For example, Donner and Tellez (2008) found that mobile money services in Kenya improved financial access and reduced poverty levels.

Several factors influence the acceptance of digital finance services. Individual-level factors such as demographics, level of financial literacy, and attitudes toward technology have a significant role to play (Aker et al., 2016; Nsouli et al., 2019). Contextual factors, including infrastructure, regulatory environment, and market competition, shape the adoption and application of digital financial services (Batavia et al., 2017; Park et al., 2018).

While digital innovations hold promise for financial inclusion, they also pose challenges and risks. Privacy and security concerns, particularly regarding personal data and transactions, need to be addressed (Barron et al., 2019). Lack of proper digital literacy and technological infrastructure can restrict the acceptance and usage of digital financial services (Njuguna et al., 2019). Exclusionary practices, such as discrimination against certain populations, can perpetuate inequalities in access to digital financial services (Zeru et al., 2017). Regulatory challenges also arise as policymakers seek to balance innovation and consumer protection (Alam et al., 2020). To maximize the potential of digital innovations for financial inclusion, policymakers and stakeholders must create an enabling environment. Strategies include enhancing digital literacy programs, improving technological infrastructure, and developing regulations that foster innovation while safeguarding consumers' interests (Chakraborty et al., 2021; World Bank, 2016). Collaboration among governments, financial institutions, and technology providers is essential for designing inclusive policies and solutions (Mehta & Chavda, 2019; World Economic Forum, 2020). The COVID-19 pandemic imposed numerous challenges to economic growth, leading to financial difficulties for many people, particularly those having weak economic status but at the same time it has pushed up the use of more and more digitalisation in financial services (Zubairu Surajo, 2022). Parvez (2022) examined the progress made in achieving digital financial inclusion in the Indian context and explored the potential of modern technologies to foster a more inclusive society through various digital means. He highlighted the existing hurdles and challenges that still hinder the realization of a fully digitally inclusive society. Goyal and Saxena (2022) tried to recognize the factors affecting the acceptance of digital finance services and individuals' willingness to adopt them besides exploring the potential impact of digital financial inclusion on the nation's socio-economic growth. They suggested that to enable the adoption of fintech by elderly individuals, financial institutions and fintech companies should prioritize the development of user-friendly products and services. (Nguyen, 2022). Asif et al. (2023) aimed to assess the influence of digital finance services and fintech on strengthening financial inclusion for India. Their observations revealed that fintech companies have performed a considerable role in strengthening financial inclusion in India, particularly benefiting the middle-class population. Ali and Ghildiyal (2023) investigated how socio-economic factors, mobile phone ownership, and banking activities contribute as crucial factors influencing digital financial inclusion. They employed regression analysis and chi-square tests and found a noteworthy connection between the economic status of individuals and the acceptance of digital financial products.

This literature review has explored key concepts, theoretical perspectives, empirical evidence, and policy implications. By synthesizing existing research, this study contributes to the ongoing discussion on leveraging digital innovations to promote financial inclusion.

4. Research Method

This study is mainly descriptive in nature. The study used secondary data, primarily collected from research papers, world bank reports, RBI bulletin, RBI annual reports, NABARD report and a few other websites mentioned in the references. The simple percentage method is used wherever required, to explain the observations and draw conclusions.

5. Digitalisation of the Financial Sector in India

Digital technologies have revolutionized financial services, providing new opportunities for financial inclusion, and enhancing the efficiency and accessibility of financial services. By examining the existing literature, this research tries to study the impact of digital technologies, specifically fintech, mobile banking, and digital payment systems, on financial inclusion in India, and sheds light on the advantages, challenges, and implications of digital technologies for financial inclusion.

5.1 Assessing the Progress of Digital Financial Inclusion in India

The growth of digital finance inclusion in India is summarized in table 1. In the realm of digital payment methods, the usage of the Real Time Gross Settlement (RTGS) system saw a notable increase of 16.7 percent during the fiscal year 2022-23. In terms of transaction value, RTGS transactions experienced a rise of 16.5 percent. Similarly, the National Electronic Funds Transfer (NEFT) system also achieved substantial growth with a surge of 30.8 percent and 17.4 percent in transaction volume and value respectively. These increases can be attributed to the heightened economic activity, particularly in large-value corporate transactions.

In the fiscal year 2022-23, there was a significant surge in payment transactions conducted through credit cards, with a remarkable increase of 30.1 percent in volume and an impressive 47.3 percent in value. However, transactions carried out via debit cards experienced a decline of 13.2 percent in volume and 1.4 percent in value.

