

DIGITAL FINANCE AS A MEANS FOR FINANCIAL INCLUSION IN INDIA: A REVIEW

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ABSTRACT:

The concept of financial inclusion stands for affordable and accessible banking services to all. The adoption and use of digital payment instruments among people strengthened the concept of financial inclusion and it became an incredible part of the Indian financial system. The 17 Sustainable Development Goals (SDGs) of the United Nations also highlight the requirement of financial inclusion as a basic ingredient for the successful achievement of the development of a country. Disruptive technologies and digital transformation in the banking and financial services industry have brought substantial changes to the monetary system of India. Innovative digital technologies such as Artificial Intelligence (AI), chatbots, Robo Advisory Services, Cyber-Physical Systems, and the Internet of Things (IoT) are recent interventions in the banking and financial service industry. These disruptive technologies transformed banking, financial service, and payment services. Financial technologies intervention in the banking and financial service industry or digital finance has a tremendous impact on financial inclusion. The technological changes and digitalization of financial services have brought digital financial inclusion to India. In the above circumstances, the research paper reviews the impact of these disruptive technologies on financial inclusion in India.

Keywords: *Digital Finance, Digital Payments, Fintech, Financial Inclusion*

INTRODUCTION

The digital technologies intervention in the banking and financial service industry has drastically changed the concept of monetary transactions in recent times. Disruptive technologies are revolutionizing the financial service system and become an incredible part of the daily life of people today. The fourth industrial revolution or Industry 4.0 has brought new wings to the financial service industry and revolutionized the banking and financial systems of the world. Technological innovation and financial system developments transformed the transaction system in the form of digital ways. Artificial Intelligence (AI), chatbots, Robo Advisory Services, Cyber-Physical Systems, and the Internet of Things (IoT) are recent interventions in the financial service industry. These innovations witnessed unprecedented growth of digital financial instruments, and these technologies absorbed and

transformed the financial system in new ways. In India, digital payment instruments transformed the retail business too, and build up a cashless economy.

The financial history reveals that various forms of the value exchange processes of goods and services such as the Barter system existed in the ancient period. Later transformed these systems with coins, currency, and negotiable instruments. The innovation of cheques has had a tremendous impact on the transaction history of the USA. In the year 1983, cheques were involved around 91.4% of cashless transactions in the USA, 80% and 85% in France and 61% in the UK, and 22% in Germany, Netherlands, Sweden, Switzerland, and Belgium. In 1993, the Reserve Bank of India issued guidelines for establishing new private sector banks and its licenses were issued. Narasimham's report also points out an amendment of the

Banking Regulation Act to permit private sector banks in India. The new private sector banks in the Indian financial system used computers and modern technology or new business process as considered an initial paradigm shift in Indian traditional banking services.

FINANCIAL INCLUSION

Financial inclusion also known as 'inclusive finance' is a novel concept in modern finance. In 2005, RBI's monetary policy statement used the term financial inclusion for the first time and was followed by a committee set up under the chairmanship of Dr. C. Rangarajan for building institutional architecture for financial inclusion. Financial inclusion is a key enabler for 7 of the 17 Sustainable Development Goals (SDGs). There is an incredible role of financial inclusion strategy in the economic development of a country.

Financial inclusion promotes economic growth, enhances employment opportunities, and financial stability, and strengthens the macroeconomic policies of a country.

According to Dr. Rangarajan, “the term “financial inclusion” emphasizes one aspect of what is being described as inclusive growth. Inclusive growth is a much broader concept, in which the economic policymakers will have to ensure that benefits of growth accrue to all sections of society and that, in particular, the bottom deciles of the population benefit from growth”. Financial inclusion facilitates inclusive growth, enhancing the welfare of the people and economic development. Financial inclusion stands for financial empowerment and quality of life for all sections of the population, eradicating poverty, and inequality in society. In this aspect, financial services must be affordable and accessible to all people without any constraints, and the benefits of the financial system must reach the hands of the poor.

The financial inclusion concept stands for not merely opening a bank account, which is the only aspect of its objective. Providing people with access to banking is the first step toward financial inclusion. It must facilitate affordable and accessible financial transactions, payments, savings, easy credit, and insurance for all people, especially poor people in society. The World Bank defined, “Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit, and insurance – delivered in a responsible and sustainable way”. The definition of financial inclusion given by

The World Bank inherently highlights the intrinsic objectives of financial inclusion.

