

Digital Financial Inclusion in Indian Economy: A Comprehensive Review and Analysis

*Mamta Rani **Dr. Manoj Siwach

*Ph.D Scholar, Department of Economics, CDLU Sirsa

**Professor and Chairperson (Research supervisor), Department of Economics, CDLU Sirsa

Abstract

The cashless transaction system is achieving growth day by day with increased globalization markets, development of the banking sector, increasing tendency of people towards shifting to a cashless system and a powerful backing of technological advances. The emergence of new financial technologies (Fintechs), such as the Unified Payment Interface, Immediate Payment System, and Mobile Money, was enabled by new technologies like the internet, artificial intelligence, machine learning, big data, biometric identification, and blockchain technology. Overall, the trend and growth of mobile payment-based transactions in India have been on an upward trajectory since 2019. The government's initiatives, the rise of mobile wallets, increasing smartphone penetration, and the impact of the covid-19 pandemic have all played a significant role in driving the adoption of mobile payments in the country. The paper aims to study the development and adoption of financial technology and digital infrastructure in India besides its comparative situation in the global economy. It is based on secondary data sources from the World Bank, Reserve Bank of India, and Global Findex Database.

Keywords: [Digital Payments, UPI, Cashless, Financial Inclusion, Transactions.]

Introduction

The foundation of any nation's economic development is its digital finance sector. Mobile banking and mobile money are two new concepts that turn mass-produced services into specialized ones. This leads to the emergence of digital financial inclusion, which encourages effective connectivity among those involved in economic activity. When a poor, previously unbanked customer begins transacting digitally with his or her family and friends, formal banking and financial institutions, and utility companies and receives government-to-person (G2P) payments directly into his or her bank account, this is referred to as digital financial inclusion.

It takes a multifaceted approach to promote financial inclusion. In rural India, electronic banking activity results in increasing use of financial services and higher living standards thanks to technological interventions in financial inclusion. Many mobile phone users in the expanding market are still unable to access financial services and banking products. This suggests that commercial banks have a sizable untapped market. Currently in their infancy, mobile banking services in India.

Attempts to promote financial inclusion in India over the past few years have had varying degrees of success. Strong legislative and regulatory pressure has led to a significant expansion in access to bank accounts. It has been incredibly difficult to use these accounts and take advantage of official financial services outside of savings accounts. The government's most recent measures, such as the move to cashless transactions and the demonetization of currency, will further spur innovation and attract new players to the

market. The government, RBI, and financial institutions' intentions are clearly shown by the modifications to the Financial Act, which show that they want to maintain a strong BFSI while maintaining stable economic growth.

For India to continue growing, industry trust-building is crucial. Banks and regulators are faced with new problems by emerging technology, with security being a top issue. The authorities and the bankers would need to work together to guarantee that control measures are in place as cyber-frauds are on the rise. A major push from the Indian government has made it simple for those who don't use banks to get financial products. The benefits of mobile-led solutions have been proven by payment companies, and traditional banking institutions are now attempting to expand into rural India by introducing cutting-edge mobile-based banking solutions. Large technology businesses are utilizing innovative methods to reach out to rural populations and inform them about various financial products with the assistance of the government. India's progress toward financial inclusion has been amazing during the past ten years, and the Indian government has actively supported it through initiatives like the Digital India Movement and the Pradhan Mantri Jan Dhan Yojana. To build an inclusive society, reducing poverty and solving the difficulties of securing sustained income may become crucial. Information and communication technologies are gradually opening up access to the unbanked people and assisting in attracting them to the banking industry. Digital technologies are promoting usage and improving residents' quality of life.

According to the Global Findex Database from 2017,

around 1.7 billion adults worldwide do not have a bank account, meaning they cannot access mobile banking or mobile money services. China has the most unbanked people in the world, followed by India (190 million), Pakistan (100 million), and Indonesia (95 million). In addition to these four nations, Nigeria, Mexico, and Bangladesh also have large populations of unbanked people, though their percentages are lower than those of China, India, Pakistan, and Indonesia (Global Findex Database, 2017).