On the other hand, Prepaid Payment Instruments (PPIs) also indicates growth, with an increase of 13.5 percent in volume and 2.9 percent in value. This rise in digital payments is largely attributed to the enhanced availability of acceptance infrastructure, which witnessed substantial growth during the year. This growth was facilitated by the implementation of the Payments Infrastructure Development Fund (PIDF) scheme, operationalized in January 2021, which proved beneficial in bolstering digital payment systems. Our government is firmly committed to expansion of digital transactions in the country, aiming to strengthen the financial sector and improve the overall quality of life for its citizens. This dedication has yielded impressive results, with digital payment transactions rising from 2,071 crore (2017-18) to 8,840 crore(2021-22).

Table 1 Progress of Digital Finance in India

S. No.	Indicators	2018-19	2019-20	2020-21	2021-22	2022-23
1.	Large value credit transfers- RTGS (₹ lakh crore)	1,356.88	1,311.56	1,056.00	1,286.58	1,499.46
2.	Credit transfers through NEFT (₹ lakh crore)	227.94	229.46	251.31	287.25	337.20
3.	IMPS (₹ lakh crore)	15.90	23.38	29.41	41.71	55.85
4.	Credit transfer through UPI (₹ lakh crore)	8.77	21.32	41.04	84.16	139.15
5.	BHIM Aadhaar pay (₹ crore)	0.008	0.013	0.026	0.06	0.07
6.	Payment Through debit/credit cards (₹ lakh crore)	11.97	14.35	12.94	17.02	21.52
7.	Total digital payments (₹ lakh crore)	1,637.13	1,620.89	1414.85	1,744.01	2,086.87
8.	Total digital payments (volume in lakh) 2	2,32,602	3,41,240	4,37,118	7,19,768	11,39,476

Source: RBI.

The growth of value and volume of digital transactions is reported in table 2. Over the past five years, the digital payment landscape has been renovated by the introduction of various user-friendly methods such as Bharat Interface for Money-Unified Payments Interface (BHIM-UPI), National Electronic Toll Collection (NETC), and Immediate Payment Service (IMPS). These modes have experienced extensive growth, facilitating both person-to-person (P2P) and person-to-merchant (P2M) payments.

Among these options, BHIM UPI has come up as the favoured choice, recording an impressive 803.6 crore digital payment transactions, with a total value of 12.98 lakh crores as of Jan 2023.

Table2: Growth of Volume and Value of Digital Transactions

Financial Year	Total number of digital transactions (in crores)	Total value of digital transactions (in lakh crores)
2017 - 18	2071	1962
2018 – 19	3134	2482
2019 – 20	4572	2953
2020 – 21	5554	3000
2021 – 22	8840	3021
2022 - 23	9192*	2050*

*Data till 31st Dec 2023, Source: RBI

The proliferation of digital payments in India, accompanied by the convenience of user-friendly digital payment systems, has greatly improved the quality of life for citizens and fostered financial inclusion, boosting the growth of businesses and the economy. Particularly during the pandemic, the presence of contactless digital payment solutions like BHIM-UPI played a vital role in enabling social distancing and ensuring the uninterrupted operations of businesses, including those run by small merchants.

India's remarkable digital expansion has predominantly been driven by the extensive use of mobile phones for internet connectivity. With a telecommunications network boasting more than 1.1 billion mobile subscribers, India stands as one of the largest economies in this regard. The number of internet users has surged from 343 million in 2016 to an impressive 846 million in 2021, and the growth continues unabated, with over seven million new users joining every month. At the core of the Digital India initiative, lies the principle of Universal Access to Mobile, emphasizing the widespread availability and accessibility of mobile devices as a pivotal factor in the country's digital transformation. The digital payment trends and share of different segments in total digital retail payments is depicted in figure 2 and figure 3.