Financial Inclusion is providing and accessing financial services to all sections of people in a society and financially activates lower-income people or poor people. According to Pearce, Ortega, & Ruiz (2012), “A comprehensive approach to financial inclusion addresses at least three aspects: access to financial services and products; usage of financial services and products; and quality of financial services and products, defined by consumer ability to benefit from new financial services and products”. The World Bank estimates that 1.7 billion adults worldwide still lack access to a bank account. Without financial literacy, one could not get the benefits of financial inclusion. The meaning of financial inclusion can achieve only through the availability of financial infrastructure and empowerment among poor people. The liberalization policy of the Government of India has brought flexibility to the banking system and started changes in the landscape of financial inclusion. The World Bank Group considers financial inclusion a key enabler in reducing extreme poverty and boosting shared prosperity.

EMERGING TECHNOLOGIES IN FINANCIAL SERVICE

In the year 1994, Bill Gates, then chairman of Microsoft, quoted “Banking is necessary, but banks are not”. The financial service industry entered the phase of Artificial Intelligence (AI). It has changed the quality of products and services in the financial service industry and transformed customer experiences. The drivers of AI disruption in banking consist of

big data, availability of digital infrastructure, regulatory requirements, and competition. In the words of Swarup Kumar Saha (MD & Chief Executive, Punjab & Sind Bank), “If one bank gives personal loans in four clicks, another does it in three. Where is this going to end? If I do not enable digital offerings for personal loans, I will lose customers.”.

Machine learning and artificial intelligence are used to support or supplement human experts in the business. The companies like Apple's Siri, Google Translate, and Amazon's Echo are using machine learning in their services. The AI applications in the banking sector consist of chatbots, Fraud detection and prevention, customer relationship management, Predictive Analytics, Credit risk management, and so on. Machine learning provides knowledge about possible outcomes or events that could occur in any given situation or not. So, machine learning gives an insight into the likelihood of events or outcomes. Artificial Intelligence and Machine learning are not the same things but AI systems rely heavily on machine learning.

Machine learning used for prediction is known as Predictive Analytics (PA) or Predictive Modelling. Predictive Analytics (PA) is an application of machine learning. Machine learning can be applied to all sorts of business activities. One of the well-known applications in banking is credit scoring. When taking a loan from a bank, credit scoring helps to know one's repayment capacity or credit worthiness by analysing credit history of the individual. The innovative digital monetary system known as cryptocurrency using

blockchain technology also came to financial market in recent years. Cryptocurrency is a decentralized digital currency based on blockchain technology. Cryptography underlined factors and security features of cryptocurrency. Cryptocurrencies are decentralized; hence they cannot control by any individual or government. Distributed ledger technology (DLT) is a working aspect of cryptocurrency and it is stored across the network of user computers all over the world.

Emerging technologies and its absorption in financial service industry such as blockchain, artificial intelligence, and biometrics have significant roles in the development of digital payment services. Therefore, technology and innovation have a key role in the development of digital payments. Tech giants such as Google, Amazon, Facebook, and Alipay are keenly interested in the digital payment market. The big tech firms, and internet giants have a huge impact on interconnecting social media and payment services. Google is also concentrating on the financial service industry and Facebook in the development of its digital currency Libra in the market. These technological interventions have been drastically transforming the banking and financial service industry. In the words of Penny Crosman "Digital banking will become less visible because it will be embedded in other daily activities with the help of AI, voice interfaces, and other emerging technologies".

Money as a 'social agreement' was first elaborated by economist Carl Menger. Money is emerging from spontaneous order in a market economy facilitating

commercial transactions. Recently Digital euro intend to facilitate financial transactions and reduce transaction costs. In the digital age, the circumstances that lead to inevitable financial transformations, the guardian of the Indian banking system, the Reserve Bank of India (RBI) has a big role in regulating the monetary aspects of the country. While the central bank is entitled to issue digital currency it would be more risk-free. A currency issued by a central bank belongs to a monetary system such as the dollar, euro, and so on, a legal tender and monetary policy. The means of payment are in forms of electronic payments in bank money or mobile money instruments such as WeChat Pay in China.