Indian culture discourages taking risks; hence banks are crucial financial institutions that guard the people against cash-related risks. The banking industry was able to replace physical currency with a flexible, cost-effective payment system because of technological innovation. The entire process of the banking sector has transformed as a result of new and quickly expanding innovations in banks and financial institutions.

Review of literature

Aziz and Naima (2021) looked into the discrepancy between the discourse on financial inclusion's implicit presumptions and concepts of access to and usage of digital technologies, and they intend to advance the discourse by providing a thorough framework for digital financial inclusion. Our study demonstrated that a shift away from a straightforward individualistic adopter/non-adopter binary framework and supply-oriented financial infrastructure is necessary to address the social dynamics of financial participation with new technologies. We come to the conclusion that, despite the fact that digital services have facilitated and closed the gap in physical access to financial services, these services have not been utilised because of a lack of social awareness, financial literacy, and even basic connectivity. By providing a thorough critical analysis and a fresh viewpoint on both digital and financial services, this paper theoretically contributes to the literature on the adoption of digital financial services.

Mhlanga (2020) studied discovered that AI has a strong influence on digital financial inclusion in areas related to risk detection, measurement and management, addressing the problem of information asymmetry, availing customer support and helpdesk through chatbots and fraud detection and cybersecurity. In order to ensure that vulnerable groups of people who are not financially active can participate in the formal financial market with the fewest obstacles and greatest benefits, it is advised that financial institutions, non-financial institutions, and governments around the world adopt and scale up the use of AI tools and applications.

Naumenkova (2019) examined the influence of the cur-

rent stage of economy digitalization on the financial inclusion in Ukraine. When compared to other countries in the world, the goal is to assess the level of financial inclusion in the nation, identify the dominant role of price and non-price barriers to access to financial services for the Ukrainian population, and identify the proportion of the adult population that can access the formal financial services system through the use of cutting-edge channels and financial service systems. The authors compare the genuine traditional and digital access options for the general public to financial services in Ukraine to those in other nations across the world based on the analytical methodologies suggested by the World Bank and the G20 Financial Inclusion Indicators. The elimination of current non-price barriers that prevent the formal financial inclusion of the Ukrainian population is given particular emphasis. The study's findings highlight the importance of upholding the fundamental principles of digital financial inclusion in order to control the actions of financial institutions and their agents when providing financial services online, strengthen regulatory oversight of the application of cutting-edge financial products and delivery mechanisms, and safeguard the legal rights of Ukrainian consumers of financial services.

Bourreau and Valletti (2015) studied the cooperation models that can emerge between the different firms potentially involved in a mobile payment transaction. The key competition issues that should worry public authorities and what regulatory measures they can use as a response. Access to finance for the underprivileged is being revolutionised by the growth of mobile payment platforms in developing nations. Mobile payment systems give their consumers access to various financial products, including savings accounts or insurance, in addition to letting them pay and transfer money using mobile money.

Methodology

Secondary data is information that has been gathered by someone for a different purpose or study. In terms of analysis and interpretation, these secondary data support the main source of data or primary data. A researcher can gain insight and knowledge from secondary data in a different aspect. The majority of data for this study is collected from secondary sources such as book chapters, research journals, government publications, newspapers, articles, and reports.

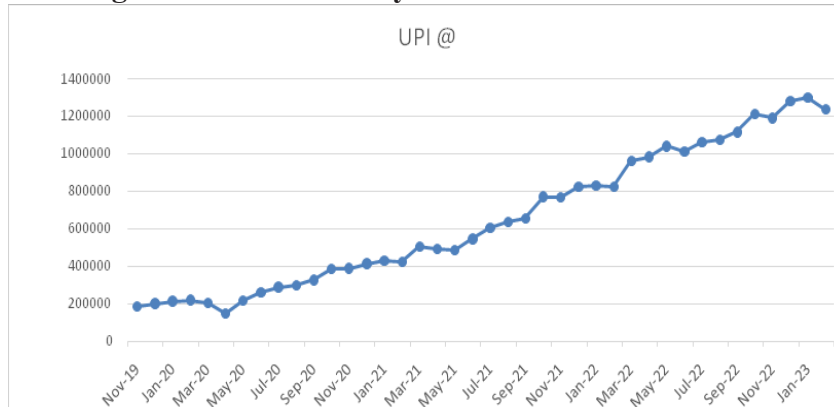
Digital financial inclusion in India

India has made significant progress in promoting digital financial inclusion over the past decade. The government's