Figure 1

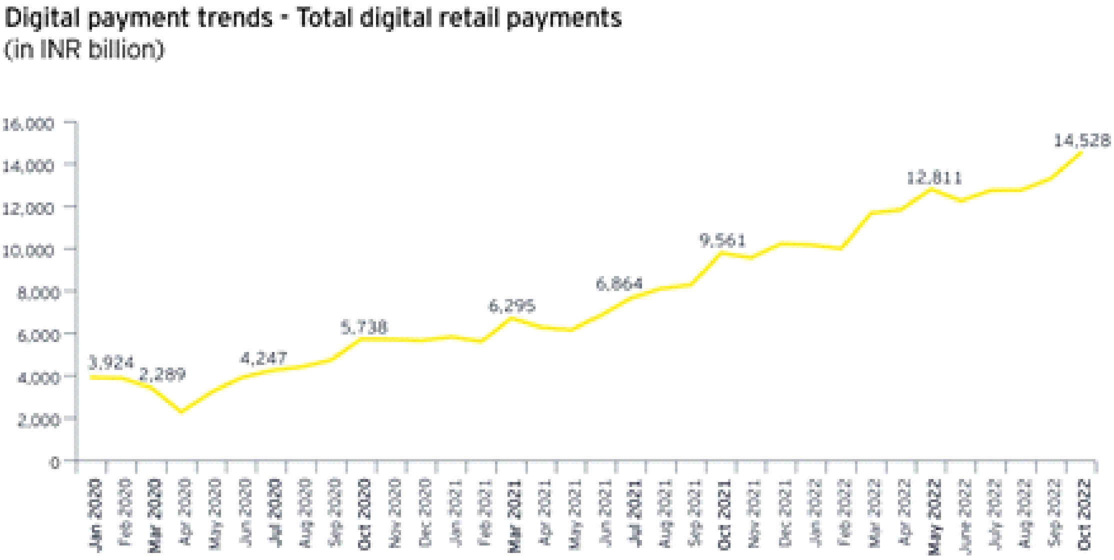


Figure 2
Source: Telecom Regulatory Authority of India (TRAI), RBI

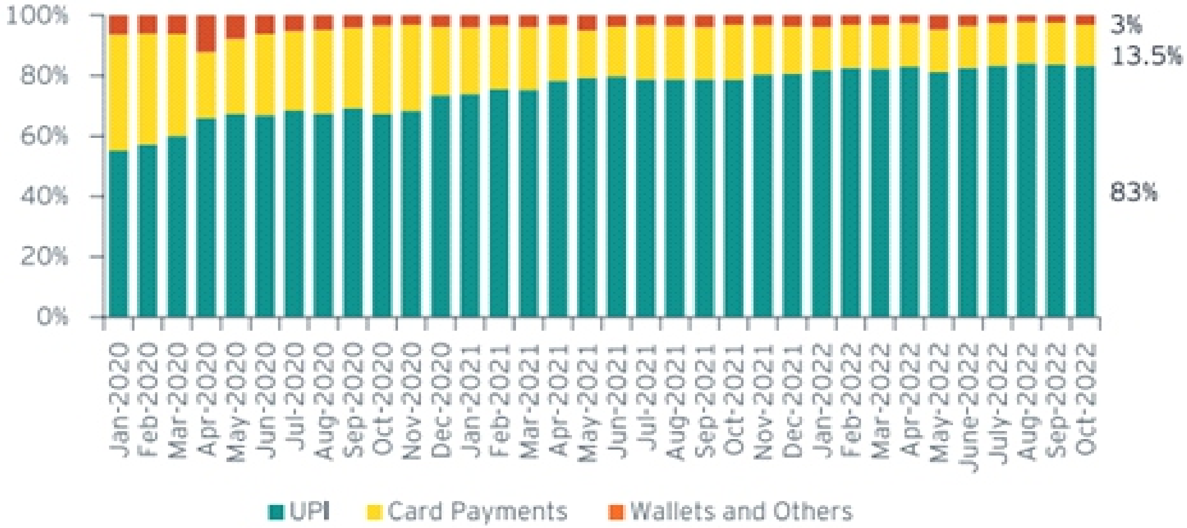


Figure 3 Digital Payment Trends –
Share of Different Segments in Total Digital Retail Payments
Source: TRAI, RBI

In India, the Pradhan Mantri Jan-Dhan Yojana (PMJDY), introduced in 2014 is amongst the main pillars of financial inclusion strategies. This flagship program targets to extend financial services to the previously unbanked population. Through PMJDY, millions of individuals have gained access to savings accounts, insurance, and pension services. India has adopted several other policy measures to foster financial inclusion, including the Pradhan Mantri Mudra Yojana (PMMY), offering credit services to small and medium sized enterprises. Additionally, the Pradhan Mantri Jeevan Jyoti Bima Yojana and Pradhan Mantri Suraksha Bima Yojana provide affordable insurance coverage to economically vulnerable segments of society. Since its establishment in 2015, the PMMY scheme has disbursed loans worth

Rs 23.2 trillion to more than 408 million beneficiaries, promoting collateral-free micro-credit and generating employment options. The PMMY scheme has been particularly beneficial for women entrepreneurs, reserving 68 percent of accounts for women. (East Asia Forum, 2023).