DIGITAL PAYMENTS

Payment has its own long history of development. It was initially issued to traders during early twentieth century as substitute to paper-based instruments, bank notes, or coins in the USA. Later retailers, bankers, consumers, information technology companies, and regulators met the development of payment systems. The technological adoption, strategies of banks, retailers, and competitive environment also boosted the development of card payment. The Indian banking sector has transformed into a cashless economy and digital payments are one of the significant milestones in the financial system. On 8th November 2016, the Honourable Prime Minister of India, Mr. Narendra Modi announced to the nation the demonetization of INR 1000 and INR 500 notes. A study was conducted to know the demonetization impact on digital payments in India, the study considers three digital payment systems; RTGS,

NEFT, and Mobile banking transactions. The study concludes that there are some changes in mobile banking transactions but the RTGS and NEFT are inconclusive evidence for the innovative outlier.

Digital payment systems and integrated financial services provide more access to liquidity and enhance smooth consumption. The study reveals digital payment have substantial impact on enjoyable products or entertainments consumption behavior. Digital financial transactions give a lot of benefits such as digital transactions improve the service delivery system in the country, preventing people from falling into poverty and financial distress, it also helps people to build saving habits, and enabling customer protection (Klapper, 2020). Digital payments in India will grow \$10 trillion in value by 2026 from \$3 trillion now, forecasting that cash transactions will increasingly be used less. Demonetisation in November 2016 and its impact on financial transactions promoted a sharp rise in digital payments in India. Covid 19 also impacted the use of digital payment technologies for financial transactions. Digital payments via UPI, BHIM, IMPS & NEFT and others help to minimise physical transactions. Digital payment systems have ability to clear real time on 24/7 basis which facilitate considerable benefit to retailers and customers. Digital payment systems have potential to facilitate financial inclusion to millions in underdeveloped countries. The behavioural intentions to adopt of digital payment systems among people influenced by perceived usefulness, performance expectation and so on. But the perceived risk and trust are vital variables that hinder the adoption of digital payment systems.

Digital payment services provide innovative financial services to consumers that encourage consumption by easing their liquidity constraints. Many developing nations such as India, Brazil, Nigeria, Kenya, and Zimbabwe embraced mobile technology to facilitate financial inclusion. Digital payment become a real asset of the globaleconomy.

The consumers' payment choices in Zimbabwe which reveals that favourable government policy towards digital payment and reduction of merchant adoption costs is promoting the widespread use of digital payment instruments. Consumers' payment choices are also influenced by the social cost factor. In a developing country like Zimbabwe wide range of payment instruments and choices are available. Digital payment requires information and communication technology-enabled infrastructure and efficient internet connections. Furthermore, Structural rigidities, government tax, and cost for the transaction and card fees charged for transactions if any also negatively impact the use of digital transactions ..

FINTECH AND PERSONAL FINANCE

Fintech become essential part of Indian financial services system. Fintech are different kinds such as start-ups, wealth technology (WealthTech), Insurance Technology (InsurTech), Regulation Technology (RegTech), lending technology, cryptocurrency, and others. Fintech is providing financial services in an easy way and brought financial service platforms to all sections of society with special reference to low-income groups, poor people, small business people, youth, women, and so

on to efficiently participate in the financial market. Fintech become more popular since demonetisation and pandemic or Covid 19.

Personal finance deals with managing your money, savings, and investment. It includes banking, budgeting, insurance, investment, tax, mortgages, investment, and estate planning. Smart personal finance involves developing strategies that include, budgeting, creating an emergency fund, paying off debt, using a credit card wisely, retirement planning, and so on. The study explains the effect of digital payment systems on households' consumption pattern in China by applying mental accounting theory. China Household Finance Survey (CHFS) data of 2017 exhibit that households who use digital payment systems spending (20.63%) greater than those with alternative payment methods. In the long-term consumption perspective also households who use digital payment systems spending (125.29%) more than non-users. Digital payments stimulate consumers transaction utility, facilitate intentional adjustment of mental accounts, therefore more unplanned consumption behavior among people with low self-control abilities. Digital payment stimulate consumption also based on heterogenous effect and various types of goods.

Along with technological development and fintech services has brought benefits and challenges to financial system. There is rise digital fraud and customer dissatisfaction. This has created exigency of RBI to take closer look at fintech services to reduce in the financial system. Under the strong radar is necessary to regulate unethical practices in lending, customer harass-

ment and mis-selling of products and services. While predatory lending is not new in India it existed even before independence. For instance, the moneylenders in India are controlled by Usurious Loan Act 1918 which restricted private money lenders from charging high interest rates from borrowers. In banking service systems also transforming with the arrival of FinTech. Spanish bank Santander, La Caixa and BBVA and Portugal, Sistema Interbancario de Servicos (SIBS) absorbed Application Programming Interfaces (APIs) for instant payments creation and providing new services to customers, and develop strategic partnership with FinTech in financial services. IT giants Worldline and Ingenico moving to payment service in Europe.