initiatives, coupled with advancements in technology and increased smartphone penetration, have contributed to the growth of digital financial services across the country. The introduction of the Pradhan Mantri Jan Dhan Yojana (PMJDY) in 2014 was a pivotal step towards financial inclusion. The scheme aimed to provide access to basic banking services, including savings accounts, to the unbanked population. Through this program, millions of previously unbanked individuals have gained access to

formal financial services. Mobile banking and digital payment systems have witnessed significant growth in India. The Unified Payments Interface (UPI), launched in 2016, has emerged as a popular platform for instant digital payments. UPI allows users to link their bank accounts to a mobile application and make transactions easily using their smartphones. It has gained widespread adoption and is supported by numerous banking and financial technology (fintech) companies.

Figure 1: Use of UPI Payment Method for Transaction

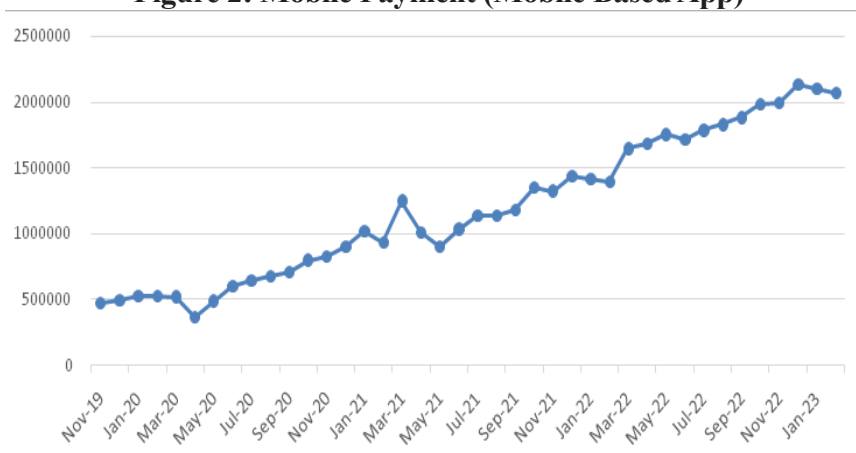


Source: RBI

Figure 1 shows increasing trend in UPI payment in India from November 2019 to January 2023. In 2019, UPI recorded around 10.8 billion transactions with a total transaction value of over ₹18 trillion (INR). By 2020, the number of transactions more than doubled to reach approximately 25.3 billion, with a total transaction value of over ₹41 trillion (INR). In 2021, the growth of UPI continued, although at a slightly slower pace compared to previous years. By September 2021, UPI had already crossed 20 billion transactions, indicating a significant increase compared to the previous year. The total transaction value for 2021 was expected to surpass

₹50 trillion (INR), showing a steady upward trend. As for the future trend and growth of UPI from 2022 to 2023, it's difficult to predict with certainty. However, given the increasing adoption of digital payments in India and the continued efforts to promote cashless transactions, it is likely that UPI will continue to witness growth during this period. Factors such as the expansion of UPI-enabled services, the integration of UPI with more platforms and apps, and the ongoing digitalization initiatives in the country will contribute to the further growth of UPI payments in India.

