CHAPTER 3

Financial Inclusion in India: Sustainability Issues

Section 1

3.1 Introduction

Section 1 of this chapter deals with the issues and determinants of sustainability of financial inclusion with reference to India. Sustainable financial inclusion is achieved when people actively use financial products and services, rather than merely possessing them. Since achieving sustainable financial inclusion is an ongoing process, doing so successfully will necessitate a methodical approach that integrates technology, a legal framework, and the most suitable business models. Sustainable financial inclusion contributes to the social dimension by enabling access to basic financial services, meeting the needs of the underserved, and distributing financial products and services in an equitable manner through tailored interventions toward a shared vision of sustainable development and financial inclusion (Ozili, 2022). Thus, to use financial services, however, the underprivileged must be provided with appropriate financial products in a timely and responsible manner (Beck et al., 2010; Ardic et al., 2011; Sarma, 2010 as cited by Bongomin and Munene, 2019). Since the post-liberalization era, there has largely been a major disparity in financial inclusion between urban and rural areas. Although inclusive growth was emphasised as a crucial policy effort in the 11th Five Year Plan (2007–2012), there was some concern that the outcomes might not have been as anticipated (Chakrabarty, 2010; Arun and Kamath, 2015), especially since the mid-1990s. However, after the Raghuram Rajan Committee Reform in 2009, which proposed the need for direct benefit transfers through bank accounts to reduce the incidence of subsidy leakage and supported the need for a unique ID for every citizen now known as Aadhaar, significant changes occurred in the Indian financial sector. The emphasis was shifted from credit and equal importance was given to insurance, remittances, and better regulation. In order to increase financial inclusion, India has made enormous strides using conventional methods like the branch licensing policy, no-frill accounts, issuance of Kisan Credit Cards (KCCs), deployment of business correspondents, etc. was done. Even if PMJDY's ambitious plan helped the last-mile people of society, the issue of financial exclusion persists. As opening an account does not ensure full inclusion, availability and regular use of the account are required (Hogarth and O’Donnell, 2000). A variety of obstacles prevent the nation from becoming financially inclusive, and some of the likely reasons for this are the high cost of geographic access, financial illiteracy, inappropriate products and a lack of awareness (Bagli and Dutta, 2012; Mahadeva, 2009; Schuetz and Venkatesh, 2019). In addition to this, the inability to obtain credit and insurance is a barrier to achieving sustainable financial inclusion. Ensuring sustainability in financial inclusion requires addressing both supply and demand-side issues and financial institutions, regulatory bodies, and technological service providers being the essential cogs in the wheel of financial inclusion requires working together to design and carry out successful interventions (Avinash et al., 2015). Thus, this section exhibits a theoretical framework regarding financial inclusion in India and the inhibitors that slows down the progression of sustainability in financial inclusion to achieve inclusive growth.

3.2 Financial Inclusion in India

In India, though the thrust for financial inclusion started in the year 2005, the process for financial inclusion initiated with the financing of agricultural credit to rural households in the late 1950s through the initiation of co-operatives. However, due to the skimpy performance of co-operatives in financing agricultural credit, commercial banks were inducted through the nationalisation in the year 1969. Thus, there are four phases of financial inclusion in India and each phase did not show uniform results in achieving financial inclusivity.

During phase 1(1969-1991) there was a rapid expansion in the establishment of bank branches in rural areas with other initiatives including the branch licensing policy of 1977, the formation of Regional Rural Banks (RRBs), NABARD to provide banking services in rural areas and lubricate credit flow in unserved areas. However, the growth of rural bank branches did not show a similar trend in the second phase (1991-2005) as an effort was made to establish more branches in semi-urban, urban and metropolitan areas. This downfall in rural branches can also be attributed to the withdrawal of the branch licensing policy in the 1990s, which allowed various unprofitable branches to shut down operations (Lenka and Barik, 2018). Moreover, the outreach of the Self Help Group Bank Linkage Program after its inception was flourishing in the Southern states leaving behind the North and Eastern states (Reddy and Malik, 2011). According to GTZ-NABARD (2007) as cited by (Reddy and Malik, 2011) lack of awareness and gender inequality were some of the key areas for the slow growth of the SHG bank-linkage program in the North. This phase resulted in a disparity between rural and urban financial inclusion, which necessitated comprehensive policies to further inclusive growth. Phase 3 (2005 - 2014) brought a series of transformations in financial inclusion in India. The deployment of business correspondents, increased coverage of commercial banks and no-frill accounts were introduced to speed up financial inclusion. However, during this phase account ownership of men was 20 percent higher than that of women (Demirguc Kunt et al., 2018). Though, significant initiatives were taken to accelerate the financial inclusion problem of financial illiteracy, access and in-operation of accounts were present. Finally, phase 4 (i.e., 2014 onwards) has witnessed a colossal figure in the number of bank accounts and the commendation for such thickening of bank accounts goes to the ambitious scheme of PMJDY. With the announcement of the scheme 147.2 million accounts were opened as on March 2015 and the figure enlarged to a whopping 352.7 million as of March, 2019 (Department of Financial Services, 2019) resulting in a 140 percent increase when compared with the figure of 2015. The ownership of bank accounts among women and poor households in India jumped up by more than 30 percent between 2014 and 2017 (Demirguc-Kunt et al., 2018). Though the scheme of PMJDY brought more than 350 million people under the banking system providing a variety of financial services, the problem of minimal or no transactions together with duplication of accounts defeated the goal of the scheme. Despite various initiatives taken to escalate financial inclusion, the reasons that led to its slow progress are a fundamental question. Further, the National Strategy for Financial Inclusion 2019-2024 has been set up for deepening financial inclusion, improving financial and digital literacy and protecting consumers to provide sustainable financial inclusion but the challenge of usage or specifically voluntary exclusion is a key obstruction in inclusive growth.

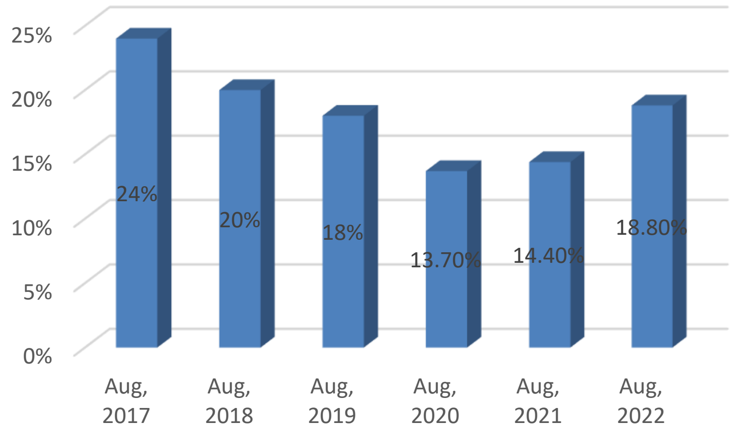
3.3 Issues for Sustainable Financial Inclusion in India

A crucial component of both maintaining and accelerating the nation’s economic growth rate is creating a financially inclusive society (Anand & Chhikara, 2013). According to the definition of financial inclusion, emphasising accessibility alone could not have the same impact as emphasising the sufficiency of services in view of the fact that what is readily available might not always be sufficient to meet consumer needs or demands (Vaid, Singh & Sethi, 2020). In this regard, outreach plays a crucial role in aiding the imperative reach of financial services. Measures of financial inclusion are comprised of two vital components, namely the demand and supply side, which govern the crucial aspects of deepening inclusive growth of a country. The RBI's Financial Inclusion Index is based on three important indicators of access, usage and quality, where access represents the supply-side initiatives for financial inclusion. Usage is a demand-side metric representing how financial infrastructure is used in terms of savings, insurance, remittances, credit, etc. Quality indicator involves actions made by the relevant parties to make the consumers aware of the right financial services together with removing psychological barriers. Keeping in view the above indicators, it is necessary to grasp the demand and supply side factors (issues and determinants) that affect the sustainable use of financial services in India.

