FinTech – powering India's USD 5 trillion economy by fostering innovations, enabling inclusion and building a sustainable future

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Foreword from ASSOCHAM

Deepak Sood

Secretary General

India's FinTech revolution stands as a testament to our nation's commitment to innovation, inclusivity and economic growth. Over the years, India has emerged as a global leader in the FinTech sector by leveraging technology to democratise financial services and empower millions.

The Government's visionary initiative 'Viksit Bharat 2047' embodies our collective aspiration for a developed and digitally empowered nation. As we look ahead, FinTech will play a pivotal role in realising this vision, catalysing economic prosperity, promoting financial inclusion, and driving sustainable development across all sectors.

Underpinning this success is a supportive regulatory framework which fosters innovation while safeguarding consumer interests. Government initiatives such as Digital India and Jan Dhan Yojana have laid a strong foundation for FinTech's adoption and to ensure that every citizen has access to affordable and efficient financial services.

As we move towards 2047, India's FinTech ecosystem continues to evolve with advancements in AI, blockchain and digital payments shaping the future of finance. Together, with industry leaders, startups and stakeholders, we are forging ahead to create a resilient, inclusive and digitally transformed economy.

This report tries to cover the overall trends and growth drivers, issues, challenges and government regulations highlighting the major opportunities and strategic recommendations. We hope this report will serve as a guide for practitioners and leaders to implement best practices and utilise the opportunities to harness the full potential of FinTech to drive sustainable growth and prosperity.

This report can help us expand our discussions on the subject. I would also like to express my gratitude to PwC India's team for putting together this report and being the knowledge partner for this critical initiative.

Foreword by PwC

Vivek Belgavi

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The FinTech ecosystem – both in India and across the world – has observed significant growth over the past few years. India is already emerging as a leader in the global FinTech landscape. With around 9,900[1] FinTechs as of June 2023, India ranked third in terms of number of FinTechs after the US and the UK. For the year 2023, FinTechs in India received around USD 2.8 billion[2] of funding with payments, banking and alternative lending[3] being the key sectors which receive maximum investments.

FinTechs have played a pivotal role in enhancing customer experience, increasing efficiency in different FS across the value chain and backend processes, innovating technology stacks and facilitating broader access and inclusion. These developments have been driven by several demand and supply side factors including the rise in digitisation and formalisation, introduction of digital public infrastructure, various initiatives by the regulators and the government and increasing partnerships between BFSI players and FinTechs. Currently, FinTechs in India have been focussing on improving last mile distribution and becoming more inclusive by targeting underserved segments such as rural women, industry workers and differently-abled people who are unable to access the services provided by the industry. Green finance is another emerging theme with various initiatives such as providing credit services to small players focussed on ESG areas like solar energy, organic farming and electric vehicles. Many FinTechs and FIs have been using GenAI to provide faster, customised experiences to the customers and generate deep insights. Other notable emerging themes in the FinTech ecosystem are longevity finance catering to India's ageing population and providing services around pension planning, insurance and retirement planning.

This report aims to provide a comprehensive overview of the Indian FinTech ecosystem. It also highlights the market trends across the key FinTech domains in India, explores the emerging themes in the FinTech ecosystem and analyses the FinTech regulatory landscape.

We would like to thank ASSOCHAM for organising the ASSOCHAM International FinTech Festival and making PwC India its knowledge partner. We hope that this report gives the reader an overview of the FinTech industry in India. We look forward to hearing your feedback on what we can cover in the future editions of the report.

1 https://assets-global.website-files.com/64de0e32be614455807490db/64f0978d6be0cfdb34ef14ad_The%20Bottomline-%20Elevation%20FinTech%20Report.pdf

2 PwC analysis of Venture Intelligence Data

3 https://www.livemint.com/companies/news/indian-FinTech-funding-slumps-nearly-two-third-in-2023-will-india-emerge-as-global-FinTech-powerhouse-11704444297387.html

Foreword from ASSOCHAM

Sabyasachi Goswami

Co-chair ASSOCHAM National Council on FinTech

The financial revolution in India has powered significant developments in our growth as a nation over the last few decades. A majority of Indians now have access to financial services compared to the last decade and India's financial landscape has improved by leaps and bounds. Our nation's journey to becoming a global financial powerhouse has never been just about numbers; it's about empowering the dreams and enriching the lives of 1.4 billion citizens through better access to financial services. ASSOCHAM, over the last century, has truly nurtured the financial narrative of India and has also provided a fertile ground for FinTechs to grow since its nascency. Through this report on FinTech powering India's 5 trillion economy, ASSOCHAM has given shape to the efforts and collective endeavour of the FinTech industry, its impact on the global economy and Indian citizens.

The phenomenal growth and continuous progress of FinTech and the resounding success of the India Stack demonstrate the collective genius of our nation and our desire for a technologically-driven and financially inclusive India. From bustling metros to remote villages, financial innovations have enabled us to march towards a bright, inclusive future, one where every citizen, can rightfully work towards achieving their dreams.