Figure 2: Mobile Payment (Mobile Based App)

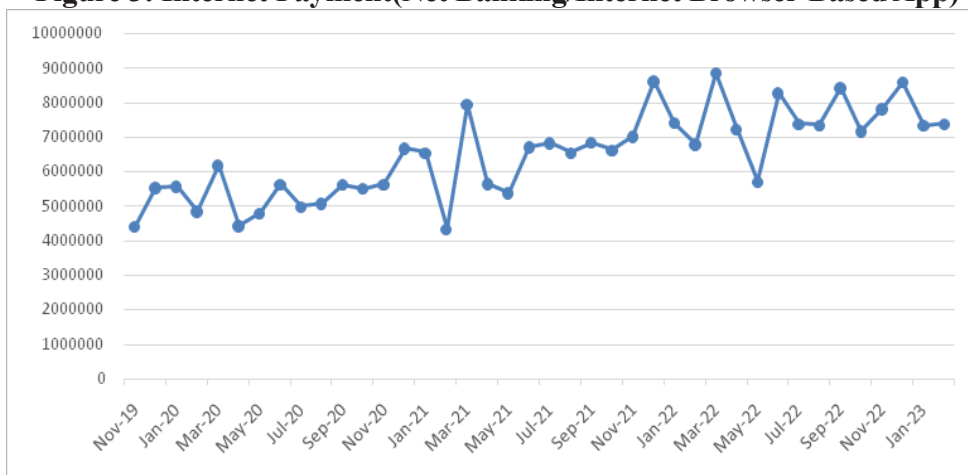


Source: RBI

Figure 2 shows an increasing trend in the use of mobile payment methods in India. Mobile payment-based transactions in India have experienced significant growth and have become increasingly popular since 2019. The adoption of mobile payment services has been driven by various factors, including the government's push for digital payments, increased smartphone penetration, and the con-

venience offered by mobile wallets and payment apps. Mobile wallet apps, such as Paytm, phone pay, google pay, and amazon pay, gained popularity during this period. These apps allowed users to store money digitally, make payments, and transfer funds to other users. They offered convenience, security, and cashback rewards, which encouraged more people to adopt mobile payments.

Figure 3: Internet Payment(Net Banking/Internet Browser-Based App)

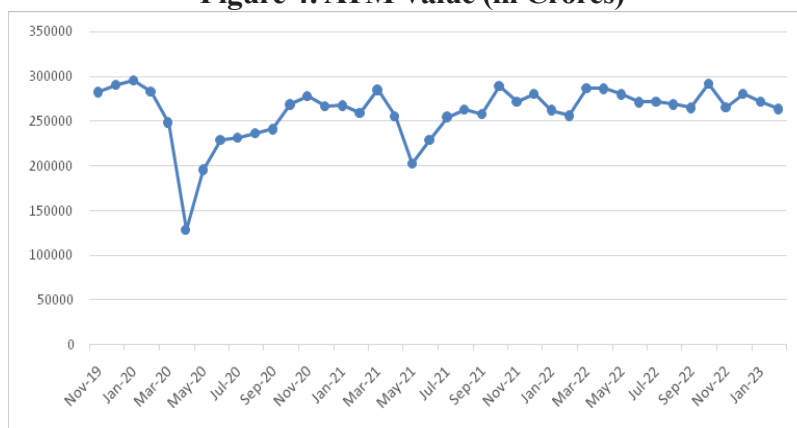


Source: RBI

Figure 3, The growth and trend of internet payment methods, specifically net banking, in India from 2019 to the present has been significant. Net banking, also known as online banking or internet banking, refers to conducting banking transactions over the internet using a bank's website or mobile application. In recent years, India has

witnessed a rapid surge in internet usage and smartphone penetration, along with the government's push for digital payments and financial inclusion initiatives. These factors have contributed to the increased adoption of net banking and other digital payment methods in the country.