5.2 Impact of Digitalisation on Financial Inclusion in India

Digital payment systems have emerged as a transformative force in advancing financial inclusion in India. These systems, facilitated by digital technologies and fintech innovations, have revolutionized the way individuals and businesses conduct financial transactions. By providing convenient, secure, and accessible payment solutions, digital payment systems have played an important role in expanding financial services to the unbanked and underbanked populations, promoting economic participation and empowerment.

One of the key impacts of digital payment systems on financial inclusion in India is the increased accessibility to financial services. Digital payment systems, such as UPI and mobile wallets have enabled individuals to open digital accounts and conduct transactions using their mobile phones. This has allowed individuals, regardless of their geographic location, to participate in the formal financial system and access a range of services, including payments, savings, and credit.

Furthermore, digital payment systems have fostered a shift from cash-based transactions to digital transactions, reducing the reliance on physical currency. This shift has several benefits, including improved security, reduced costs associated with cash handling, and enhanced accountability. Additionally, digital payment systems have enabled individuals and businesses to build transaction histories, which can be used as alternative creditworthiness indicators by financial institutions.

The influence of digital payment systems on financial inclusion is not limited to individuals but extends to micro, small, and medium enterprises (MSMEs). These enterprises, often excluded from formal financial services, can leverage digital payment systems to receive payments from customers, make transactions, and access working capital. Digital payment systems have facilitated the integration of MSMEs into the formal economy, enabling them to expand their customer base, improve efficiency, and access financial services for growth and development.

Overall, digital payment systems have significantly contributed to financial inclusion in India by improving accessibility, efficiency, and security of financial transactions. Through the adoption of these systems, individuals and businesses have been able to become a part of the formal financial ecosystem, access a broader range of services, and contribute to the socio-economic growth and development of the nation.

5.3 Technological and Infrastructure Challenges in Digital Financial Inclusion in India

- Limited Internet Penetration: One of the key technological barriers in India is the limited internet penetration, especially in rural and remote areas. According to the Telecom Regulatory Authority of India (TRAI), the internet penetration rate in rural areas stood at 36.45% in March 2021 (TRAI, 2021). The lack of reliable internet connectivity hampers the accessibility and usage of digital financial services.

- Inadequate Digital Infrastructure: India faces challenges in terms of digital infrastructure, including the availability of robust and affordable communication networks. There is still a need for further investments in expanding network coverage, improving network speeds, and reducing the cost of data services.

- Limited Access to Smartphones and Devices: While smartphone adoption has increased significantly in India, a considerable portion of the population still lacks access to smartphones and other digital devices. As of 2021, the smartphone penetration rate in India was estimated to be around 40% (Statista, 2021).

- Technological Literacy and Skills Gap: In rural areas, most of the individuals may lack the necessary digital literacy skills to make efficient use of digital financial services. Initiatives such as digital literacy programs and training workshops are crucial to enhance technological skills and empower individuals to adopt and utilize digital innovations in microfinance.

- Power Supply and Energy Challenges: In certain regions of India, power supply and energy challenges can hinder the consistent and reliable usage of digital financial services.

5.4 Policy Implications and Recommendations for Fostering Digitalisation in Financial Services in India

- Enabling Regulatory Environment: Policymakers should ensure that regulations are flexible, technology-neutral, and promote innovation while safeguarding consumer protection, data privacy, and financial stability (Khan, 2019) by streamlining licensing procedures, simplifying compliance requirements, and promoting regulatory sandboxes to encourage experimentation with new digital financial products and services.

- Digital Infrastructure Development: Policymakers need to prioritize the development of robust digital infrastructure including improved internet connectivity, expanding mobile network coverage, and promoting digital literacy among the underserved populations.

- Financial Inclusion Initiatives: Policymakers should focus on implementing comprehensive financial inclusion initiatives that leverage digital innovations in microfinance. This includes promoting digital savings and credit products, facilitating digital identification systems, and encouraging the usage of mobile banking and payment platforms.

- Impact Evaluation and Research: Policymakers should prioritize rigorous impact evaluations and research studies to assess the effectiveness of digital innovations in microfinance to provide valuable insights into the benefits, challenges, and best practices of digital financial services, enabling evidence-based policymaking and fostering continuous improvement in the sector.

References:

- Aker, J. C., Boumnijel, R., McClelland, A., & Tierney, N. (2016). Payment Mechanisms and Antipoverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger. Economic Development and Cultural Change, 65(1), 1-3.