DIGITAL TECHNOLOGIES EXPANDING FINANCIAL INCLUSION

The higher degree of digital financial inclusion minimizes financial constraints. The local bank branch system and digital financial inclusion played a positive role in minimizing the financial constraints of small medium-sized enterprises in China (Lu, Wu, Li, & Nguyen, 2022). Financial inclusion is an effort to bring everybody into the financial system and financial services available to the whole population at a reasonable cost. Digitalization and technology also transformed the banking sector and revolutionized financial inclusion in India. The changes in technology and Aadhaar card under Unique Identification Development Authority of India (UIDAI) also brought flexibility in account operations in banking.

Fintech developments and digital

transactions aided the growth of financial inclusion. The Reserve Bank of Zimbabwe (2018) indicated that 96% of all official payments in 2017 were made electronically. In the words of Dr. C. Rangarajan, Financial Inclusion concept stand for not only providing credit facilities, but also providing saving and payment facilities. The advancement in digital banking and financial services, fintech, and digital payments are making financial inclusion more effective. Fintech is a recent intervention in providing financial services through mobile applications which also ensures the goal of digital financial inclusion.

The rapid technological change and adoption in banking and financial system transformed concept of financial inclusion into digital financial inclusion which facilitates flexibly in payment and other financial transactions.

Digital agricultural credit and financial assistance to farmers is a big solution to financial crisis. Rural credit infrastructure development has significant role in building agriculture and allied sector development in an economy. To enhancing, credit and financial assistance to farmers is necessary because the existing share financial services share of rural is low as 13% while considering economy. To strengthen digital financial benefits to rural farmers there are requirements necessary today. On behalf of this; digitalization of land records, digitalization of cash movements and value chain-based financing, digitalization of assets of farmers, creating a e-registry for monetise assets for farmers accessing credit requirements, are may be helpful for getting digital credit.

In the words of Dr. Rangarajan, “Financial Inclusion is a subset of growth”. Financial Inclusion inherently attributed to achieve the active financial engagement of people belong to lower level of pyramid or the poor people. AI technologies and digital financial services make financial services affordable to many people. In short, Digital technology expanding financial inclusion. AI is using wide spread algorithm by accessing information from online shopping, social networks which gives large amount of information about individuals and this information are used for decision making credit risks and making financial inclusion. In the words of Penny Crosman “Digital banking technologies — including artificial intelligence, analytics, personal financial management software, internet of things, voice banking, banking as a service and fintech innovation — are converging toward one end goal: invisible banking”. The complete digital banking innovation Neo bank will play an instrumental role in faster financial services at a lesser cost to a large demographic area.

IMPLICATIONS IN DIGITAL TECHNOLOGIES

The recent global agreement on the ethics of AI by UNESCO can guide companies and governments of various countries regarding the uses of Artificial Intelligence and its social implications. It highlights that AI-related technologies do not continue to use without legal protection. The government must develop a regulatory framework and legislation and policy based on humanistic principles and accountability mechanisms. Advancement of digital technology and recent

changes in European Union (EU) approach related to social media companies into money transfer by sharing bank account details to third parties also raising concern today.

The European Union regulations such as 'General Data Protection Regulation (GDPR) and Anti Money Laundering (AML) regulation has significant role in in creation of secured digital service framework. The GDPR itself provides framework for data protection in Europe. The regulations have key role in development of secured digital payment systems. Innovation, digitalisation and leveraging of technology increased competition in financial service industry. Another concern regarding recruitment in the banking sector has reduced in recent years due to online and mobile transactions, ATM usage, and fewer new bank branches which also lead to a rapid decline in the strength of clerical staff in Indian Public sector banks and Private Sector Banks.

CONCLUSION

The disruptive financial technologies and its application have made drastic transformation in banking and financial service industry. Artificial Intelligence (AI) and machine learning influenced intrinsic growth and development of digital finance. There is an incredible role of technologies in development of financial service industry. Digital financial technologies inherently build up financial inclusion in a country. From the above review it was revealed that there is an inherent relationship between digital technologies and enhancement of financial inclusion. Although there are concerns regarding security aspects and trust of these

disruptive technologies, they are widely accepted in India. The favorable fiscal and monetary policies in India also impact growth of digital financial inclusion. Digital financial systems have brought not only a pace and flexibility in financial transactions but also an innovative tool for strengthening financial inclusion in India.

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