Through these decades of constant financial progress, supported by the hard work of innovators and the robust financial frameworks developed by the Government, policymakers and regulatory bodies, one thing is clear – nationwide FinTech adoption isn't merely a trend but a fundamental shift driven by a tech-first population with a hunger for progress.

We share this vision to enable a financially inclusive tomorrow and are proud to support the ASSOCHAM committee as they highlight our tremendous prowess as a nation. Through this report, ASSOCHAM brings to the fore FinTech's immense impact and significant role in building our future as well as the steps we need to take to realise the vision of a prosperous, self-reliant and financially empowered India.

Foreword from ASSOCHAM

Richa Mukherjee

Co-chair, ASSOCHAM National Council on FinTech

India is rapidly emerging as a FinTech hub owing to factors such as enhanced digital infrastructure, increased digitisation and innovations in the startup ecosystem. The introduction of nuanced services such as digital lending, online banking and peer-to-peer lending have significantly transformed the financial landscape by enhancing the efficiency of the services being offered. The dynamic growth of the FinTech sector not only enables financial inclusion across the remotest corner of the country but also enhances its existing economic potential.

The growth of the FinTech sector in India is also being assured by the government through interventions such as Unified Payments Interface (UPI), Open Network for Digital Commerce (ONDC) and Public Tech Platform for Frictionless Credits (PTPFC). The existing developments (public and private) are further catalysed with the implementation and integration of emerging technologies such as artificial intelligence (AI) and machine learning (ML) and Blockchain technology. To broaden the accessibility of financial services and ensure smoother transactions, the FinTech sector is also consistently prioritising the development of neobanks, integration of financial services with e-commerce platforms, InsurTech, and other initiatives.

The Reserve Bank of India (RBI) and the Ministry of Finance (MoF) have been taking a progressive approach in fostering the Indian FinTech landscape. With the conceptualisation of platforms such as the regulatory sandbox, hackathons and Finteraction, the authorities are leaving no stone unturned to boost the growth of the sector through multi-stakeholder participation and public private partnerships. Simultaneously, stringent measures are also being undertaken in the domain of consumer protection with a close focus on aspects such as cyber security, data protection and fraud mitigation.

Therefore, it may be safe to argue that FinTech in India is at a juncture where it is crucial to both capitalise on the opportunities and strategically govern the vulnerabilities posed by the sector. I believe we are on the right path and given the sustained proactiveness of both the industry and the government, the future of FinTech is nothing but on a steep and steady rise.

The report on 'FinTech – Powering India's USD 5 Trillion economy by fostering innovations, enabling inclusion and building a sustainable future' elaborates upon the current status quo of FinTech in India. It highlights the key developments which are taking place within the sector (financial inclusion, consumer experience, technology integration), with a focus on emerging market trends, regulatory changes and the focus areas of the future (e.g. rural women, differently abled, elderly). All these aspects could enable India to emerge as a global FinTech leader by 2030.

We hope that the report is a useful reference for the readers and helps them in successfully navigating the opportunities and vulnerabilities of the FinTech sector in India.

Foreword from ASSOCHAM

Madhur Deora

Co-chair, ASSOCHAM FinTech Council

India's mobile payments industry has gained global recognition, driving remarkable growth in financial inclusion. With over 14 billion[4] UPI transactions in May 2024, the digital payments sector continues to grow exponentially. Mobile-led technologies are demonstrating great potential to broaden access to financial services for consumers and expanding credit availability for MSMEs. India's strong digital infrastructure is a testament to the efforts of governmental and non-governmental entities. The Jan Dhan Yojana, Aadhaar and mobile connectivity (JAM Trinity) has been a key enabler for the digital payments revolution in the country.

The Indian FinTech sector is intricately aligned with the Government's vision of 'Viksit Bharat 2047' and aims to help the Government attain this vision by extending financial services to previously underserved populations, and advancing the vision of a less-cash economy and enhanced financial transparency. We are grateful to the regulatory bodies and policymakers for their unwavering commitment to provide a safe and inclusive ecosystem which fosters innovation and enhances financial stability. As India is poised to become a global face of FinTech, we should remain innovative in adopting future technologies to aid in a safer digital infrastructure.

This report comes at a timely juncture for the industry, as we look to make leaps to harness the opportunities that are in front of us. The report offers a holistic view of Indian FinTech hubs and themes and highlights the opportunities and challenges for the country's FinTech sector. On behalf of ASSOCHAM, we wish to thank everyone who has contributed towards preparing this making this report rich and insightful.

4 https://www.moneycontrol.com/news/business/economy/upi-breaks-record-with-14-04-billion-transactions-in-may-sees-49-year-on-year-growth-12738744.html

01

Executive summary

The world of FinTech is driven by three key factors – technological advancements, regulatory dynamics and shifting consumer preference. The global FinTech market is poised to grow with innovation in areas like digital banking, payments and investment solutions. However, challenges related to navigating the regulatory and compliance landscape, cybersecurity threats and legacy infrastructure constraints can be an impediment for the industry. Therefore, there is a need for more standardised and interoperable platforms which can enable enhanced collaboration. Investment trends show a slowdown in funding globally with the Americas receiving the highest investment in 2023, particularly in payments processing startups.[5] Technological trends like AI integration and blockchain continue to reshape the industry with a focus on enhancing security, efficiency and sustainability.