3.3.1 Usage

In India, account ownership has increased by 78 percent in 2021 in contrast to 35 percent in the year 2011. This indicates a more than a cent percent increase over a decade, which is the highest increase over a prolonged period as per data from Global Findex Database, 2021 (Demirguc-Kunt et al., 2021). The gender gap in India has also shrunk significantly since 2011, going from 22 percent points to insignificance in 2021 (Demirguc-Kunt et al., 2021). Meanwhile, India accounts for a significant portion of the world's unbanked population due to its sheer size with 230 million unbanked adults, while accounting for comparably high rates of account ownership. Furthermore, 35 percent of the bank accounts in India are inactive which is the highest globally and also seven times greater than the average of 5 percent for developing nations exclusive of India (Demirguc-Kunt et al., 2021). The ground for a high level of inactivity could be ascribed to the dormancy in PMJDY accounts. As of August, 2022, there are 462.5 million accounts in India of which 375.7 million are operative (Ministry of Finance, Press Information Bureau, 2022). Even though the percentage of inoperative PMJDY accounts declined to 13.7 percent in August, 2020 from 24 percent in August, 2017, however, it showed a rising trend from August, 2021 to 14.4 percent and further to 18.8 percent in August, 2022 (Figure 3.1). This exhibits a challenge in lowering the increasing number of inactive accounts in the country. According to Global Findex Report, 2021, around 50 percent of adults having an inactive account in India cited financial institutions' distance, lack of trust, lacking need as the major inhibitors in the active use of bank accounts. In addition, 30 percent of adults reported not feeling at ease utilising an account on their own. The survey also found that 33 percent of Indian adults prefer to borrow from informal sources during an emergency (Demirguc-Kunt et al., 2021). In addition to these, according to Grameen Foundation India

Report (2013), the most frequent reasons given for dormancy in no-frill accounts by business correspondents include lower financial literacy and education, transaction costs and unsuitable product for the customers.



Source: Ministry of Finance, Press Information Bureau (2022)

Figure 3.1: Year-wise inoperative PMJDY accounts

Although the insurance industry in India is growing, its density and penetration rates are still relatively modest. According to the data provided by IRDAI, the number of people who have insurance in India increased by only 1.49 percentage points over the course of the past 19 years, going from 2.71 percent in the year 2001 to 4.20 percent in 2020. However, during the same time period, there was also a significant increase in insurance density (IRDAI, 2021). Furthermore, non-life insurance has relatively low levels of insurance penetration (1 percent) and density ($19) in India as of 2020 (IRDAI, 2021). According to NITI Aayog (2021) lack of access to insurance products, low knowledge and the complexity of understanding a complicated product, client identification and outreach, affordability, and inadequate rural involvement are the key challenges that limit its uptake. Thus, it is evident that a sizable portion of the Indian population is still uninsured due to the low insurance penetration and density levels. These low penetration rates need to be addressed if the insurance industry is to fulfil its potential as a driver for inclusive growth.

Moreover, the vast majority of the financially excluded and underprivileged can gain access to institutional credit on a sustained basis through the viability of self-help organisations. According to Bhanot & Bapat (2019) equitable credit access, savings in groups, availing of loans for the income-generating endeavour and convenient training procedures are requisite for the sustainability of SHGs. As per a report by NABARD (2020), there has been a disparity in the state-wise credit linkage of SHGs. With Telangana (63.8 percent), West Bengal (63.3 percent) and Andhra Pradesh (61.9 percent) being the top states and New Delhi (0.9 percent), Arunachal Pradesh (2.6 percent) and Lakshadweep (2.8 percent) being at the bottom. Besides, Assam accounts for 6.4 percent credit linkage of SHGs during the year 2019-2020. Moreover, even though the number of SHGs has increased from 35017 to 37807 in the North Eastern region but it is minuscule when compared with the other regions of the country. Central, Eastern, Western, Southern and North Eastern regions exhibited 60.29 percent, 55.95 percent, 35 percent, 30.33 percent and 21.44 percent increases respectively. SHG growth in the North Eastern region is slow-paced with only an 8 percent increase in two years (Table 3.1). Furthermore, the Eastern, Southern, Western and Central regions' progress under microfinance-savings of SHGs with banks is much higher than that of the Northern and North Eastern regions (NABARD, 2020). Thus, the region's diversity makes it impossible for a one-size-fits-all strategy for SHGs to satisfy all the demands. Therefore, it becomes requisite to identify the particular infrastructure requirements.

SHGs are a crucial part of the financial mediation process, particularly for rural women. Despite this, the potential that this endeavour presents has not yet been fully used. Even while the SHG itself could be connected to a bank, the financial transactions that take place within the group, particularly their history of borrowing money and paying it back, are not optimally utilised by the formal financial system. This makes it difficult for SHG members with a good track record of savings and repayment to establish credibility with a bank (RBI, 2019). Furthermore, the sustainability of self-help organisations is affected by a variety of reasons, including irregular savings, diminishing membership, increased loan defaults and inability to acquire credit (Parida & Sinha, 2010; Reddy & Reddy, 2012). Studies have also revealed that a considerable rise in savings strengthens the group's corpus, causing group members to favour intra-lending over bank loans (Bhanot & Bapat, 2019). In this context, the digitisation of SHG data has been identified to be of vital importance, and NABARD has been spearheading this effort through a project named "e-Shakti" of the RBI. However, concerted efforts are required for the scheme to be successfully implemented for the sustainability of SHGs thereby acting as agents of social change.