Figure 4: ATM Value (in Crores)

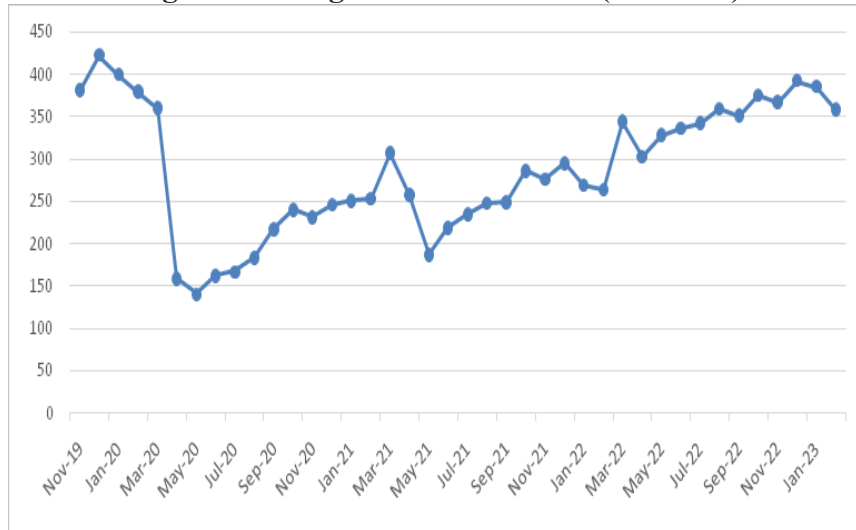


Source: RBI

Figure 4, The number of ATMs in India has been steadily increasing over the years. In 2019, the country had approximately 2.21 lakh (221,000) ATMs. This number has been rising as financial institutions and banks continue to expand their ATM networks across the country. One notable trend in India's ATM growth is the increased focus on

rural areas. The government and financial institutions have been taking initiatives to improve financial inclusion in remote regions by installing ATMs in rural areas. This expansion aims to provide banking services to underserved populations and reduce the dependency on physical bank branches.

Figure 5: Using Credit Card Value (in Crores)

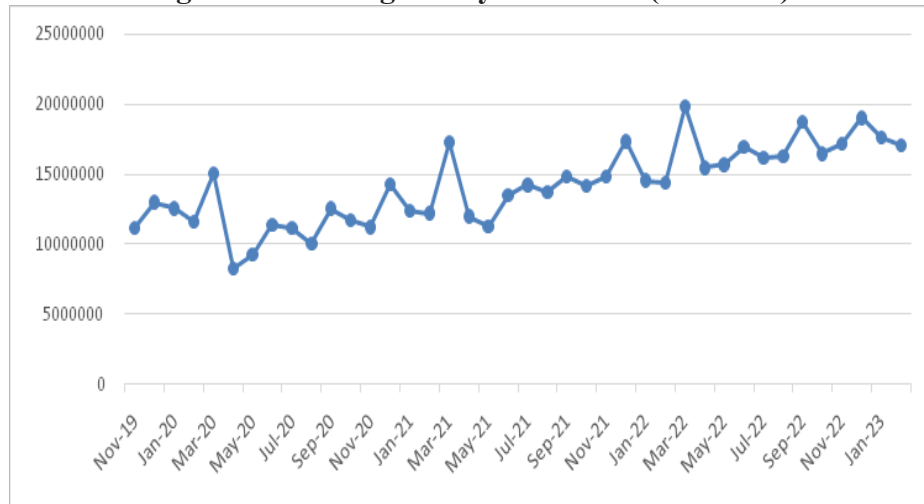


Source: RBI

Figure 5, The trend and growth of credit card payments in India from 2019 have seen significant progress. India has witnessed a substantial increase in the adoption and usage of credit cards over the past few years. The acceptance of credit cards has grown extensively across various mer-

chant establishments, both online and offline. Many small and medium-sized businesses have started accepting credit card payments, providing customers with more options for making purchases.

Figure 6: Total Digital Payment Value (in Crores)



Source: RBI

Figure 6, From 2019 to 2023, India has witnessed significant growth in digital payments. In recent years, India has been actively promoting digital payments as part of its push towards a cashless economy and financial inclusion. The government's initiatives, such as the introduction of Unified Payments Interface (UPI) and the demonetization drive in 2016, have played a crucial role in accelerating the adoption of digital payment methods. In 2019, the total digital payment value in India reached around 22.4 trillion Indian rupees (INR). This figure encompasses various forms of digital payments, including UPI transactions, mobile wallets, internet banking, and card-based payments.