- Alam, S., Imran, M., Aljumah, F., & Alshammari, T. (2020). Exploring the barriers to adoption of fintech in emerging economies: A systematic literature review. International Journal of Information Management, 54, 102170.
- Ali, J., & Ghildiyal, A. K. (2023). Socio-economic characteristics, mobile phone ownership and banking behaviour of individuals as determinants of digital financial inclusion in India. International Journal of Social Economics, ISSN: 0306-8293.
- Arun, T., & Hulme, D. (2011). Microfinance: A reader. Routledge.
- Asif, M., Khan, M. N., Tiwari, S., Wani, S. K., & Alam, F. (2023). The Impact of Fintech and Digital Financial Services on Financial Inclusion in India. Journal of Risk Financial Management, 16,122. https://doi.org/10.3390/jrfm16020122
- Barron, P., Chami, R., & Summerhill, W. (2019). Mobile money: Technology and regulation. In The Future of Money in the Information Age (pp. 57-74). Springer.
- Batavia, H., Singh, S., & Wiesenfeld, B. (2017). Technological innovation in financial services: The journey to digital banking. Journal of Management Information Systems, 34(2), 366-402.
- Chakraborty, D., Moulik, S., & Ray, P. K. (2021). Digital finance for inclusive growth: Conceptual framework and research agenda. Journal of Economic Surveys, 35(3), 846-880.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.
- Demirgüç-Kunt, A., & Klapper, L. (2012). Financial inclusion in Africa: An overview. World Bank Policy Research Working Paper No. 6088.
- Donner, J., & Tellez, C. A. (2008). Mobile banking and economic development: Linking adoption, impact, and use. Asian Journal of Communication, 18(4), 318-322.
- East Asia Forum (2023). https://www.eastasiaforum.org/2023/05/18/the-g20-can-bridge-indias-digital-financial-service-gap/
- Goyal, N., & Saxena, D. (2022). Digital Financial Inclusion in India. Interscience Management Review, 5(2), 188-200.
- Khan, S. (2019). Policy Recommendations for Digital Financial Inclusion: Lessons from India. In N. Agarwal, M. A. Hassan, & S. Choudhary (Eds.), Fintech and Financial Inclusion (pp. 69-80). Springer.
- Kshetri, N. (2017). Can blockchain strengthen the internet of things? IT Professional, 19(4), 68-72. Mas, I., & Morawczynski, O. (2009). Designing mobile money services: Lessons from M-PESA. Innovations: Technology, Governance, Globalization, 4(2), 77-91.
- Mehta, R. R., & Chavda, K. N. (2019). Financial inclusion through digital technology in India: Scope, challenges, and policy implications. IUP Journal of Bank Management, 18(1), 68-82.
- Nguyen, Quang Khai. 2022. The effect of FinTech development on financial stability in an emerging market: The role of market discipline. Research in Globalization 5: 100105.
- North, D. C. (1990). Institutions, institutional change and economic performance. Cambridge University Press.

• Nsouli, S. M., Shrestha, M. B., Ananthakrishnan, P., & Greenwell, R. (2019). Determinants of mobile financial services adoption in Papua New Guinea: A demand-side perspective. Information Technology for Development, 25(2), 259-288.

• Park, S., Kim, C., & Park, Y. J. (2018). Mobile financial services: Adoption and use determinants among unbanked or underbanked consumers. International Journal of Information Management, 39, 207-221.

• Parvez, V. (2022). Digital Financial Inclusion in India - An Overview. Shodhsamhita, XXIV (11), 4.

• RBI, NABARD trend report on financial inclusion in India, 2022.

• RBI (2018). Report of the Working Group on FinTech and Digital Banking.

• RBI Annual Report (2023).

• Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.

• Singh, J., & Dholakia, R. H. (2020). Digital Financial Inclusion in India: A Conceptual Framework. IIM Kozhikode Society & Management Review, 9(1), 40-52. doi:10.1177/2277975219898787.

• Statista. (2021). Smartphone Users in India - Statistics & Facts. Retrieved from https://www.statista.com/

• Telecom Regulatory Authority of India. (2021, 2023). The Indian Telecom Services Performance Indicators Report.

• World Bank. (2014, 2021). Global Findex database. Retrieved from https:// globalfindex. worldbank.org/

• World Bank. (2016). Digital dividends: World Development Report 2016. World Bank.

• World Economic Forum. (2020). Innovations in inclusive finance: Scaling the transformative power of technology. Retrieved from https://www.weforum.org/reports

• Zeru, T. F., Sandada, M., & Ngwenya, S. (2017). The role of fintech in financial inclusion in South Africa. South African Journal of Economic and Management Sciences, 20(1), 1-10.

• Zubairu Surajo, A. (2022). Covid-19 pandemic and social exclusion in Kano Metropolis: challenges and the prospects. Economics, Business, Accounting & Society Review, 1(2), Press. https://doi.org/ 10.55980/ebasr.v1i2.21