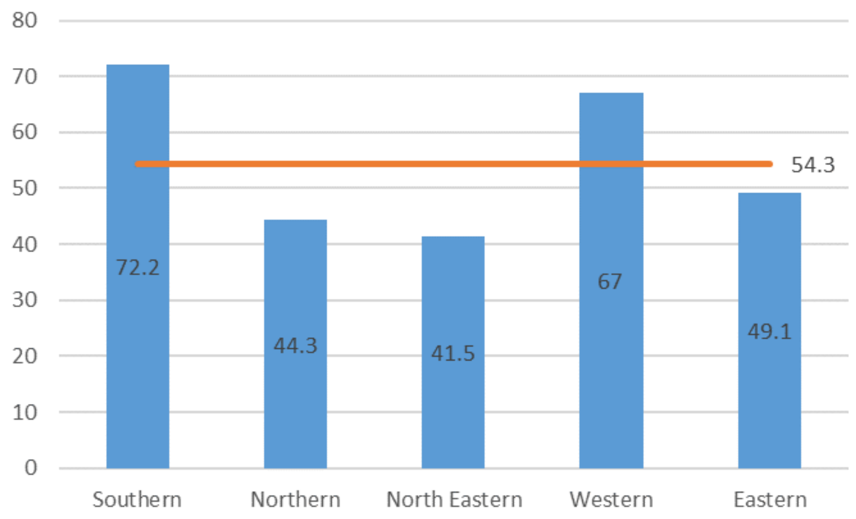
Table 3.1: Percentage increase in the number of SHGs in different regions of the country from 2017-2018 to 2019-2020

Regions	**2017-2018**	**2019-2020**	**Percentage increase**
	Number of SHGs	**Number of SHGs**	
Southern	1255603	1636481	30.33%
Western	128973	174218	35%
Central	69295	111074	60.29%
Northern	51800	62905	21.44%
North Eastern	35017	37807	8%
Eastern	720444	1123517	55.95%
Total	2261132	3146002	39.13%

Source: NABARD (2020)

3.3.2 Access

The deficiency of bank branches in different regions of the country is a vital reason for the narrow growth in equitable financial inclusion in the country. The Southern region accounts for a 28 percent share of the total bank branches of the country followed by the Central and Western region with a 20 percent share. However, the North Eastern region accounts for only 3 percent of the total functioning offices of commercial banks in the country. Among the North Eastern states, there is below-average branch penetration in Arunachal Pradesh, Assam, Nagaland and Manipur as compared to the national average (CRISIL, 2018). Consistent with this, 43 percent of respondents in the Global Findex Survey Report 2021 cited distance as a barrier to the sustainable use of bank accounts. Moreover, the South and Western regions have a sizeable lead in insurance penetration scores as compared to other regions because of their extensive agent network (CRISIL, 2018). However, the insurance penetration score for Eastern, Northern and North Eastern regions are below the average insurance penetration in the country. The North Eastern region continues to have the biggest variation, suggesting the existence of distant places with challenging terrain that present a hurdle to financial inclusion.



Source: CRISIL (2018)

Figure 3.2: Region-wise insurance penetration in India compared with the all-India average insurance penetration score

Over the years, the use of Automated Teller Machines (ATMs) by accountholders has increased significantly in India. However, the majority of the emerging markets and advanced economies have easier access to ATMs as compared to India (RBI, 2019d). Geographically, the country’s ATM deployment is divided into rural, semi-urban, urban and metro centres. Additionally, due to the poor overall ATM accessibility in India, the distribution of ATMs varies among urban and rural areas. Even though 69 percent of the country’s population resides in rural areas according to 2011 census, the ATM deployment in semi-urban and rural areas is 48 percent as of March, 2021, the rest being deployed in urban and metropolitan areas. According to RBI (2019), an ATM in India processes 120-130 financial transactions daily on average, with more than 70 percent of transactions of a ticket size of up to Rs. 5,000. This shows ATMs are an important channel for financial access. Thus, when it is simple and possible to perform transactions from bank accounts as per the time, location and need, the customers are more likely to maintain their accounts, which increases the amount of money moving through the formal banking system. Furthermore, with a more than 200 percent increase in the number of debit cards over a decade i.e., March, 2012 (278 million) to March, 2021 (898 million) (RBI, 2019d; RBI, 2021b), however, there was a negligible increase in the number of ATMs from March, 2016 (212000) to March, 2019 (227000) (RBI, 2019d). Notwithstanding the fact that there has been an upward trend in the number of ATMs from 234357 in March, 2020 to 251740 in March, 2022 (RBI, 2020-2022b). Besides, the high debit card to ATM ratio poses constraints in the swift provisioning of financial services i.e., 24 ATMs/100000 debit cards (RBI, 2019d). India has limited ATM access, furthermore, the deployment of new ATMs has been hampered in recent years with regard to the exorbitant expenses of running ATMs thereby making them unviable. This requires an innovative and cost-effective quick response-based model to enhance interoperability in financial services together with enhancing access.

Additionally, the pricing and comprehension of insurance products are correlated with their accessibility (Ray et al., 2020). Increases in insurance penetration and density can be achieved through expanding access to insurance to previously uninsured populations, such as those living in rural regions and in low-income urban neighbourhoods. As such, it is critical that we find ways to make insurance more widely available. The ease with which people can obtain insurance is of paramount importance. Launched in September 2018, the Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and State Government extension programmes provide comprehensive coverage for hospitalisation to the bottom 50 percent of the population, or around 700 million. In addition, 250 million individuals are protected by social health insurance and voluntary private health insurance (NITI Aayog, 2021). Despite the progress made, approximately 400 million people still lack health insurance. This segment is referred to as the "missing middle" because they have the means to pay nominal insurance premiums but are unaware of or lack access to reasonably priced products (NITI Aayog, 2021). Compared to the growth in PMJDY accounts, it is reasonable to assume that only half of the Jan Suraksha task has been completed, even if one policy per household is considered (Singh & Pandey, 2017). Furthermore, the service providers also have the additional issue of trying to meet the cost challenge. As a result, insurers will have to pay more to expand their distribution networks to rural areas. This requires service providers to create new innovative products for the unserved to recover the increased distribution costs (Krishnamurthy et al., 2005).

Access to credit is also a major factor to consider when considering account usage. The challenge of rural farmers gaining access to finance has been exacerbated by the inadequacy and untimely credit, as well as procedural obstacles. Despite significant growth in the scope of priority sector lending, the rural and agricultural lending performance of some public sector banks is inadequate. According to the Report of the Task Force on "Credit Related Issues of Farmers," the rigid procedures and systems of formal sources, which prevented small and marginal farmers from gaining easy access to credit, competed with the convenient and flexible lending methods of informal sources. The members of the Task Force encountered instances in which farmers were borrowing at five to ten percent each month (Pradhan, 2013). As priority sector lending is a vital component of the agricultural and rural economies. It is necessary to reach underserved sectors and regions, such as the eastern and north-eastern regions of the nation, low-income households, and MSMEs (RBI, 2019e). Furthermore, the total addressable demand for external credit in India is estimated to be 37 trillion, whereas the total supply of formal sources of finance is expected to be 14.5 trillion. Thus, the overall credit deficit in the SME sector is therefore expected to be between 20 and 25 trillion (RBI, 2019e). According to a report by Omidyar network & Boston Consulting Group (2018) 40% of India's micro, small, and medium-sized enterprise (MSME) loans are made through the informal sector, where interest rates are at least twice as high as in the formal sector. Procedural difficulties, lack of knowledge of various schemes, high borrowing costs and refusal of credit force financially restricted SMEs to rely on informal financing as an alternative to conventional credit (Nguyen et al., 2019).