Role of Fintech Firms

Since early 2015, the phrase “fintech” has become more common. This phrase is frequently taken to mean something purely technological and tech-savvy. When in fact this phrase refers to the fusion of financial services offered by numerous clients with improvements and innovations in the field of technology. The main point is that Fintech emerged more as a result of technological advancements in the financial sector and the demand for such services than as a result of any actual development. Since technology and financial services are being combined here, a number of platforms and applications are being created and de-

veloped to make it simple for you to use financial services like applying for business loans or personal loans online, among other things (Kandpal, V., & Mehrotra, R. 2019). A great way to deliver financial services is to do away with multiple levels of governance by collaborating with fintech companies that will help consumers, take advantage of digital technology, and create a better distribution infrastructure based on mobile technology that offers quality, protection, affordability, and accessibility.

The advancement of financial inclusion is continuing thanks in part to the mitigation of this slowdown by digital financial services (DFS). Withdrawals from these accounts increased as payments and benefits, such as COVID-19-related relief, were increasingly made directly to beneficiaries' PMJDY bank accounts, causing the percentage of inactive bank accounts to slightly decrease from 38 to 35 percent between 2017 and 2021. Digital financial services have seen an additional boost due to COVID-19-related health restrictions and mobility limitations. The percentage of persons aged 15 and older who have mobile money accounts climbed from 2 to 10% between 2014 and 2021, while the percentage of those who have sent or received digital payments increased from 22 to 35%. (Niyati Agrawal & Rakshith Ponnathpur.)

Conclusions

India's digital payments landscape has expanded rapidly at a CAGR of 38 per cent by volume and 7.5 per cent by value during the period ranging from 2017-18 to 2021-22. The burgeoning growth happened due to multiple factors, such as enhancements in the payment infrastructure, developments in information and communications technology, and the introduction of a responsive regulatory framework, among others. UPI recorded over 4.2 billion transactions worth ₹7.7 trillion in October 2021. Though the COVID-19 pandemic put a damper on a lot of progress over the last three years, it acted as a catalyst that drove a large increase in digital payments amid the global expansion of formal financial services. This article focuses

on Fintechs, digital finance, and their role in digital financial inclusion in India using the existing sources of the World Bank, Reserve Bank of India, National Payment Corporation of India, and United Nations Organizations. In November 2016, the Indian government demonetized high-value currency notes, leading to a surge in digital payments. This event acted as a catalyst for the adoption of net banking and other online payment methods, as people sought convenient alternatives to cash transactions.

References

- Agrawal, G., & Jain, P. (2019). Digital financial inclusion in India: a review, *Behavioral Finance and Decision-Making Models*, 195-203.
- Aziz, A., & Naima, U. (2021). Rethinking digital financial inclusion: Evidence from Bangladesh, *Technology in Society*, 64, 101509.
- Bourreau, M., & Valletti, T. (2015). Enabling digital financial inclusion through improvements in competition and interoperability: What works and what doesn't, *CGD Policy Paper*, 65, 1-30.
- Koh, F., Phoon, K. F., & Ha, C. D. (2018). Digital financial inclusion in South east Asia, *Handbook of Blockchain, Digital Finance, and Inclusion*, Volume 2 (pp. 387-403). Academic Press.
- Kandpal, V., & Mehrotra, R. (2019). Financial inclusion: The role of fintech and digital financial services in India, *Indian Journal of Economics & Business*, 19(1), 85-93.
- Malladi, C. M., Soni, R. K., & Srinivasan, S. (2021). Digital financial inclusion: next frontiers
- Naumenkova, S., Mishchenko, S., & Dorofeiev, D. (2019). Digital financial inclusion: Evidence from Ukraine, *Investment Management & Financial Innovations*, 16(3), 194.
- Mhlanga, D. (2020). Industry 4.0 in finance: the impact of artificial intelligence (ai) on digital financial inclusion, *International Journal of Financial Studies*, 8(3), 45.
- Peric, K. (2015). Digital financial inclusion, *Journal of Payments Strategy & Systems*, 9(3), 212- 214.
- WTO (2021). Global Findex Database.