Along with credit, savings, and insurance facilities, remittances were identified in the Rangarajan Committee on Financial Inclusion's report as essential financial services that should be made available to the weaker sections at a reasonable cost. Current domestic remittance delivery mechanisms include both formal institutions like post offices and banks, and informal channels like friends and family or private informal sector remitters (EXIM Bank of India, 2016, Tumbe, 2011). Notably, by the year 2020, programmes to increase financial inclusion, such as PMJDY, have increased the number of migrants with bank accounts, which has had a significant effect on how families back home get their remittances. Numerous studies have shown that the vast majority of internal migrants use informal money transfer practises and procedures because formal channels like banks and post offices remain inaccessible in many locations due to economic, institutional, and social factors. (Reja & Das, 2020). Consequently, sending money quickly, cheaply, and securely is a primary concern for migrants. Furthermore, according to estimates by the World Bank for remittances in 2017, India is the leading beneficiary of remittances from a broad diaspora of Indian migrants primarily centered in the Gulf area, followed by the United States, the United Kingdom, and Canada (Global Partnership for Financial Inclusion, 2017). In Q2 2021, the average cost of international remittances was 6.3 percent for transfers of US$200 and 5 percent for transfers of US$500, both of which were higher than the SDG target (Tewari & Mishra, 2022). In this regard, service providers are required to invest extensively in digital technologies. In addition to lowering the price of remittances, increasing the use of digital payment methods and integrating with mobile and digital channels bodes well for virtual Know Your Customer processes by linking the digital wallets of senders and recipients.

3.3.2A: Agent Issues

In order to favour advancement in financial inclusion, banks have come up with Customer Service Providers (CSP)/Bank Mitras/Business Correspondents for broadening their services in underserved areas and deployment of ultra-small branches. The CSP agents are able to offer a certain range of banking services at minimal cost, and as a result, play a vital role in fostering financial inclusion. It also provides an opportunity for the agents to augment their income (Uzma & Pratihari, 2019). However, even though the process of operation of the agents holds immense possibilities but studies have specified that the process has not taken off as anticipated (Singh et al., 2014; Ujjawal et al., 2012, Uzma & Pratihari, 2019).

Agent dormancy is a critical aspect, which has put forward the concern for making the business correspondent model sustainable. According to a survey by MicroSave, 11 percent of the bank mitras interviewed were dormant. Among the bank mitras interviewed in different states, the level of dormancy was found highest in Punjab (42 percent), Maharashtra (42 percent), Himachal Pradesh (32 percent), and Madhya Pradesh (32 percent) and the lowest in the states of Uttar Pradesh, Karnataka with 3 percent agent dormant level and Bihar, Tamil Nadu, and West Bengal with 4 percent dormant agents (Sharma, Giri & Chadha, 2016). The state of Assam, however, accounted for 6 percent of dormant agents. The operation, methods, technology and product challenges that affect the provision of services to underprivileged clients are among the supply-side factors that affect inactivity (Grameen Foundation India, 2013). Furthermore, other reasons include poor/delayed remuneration, lack of comprehension regarding banking criterion, technical expertise, numerous technological issues, inefficient grievance resolution process and insufficient capacity for cash holding (Uzma & Pratihari, 2019). The average dormant accountholders/CSP is found to be 264 as per the MicroSave survey (Sharma, Giri & Chadha, 2016). A probable reason found by Uzma & Pratihari (2019) is that the agents rarely communicate with no-frill account holders on a continuous basis and have not made a consistent and long-lasting effort to continue regular business with zero balance accounts. Thus, the insufficiency of financial education programmes on the part of bank mitras/banks and lack of support from Business Correspondent Network Managers (BCNM) affects the viability of operations thereby acting as a deterrent in uplifting the drive towards financial inclusion in a sustainable manner.

3.3.3 Quality

Making customers aware of the right financial services and removing socio-economic and psychological barriers is a crucial component in enhancing the quality of financial services. Financial literacy, which comprises financial attitude, behaviour and knowledge is also a crucial determinant of sustainability in financial inclusion. According to the guidelines provided by OECD, if a person scores 15 comprising 3 for financial attitude, 6 for financial behaviour, and 6 for financial knowledge out of a total score of 22 points, then a person is considered to be financially literate. A survey by National Centre for Financial Education (2019) found that the average financial literacy for India is 27 percent out of which the Western, North- Eastern, Northern and Southern regions are above the national average, however, the Central region is below the average with 21 percent financial literacy rate. Additionally, there is a gender, residential area wise and age gap in financial literacy in the country. According to the survey, people in urban areas (33 percent) are 8 percent higher in financial literacy than those in rural areas (24 percent), also, male respondents (29 percent) have a higher level of financial literacy than female respondents (21 percent). Furthermore, the general category has the highest level of financial literacy as compared to scheduled tribes, scheduled castes and other backward classes. This exhibits the disparity in financial literacy among various socio-economic classes of the country acting as a deterrent in the enhancement of inclusive growth. Therefore, it requires taking into account the efforts put forward by the regulators in boosting literacy programmes and evaluating the impact and sustainability of those efforts.

Efforts have been undertaken by the Government of India and the Reserve Bank of India with regard to the promotion of financial inclusion as a critical objective for the growth of the nation. However, financial inclusion disparities persist even after decades of ongoing attempts to create inclusive growth. The obstacles like account dormancy, distance, agent level issues, inequalities in the branch, credit, insurance penetration across the country, inadequate acceptance infrastructure especially in the unserved areas, lack of suitable banking products and credit-starved MSMEs affect the sustainable use of financial services particularly by the last mile sections. The issue of lack of ATMs and bank branches necessitates the creation of affordable strategies to improve the accessibility of financial services (Sustainable Development Solutions Network, 2016) and it is technology particularly FinTech-based applications that can overcome such challenges. In order to build a strong digital economy and lead the way toward India's transition to inclusive growth hinges on the confluence between financial services and rapid technologies. Technology has been complementing the incumbents with almost nil processing costs and seamless delivery of financial services (PwC, 2021). Furthermore, the collaboration between the banks and FinTech start-ups would aid in making the Indian banking industry more rapid and diverse.

Growth of FinTech Services in India

Section 2

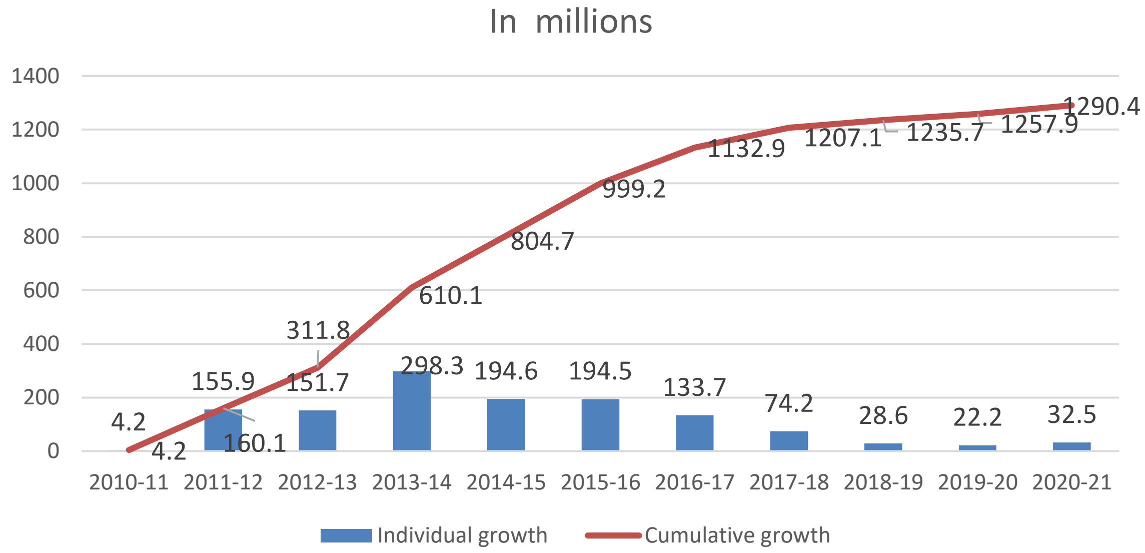
Several elements have improved the nation's digital ecosystem, including advancements in payment infrastructure, changes in information and communications technology, a flexible regulatory environment, a supportive political climate, and a stronger emphasis on customer-centricity. The foresight to revitalize growth with self-sustenance being the focal point is based on the five major pillars of economy, infrastructure, technology, demography and demand. Among the five pillars, a technology-driven system is a vital aspect and the supporting element, which can assist in enhancing scalability, applicability and access (Confederation of Indian Industry, 2021). With remarkable advancements in technology such as predictive analytics and distributed ledger technology, the incumbents have shaped a collaborative move with FinTech firms to provide innovative technology-based solutions to enhance efficiency and ease in financial services. FinTech has not only succoured in providing better access to banking services by keeping down the cost but has also provided manifold ways of capital raising for start-ups and SMEs assisting them in building a credit history. With India embarking on the aspiring initiative of financial inclusion that specifically prioritise inclusive growth by embracing technology, the hastening of digital financial transformation amidst the pandemic has led the way to technology-based financial services, particularly e-wallets, contactless cards as the predominant tool to conduct financial transactions with increased interoperability. As self-reliant India requires a self-reliant banking sector, this integrated approach of unwrapping immense opportunities requires addressing demand and technology-driven innovations have become the trailblazer in nourishing the creation of an ecosystem where individuals from every section of society are included.

Though, the present health crisis notably differs from the global financial crisis of 2008 it has a significant impact on the financial sector. The payments sector observed significant growth amidst the pandemic. Transactions relating to digital payments noticed a steep rise during the pandemic with 34.3 billion in the year 2020 from 23.4 billion in the previous year (Pathak & Wright, 2021 as cited in Inclusive Finance India Report, 2021). FinTech services along with the ubiquity of mobile devices, create a combination of solutions that could be scaled up to reach the unserved. Financial inclusion being an important area for the FinTech industry has huge potential for thriving in the vast untapped areas with superior experience in terms of financial services. Thus, section 2 of this chapter deals with the growth of FinTech services in India with a special focus on interface with financial inclusion.

3.4 Upscaling of FinTech in India

The uprise of FinTech in India is based on the strong foundation of IndiaStack, a set of Application Programming Interfaces (APIs) developed by the National Payments Corporation of India (NPCI), which serves as a vehicle for social and financial inclusion by permitting the businesses, Governments, start-ups to use the unique digital infrastructure. The four crucial layers of IndiaStack i.e., presenceless, cashless, paperless and consent layer serves as salient pillars for building an inclusive financial system. The presenceless layer specifically relates to the authentication system as such the unique digital identification called Aadhaar whereas the paperless layer refers to the digitisation of records such as Aadhaar eKYC, digital locker[1] that aids in digital retrieval of information. As of 31st March, 2021, the issuance of Aadhaar has reached 1290.4 million (Figure 3.3) thereby registering a 90 percent saturation level (Unique Identification Authority of India [UIDAI], 2021). However, the saturation level in comparatively lower in North East states when juxtaposed with the rest of the country (UIDAI, 2021).

[1] DigiLocker is an important drive under Digital India programme. DigiLocker, which is aimed at paperless governance, is a platform for the digital verification and issuance of papers and certifications, doing away with the need for physical documents.

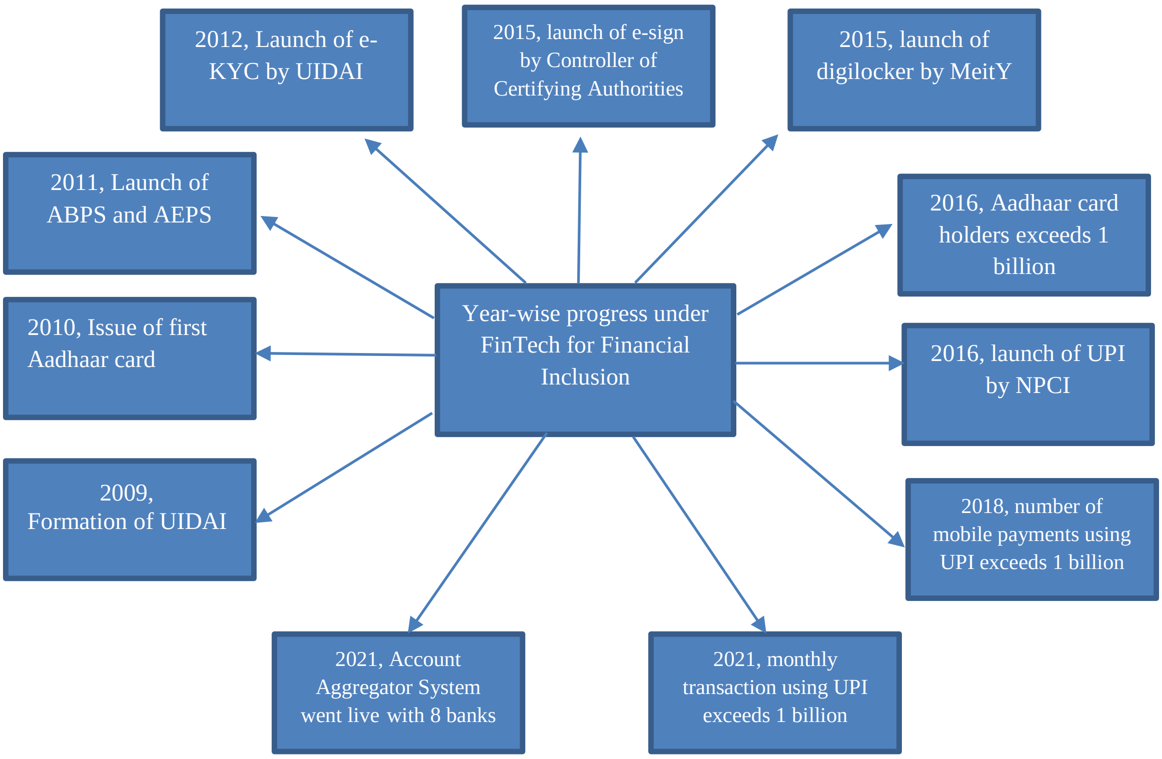


Source: UIDAI (2021)

Figure 3.3: Year-wise progress in Aadhaar issuance.

The system of digital ID enabling participation in the digital economy encourages broad inclusion. API implementation strategies create an ecosystem for the flow of data and payments in which numerous providers can participate, encouraging innovation and providing the user with varied options (Carriere-Swallow, Haksar & Patnam, 2021). Interoperability being a prerequisite for fostering growth with regard to digital financial inclusion, thus, maintaining stability coupled with robust regulation is a necessity for uplifting the trust among the users. Consequently, stability together with efficiency would further lead to the augmentation of the digital economy. Furthermore, the launch of Aadhaar-enabled and Aadhaar bridge payment system for direct benefit transfer, e-KYC for reducing cost for the banks have further fueled the growth of the country's digital ecosystem. (Figure 3.4). The cashless layer includes the enhancement of ease of use and transparency together with increasing everyone's ability to use and access digital payments. The noteworthy development in the cashless layer is the introduction of UPI, which was designed keeping in mind the financial inclusion journey that started with the aim of giving access to bank accounts to every citizen and now allowing them to participate in the digital economy, which has swiftly become smartphone-enabled.

UPI is a three-tiered system at the foundation of which consists of the public rails handling the routing of the payment messages, second is the regulated banks that update account balances and maintain the funds of the user. The third tier consists of FinTechs that allow the payment applications to get hold of the system (IndiaStack, 2021b). After the launch of UPI in the year 2016, the monthly transaction volume crossed one billion in the year 2019 (NPCI, 2019). Furthermore, as of November, 2021, the volume of UPI-based payments stands at 4186 million (IndiaStack, 2021b). The fourth layer of IndiaStack i.e., consent provides a user-controlled data sharing and retention framework, which enables the users to share data digitally with the providers of FinTech services for gaining access to insurance, credit, etc.



Year-wise progress under FinTech for Financial Inclusion
2009, Formation of UIDAI
2010, Issue of first Aadhaar card
2011, Launch of ABPS and AEPS
2012, Launch of e-KYC by UIDAI
2015, launch of e-sign by Controller of Certifying Authorities
2015, launch of digilocker by MeitY
2016, Aadhaar card holders exceeds 1 billion
2016, launch of UPI by NPCI
2018, number of mobile payments using UPI exceeds 1 billion
2021, monthly transaction using UPI exceeds 1 billion
2021, Account Aggregator System went live with 8 banks

Source: IndiaStack (2021a)

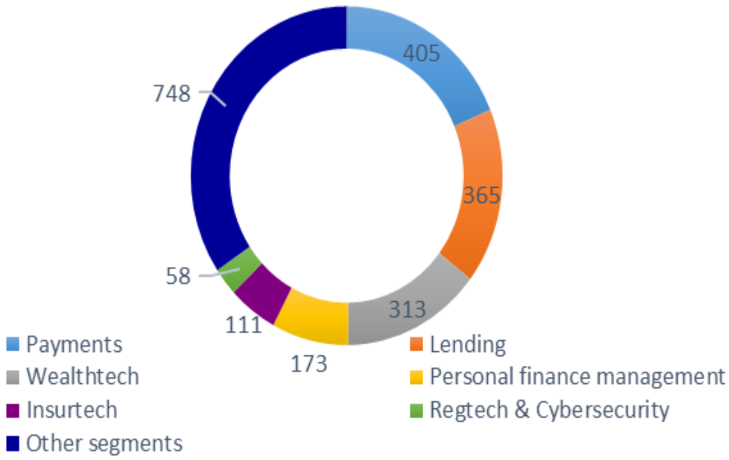
Figure 3.4: Year-wise landmark of FinTech for financial inclusion

Furthermore, 470.4 million Jan Dhan account holders with 313.9 million in rural/semi-urban centres and 156.5 million in urban/metro centres as on September, 2022 (Department of Financial Services, Government of India, 2022), wide Aadhaar coverage and rising smartphone penetration i.e., from 23 percent in the year 2016 to 54 percent in 2020 (Statista, 2020) demonstrates the immense potential of the Jan Dhan-Aadhaar-Mobile (JAM) trinity in furthering sustainability in financial inclusion. The JAM trinity led to revolutionary changes in direct benefit transfer by the Government. As the Covid-

19 pandemic has served as a turning point, which put to the test whether such infrastructure would aid in realising the goal that it was meant for. The Pradhan Mantri Garib Kalyan Package announced in March, 2020 by the Government of India including in-kind assistance and welfare payments to the last mile population during the pandemic has been able to reach the mass population and the progression can be ascribed to the JAM trinity, which aided in reducing the leakages in government subsidies. A substantial number of welfare payments were done through Jan Dhan accounts, which provided Rs. 500 for three months during the initial days of the lockdown to about 206 million women beneficiaries (Gelb et al., 2021). Furthermore, the ‘Fincluvation’ initiative by India Post Payment Bank pivots to bring forth inclusive solutions with FinTech start-ups in the areas of creditization to create inclusive and innovative credit products and interoperable banking solutions together with the participating FinTech start-ups, have provided the much-needed boost regarding FinTech for financial inclusion. (Ministry of Communications, Press Information Bureau, 2022).

3.5 FinTech Segments – Payments, Insurtechs and Lendingtechs

India is experiencing tremendous growth considering the adoption rate of technology-based tools and is second in terms of the number of users of technology-based services after China (Buteau, Rao & Valenti, 2021). However, data from TRAI exhibits that there is still a significant portion of the country’s population who are yet to be a part of the digital ecosystem. This infers that there is a lot of unrealized potential for additional digitisation for furthering financial inclusion goals and that, with the correct interventions, the number of consumers embracing digital financial services would probably rise in the upcoming years. India's start-up ecosystem is the third largest in the world with over 2000 start-ups belonging to the FinTech sector. Moreover, more than 17 FinTech start-ups in India have achieved Unicorn status (Ministry of Commerce & Industry, Press Information Bureau, 2021). PayTm is the biggest Indian FinTech unicorn with a valuation of $ 13.8 billion followed by Phonepe, PineLabs and Digit with a valuation of $ 5.5 billion and $ 3.5 billion respectively (Inc42: State of Indian FinTech Q1 2022 report (2022). While there are numerous FinTech start-ups operating in India, however, among them payments and lending have become popular. Additionally, start-ups working in the field of regtech and cybersecurity need to make significant progress (Figure 3.5). The UPI-based transactions brought respite in domestic remittances through retail transactions with low value. In addition, Aadhaar Enabled Payment System (AEPS) was introduced to provide interoperability in financial transactions with a broader focus on enhancing financial inclusion at agent points through micro ATMs/Point of Sale devices. The volume of UPI and AEPS payments as of August, 2022 is 6579.63 million and 105.65 million (NPCI, 2022a). Most of the progression in terms of retail payments can be ascribed to person-to-person and person-to-merchant payments. The volume of transactions of top-most UPI applications in April, 2020 were Google Pay (440 million), PhonePe (374 million), PayTm (128 million), BHIM (14 million), Amazon Pay (14 million), which further reached 902 million for Phonepe, 854 million for Google Pay and 261 million, 41 million and 25 million for PayTm, BHIM and Amazon Pay respectively in December, 2020 (Pathak & Wright, 2021 as cited in Inclusive Finance India Report, 2021). With more than 265 million users and a 40 percent UPI market share, Phonepe has become the market leader in 2020 in varied services in terms of payment of utilities, recharges, and FASTag[2] payments (MicroSave Consulting, 2021). The UPI market continues to be dominated by PhonePe and Google Pay, approximately 79 percent of all UPI transactional volumes are held by them combined with a transaction volume of 2.16 billion in March, 2021 (Pathak & Wright, 2021 as cited in Inclusive Finance India Report, 2021).



Source: India Brand Equity Foundation (2021)

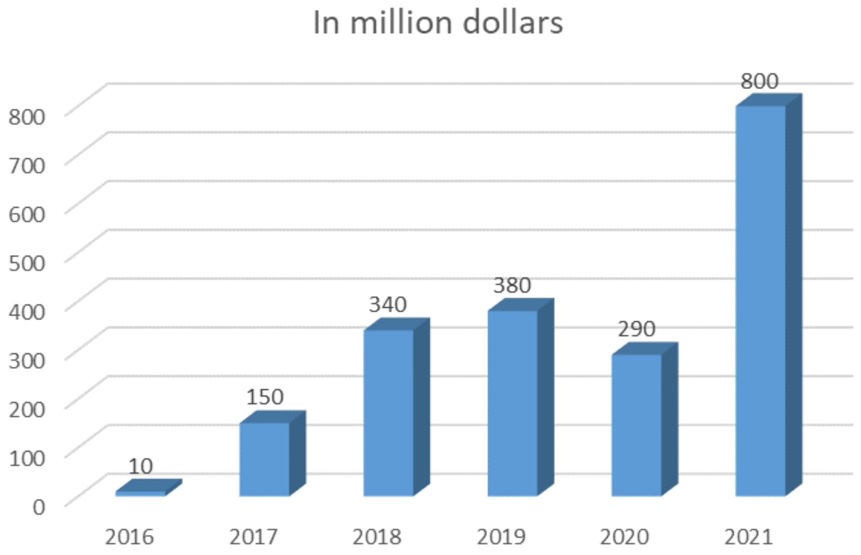
Figure 3.5: FinTech start-ups in India by segment as of 2020

Despite fabricating a major portion of the country's trade and commerce, the capital-distressed and credit-starved MSMEs of the country, face headwinds to thrive in the long

[2] FASTag is an initiative under National Electronic Toll Collection Program. Developed by NPCI, Radio Frequency Identification (RFID) technology to enable toll payments to be made with interoperability directly from moving vehicles (NPCI, 2022b)

run. Enormous documentation and traditional loan application process make the credit gap even higher. FinTech has also aided in lending activities through its innovative business models to meet the needs of the underserved. The initiatives driven by the Government and the IndiaStack infrastructure providing for API-based data sharing have led to fundamental transformations in lending activities thereby addressing the difficulties faced by conventional lenders. RBI-registered NBFCs such as LendingKart provides business and working capital loans across the country. The loan application and processing of the lendingtechs is digital, with no collateral fee, which provides ease to the customers and meets their needs. LendingKart has sanctioned loans worth over 10 billion and has a presence in over 4000 cities and towns in India (LendingKart, 2022). With increased digitisation in the lending industry, data-driven systems are the prime motivator in building a credit history for the underserved and thus, as per Statista as cited by PwC (2022), the lendingtech in India is expected to expand to 350 billion dollars by 2023.

India has a low insurance penetration rate, which has been linked to factors like client ignorance of the need for and advantages of insurance products, predatory sales tactics by agents, and mistrust of them (PwC, 2022). Insurance is viewed as a cost rather than a means to alleviate uncertain risks. However, the unprecedented Covid-19 pandemic has resulted in a swift rise in awareness about insurance products, which also led to a strong momentum with regard to insurtech business in the country and globally. The global insurtech industry has grown seven times within a span of five years with 22 insurtech unicorns (Boston Consulting Group & India Insurtech Association, 2022). India has three insurtech unicorns such as Policybazaar, Acko and Digit, out of the three Acko and Digit emerged as a unicorn in 2021 i.e., amidst the pandemic (Boston Consulting Group & India Insurtech Association, 2022). The insurtech funding in India has also seen a steep rise with meagre 10 million in 2016 to 800 million in 2021, with a more than 175 percent increase compared to the figures of 2020 (Figure 3.6). With a 17 percent daily rise in active users, Phonepe is also rapidly growing in the insurtech space with the sale of more than 600000 insurance products within a period of six months (MicroSave Consulting, 2021). Regulatory sandbox by Insurance Regulatory and Development Authority (IRDAI), enablers including IndiaStack, India Insurtech Stack initiative by India Insurtech Association (Boston Consulting Group & India Insurtech Association, 2022), National Health Stack (NHS) by the policymakers would provide a fillip in tapping the unserved market and enhancing insurance penetration and reach. The National Health Stack, which comprises Ayushmaan Bharat Health Accounts enables doctors, hospitals, etc. in uploading the data of the customers in a digital manner. Secondly, it includes Unified Health Interface (UHI) providing for making payments for medical services that the patient has obtained and the third includes seamless processing of claims in a digital manner using the Health Claims Exchange (HCX) (PwC, 2022). Thus, technology penetration would assist in tapping insurtech facilities into the rural markets with automated, innovative products and seamless experiences.



Source: Boston Consulting Group & India Insurtech Association, 2022

Figure 3.6: Insurtech equity funding in India

3.6 Covid-19 Accelerating FinTech Growth

Though the transactions fell for some months during the initial days of lockdown technology-based financial services gained traction, especially in payments and surpassed the previous levels due to behavioural change among users and avoidance of physical contact. A significant proportion of this growth comes from the digital infrastructure of UPI by smartphone users and AEPS used by the customers in agent points. The transaction volume of 5583.05 million with a value of 9833.04 million as of April, 2022 (NPCI, 2022a) has been performed using the UPI platform, which surpasses the pre-covid value and volume. The pandemic, which initially restricted mobility has acted as a flex point and the disruptions created by the pandemic aided in augmenting the adoption of FinTech services thereby making India one of the fastest-growing FinTech markets globally (PwC, 2022). Taking into account the growth in technology adoption, the Government has also come up with innovative solutions embracing FinTech amidst the pandemic, which would provide a boost to the financial inclusion landscape of the country. Consequently, the proposal of New Umbrella Entities (NUE) in 2020 would aid in monitoring, managing and operating the payment system and lead to the development of new payment technologies. NUEs may play a significant role in promoting FinTechs and boosting financial inclusion. Another accomplishment in India's pursuit of advancing the FinTech revolution amidst the pandemic is the launch of e-RUPI by NPCI together with other Government departments and partner banks. e-RUPI would enable the beneficiaries to redeem their vouchers received for a particular activity or purpose by the Government or other institutions without the need for digital payment apps or cards. The beneficiaries could redeem the vouchers at merchants' points accepting the service in a fast, convenient and leakage-free manner with utmost confidentiality of the beneficiaries' information (NPCI, 2022c). Additionally, the advent of the PM SVANidhi scheme in the second quarter of 2020 to offer working capital loans to street vendors gave a boost to their halted commercial activity as a result of lockdown limitations, with 3.04 million people covered by the programme, as per data from the Ministry of Housing and Urban Affairs (2022). The formalisation would provide prospects for economic and social vigour and improve the technology infrastructure needed to digitise the credit ecosystem. The pandemic has also pushed the increased use of electronic and video-based KYC for seamless customer onboarding and digitisation among MSMEs. The transaction value on Trade Receivable Discounting System (TReDS) platform grew by three times in the financial year 2022 when compared with the 2020 figures (PwC, 2022). Furthermore, the launch of the National Digital Health Mission by the Ministry of Health and NITI Aayog in September, 2021, with features like digital health IDs, digitisation of health records and e-pharma (PwC, 2022) would provide a further fillip to the digital health infrastructure of the country. As the pandemic has revealed that the flexibility in payments, lending and insurance could uncover progression in urban and rural areas as well, thus, the next step is the maintenance and upgradation of such a system to enhance trust among the users and ensure stability.

3.7 Regulatory Aspects and Challenges

There has been a shift to a data-driven economy due to the widespread adoption of digital financial services, which thereby requires effective and pro-active regulatory norms concerning data protection and cybersecurity for efficient use of the system. For instance, Europe through its General Data Protection Regulation has taken a forward-looking initiative by shifting the protection of security and privacy to the service providers with penalties for infringement of the laws by emphasising damage reduction (D’Silva et al., 2019). In India, the Personal Data Protection Bill was first introduced in LokSabha in 2019 and was further referred to a standing committee, which generated its report in the year 2021. The Bill aims at protecting individuals’ personal data together with the maintenance of transparency, data encryption, alleviation of data mistreatment and providing for adequate grievance redressal mechanisms for the resolution of consumer disputes. The Bill also provides a consent-based approach where data processing by the service providers is allowed only after receiving the customer’s consent (PRS India, 2022). However, the Bill has been withdrawn by the Government to rethink the regulatory issues and take into account a comprehensive legal framework with a new Bill. In addition, keeping in view the Payments Vision, 2021 the RBI announced the Online Dispute Resolution (ODR) with the aim of providing a system-driven and zero manual intervention-based dispute resolution process relating to payments using digital financial services. In this view, the bank and non-bank payment system operators would require the implementation of ODR for failed digital payments by January 2021 for ensuring customer due diligence (RBI, 2020c). However, such initiatives require continued customer comprehension both in the urban-rural areas so that it does not wane off the specific targets.

India is among the countries with a higher FinTech adoption rate but the converse is also true that 70 percent of account owners have not yet used cards, the internet, or mobile phones to make payments through digital means according to Global Findex Survey, 2021 (Demirguc-Kunt et al., 2021). Furthermore, less than 20 percent of account holders in India made a digital merchant payment out of which 2/3rd of those payments were done amidst the pandemic (Demirguc-Kunt et al., 2021) thereby suggesting a broad area for the FinTech service providers that can be tapped with designing strategies that result in enhancement of value proposition for the customers. Furthermore, failed AePS transactions were noticed during the pandemic due to transaction timeout and biometric discrepancies, which rose from 49 percent in the first quarter end of 2020 to 60 percent at the beginning of the second quarter of the same year (Buteau, Rao & Valenti, 2021). Such discrepancies would result in trust issues among the users of the service, especially the new users and can generate negative experiences among them. Furthermore, inequalities in terms of mobile phone usage also appear as a challenge in FinTech adoption in the country. According to Global System for Mobile Communications Association (GSMA) report, 2022, women (26 percent) are 23 percent less likely than men (49 percent) in terms of smartphone ownership. Furthermore, awareness regarding mobile internet is 19 percent less in women (51 percent) as compared to men (70 percent) (GSMA, 2022). A positive direction in this regard is being taken by the Bank Sakhi model and NABARD's E-Shakti project, which has reached 254 districts of the country by June 2021 from initially starting its operation in two districts during its launch in 2015 (BRICS India, 2021). Even though the challenges are numerous but pro-active regulatory approach to maintaining financial stability and better customer experience would bring enormous potential to India's FinTech landscape.

3.8 Chapter Summary

Even though substantial progress has been made with regard to financial inclusion and an increase in the number of bank account holders but due to the country's sheer size there are still a large number of unbanked adults in the country as per the Global Findex Report, 2021 and highest number of inactive accounts globally, which affects the sustainability in financial inclusion. FinTech-based solutions are regarded as potentially revolutionary in the financial inclusion space because they assist in addressing a number of financial frictions. These consist of cost obstacles in providing financial services that are particularly high in rural areas and among marginalised groups including migrants and urban poor, and informational imbalances that exist particularly among the consumers and service providers. Furthermore, unserved and underserved people who lack the knowledge necessary to properly analyse risk, lack of acceptable alternatives, difficulties in client due diligence can be addressed through proper comprehension of digital financial services geared towards the last mile sections. Thus, an empirical study is necessary to properly understand the issues including the accessibility of savings, remittance, insurance, borrowing habits, constraints faced when maintaining accounts in formal financial institutions, and sustainability in account usage across a variety of demographic characteristics. In addition, the variables driving FinTech adoption/non-adoption, problems experienced when utilising technology-based financial services, and the challenges faced by service providers in encouraging financial inclusion must be studied in order to promote financial inclusion through FinTech. Therefore, the subsequent chapters are grounded on fieldwork and will provide a firm understanding of the aforementioned issues, thereby in understanding the gap in fostering digital financial inclusion.

India’s remarkable journey in the FinTech space including the adoption of IndiaStack promotes disruption in terms of digital finance together with varied policy reforms relating to digital financial services would play a key role in the problems associated with financial development and inclusiveness that previously seemed unattainable. Such infrastructure with digital technology being the central part would aid in promoting inclusion in terms of remittances, credit, insurance, etc. being the salient tools for financial inclusion. India’s swift growth in FinTech also comes with certain cautionary lessons in terms of regulatory challenges, inequalities in terms of technology usage, data privacy and security issues. Thus, keeping in mind the challenges and acting in anticipation to further drive sustainability in financial inclusion would not only include the last mile sections but also assist in the regular use of services by them. This would set in motion the drive toward digital financial inclusion.