In India, the FinTech sector has seen immense growth driven by increased digitalisation and government initiatives which are promoting financial inclusion. Digital payments, open banking and technological innovations tailor-made for rural areas have contributed to the transformation of the financial landscape. Technological innovations such as open banking and digital payments have facilitated financial inclusion, while initiatives like digital banking correspondents, mobile-based agricultural finance, and rural-focused payment banks are expanding access to financial services in rural India. FinTech segments such as payments, digital banking and lending have also attracted notable investment across the past few years.

As the Indian FinTech sector witnesses large-scale growth and adoption, it also faces numerous challenges from the demand and supply side. On the demand side, low financial literacy, FS products choice overload and incentive-driven adoption of FS services exacerbate competition and hinder the monetisation and sustainability of the players. Supply side hurdles include rural-urban digital divides, escalating cybersecurity threats, funding crunch and the struggle to establish sustainable profitability amidst intense competition. The regulatory control from entities such as RBI and SEBI, with recent actions indicating that FinTech companies are subject to increased oversight and compliance requirements adds to the complexities which FinTechs must navigate for successful operations in the country.

Market trends in the FinTech sector

India's payment landscape is driven by various factors like digitalisation, government initiatives, and innovative products. UPI remains a dominant force and credit card transactions are increasing while debit card transactions are declining. Despite an increase in the overall digital payments in the country, India's funding has been irregular for the payments sector. Emerging business models include cross-border payments integration and cloud-based infrastructure adoption, alongside the introduction of CBDC. Challenges such as increased fraud, low customer awareness in non-urban areas and regulatory compliance complexities might hamper growth but factors like government and RBI initiatives, NPCI's efforts and expanding smartphone and internet access enable the sector's growth.

Digital financial services platform, characterised by digital-first, mobile-only platforms, has emerged as one of the significant sectors in India. The market is primarily driven by increased digital transactions and personalised banking services. Digital financial services platforms employ various business models, including partnering with traditional FIs, offering comprehensive banking services, targeting niche customer segments and prioritising API integration. Some of the challenges for this sector include monetisation hurdles, regulatory dependencies on partner institutions and the absence of specific regulations governing standalone neo-banking operations. Key drivers of growth include increase in API adoption by banks, increasing customer-centricity and digital-first experiences.

5 https://fintechnews.sg/84269/funding/fintech-funding-in-asia-sees-positive-signs-despite-56-plunge/

The InsurTech sector in India holds a significant share of the Indian FinTech market and is poised for further growth. InsurTech is witnessing increased adoption of digital distribution channels, tech-enabled underwriting and automation in claims management. Funding in the sector is primarily pivoted to B2C InsurTechs. Emerging business models include the use of IoT and big data in insurance, embedded insurance and bite-sized insurance targeting specific customer needs. Challenges such as product comprehension, affordability, offline channel preferences and complex claim management processes persist. However, drivers like increasing online awareness, adoption of emerging technologies and regulatory initiatives by regulators are expected to propel the sector forward.

The book size of the lenders in the digital lending space is expected to reach USD 515 billion by 2030[6] and is primarily driven by advancements in credit assessment and underwriting aided by AI /ML and alternative data based risk scoring. There's a credit gap for MSMEs, with only 25 million out of 63 million receiving formal credit.[7] Challenges include the lack of credit history and collateral for MSMEs and inefficient loan collection processes, however, emerging technologies like AI/ML offer solutions for better underwriting and monitoring.

The market revenues of the WealthTech sector in India is expected to triple in size by 2030 to over USD 31 billion,[8] driven by the adoption of emerging technologies like AI, ML, blockchain, and big data analytics. There have been new business models emerging in key areas of formalisation of independent advisors, embedded and micro investment products and global/offshore investments. There are certain challenges for the WealthTech sector including low financial literacy levels, regulatory constraints, and the need for increased accessibility and user experience improvement.

FinTech Infra in India serves as a support system for the BFSI and FinTech sectors, offering solutions across various domains like digital banking, lending, payments, wealth management and insurance. The FinTech Infra sector helps to streamline operations, automate workflows, and enhance efficiency, thus improving overall customer experience. Although funding in FinTech Infra witnessed an approximate 88% reduction from 2022 to 2023, funding for players in the LendingTech domain increased for the same time period.[9]

6 https://bfsi.economictimes.indiatimes.com/news/fintech/indias-digital-lending-market-likely-to-grow-515-bn-by-2030-report/101057337#:~:text=The%20book%20size%20of%20the,industry%20estimates%2C%20the%20report%20said.

7 https://bfsi.economictimes.indiatimes.com/news/nbfc/msmes-face-major-challenge-to-get-sufficient-funding-credit-gap-of-33-tn-report/105445995

8 https://inc42.com/reports/state-of-indian-FinTech-report-q4-2023-infocus-rural-FinTech/

9 Venture Intelligence

Emerging themes

Figure 1 represents the key themes that have been gaining traction and are going to lead India into the next era of FinTech.

Figure 1: Emerging themes in FinTech

Inclusion Driving financial inclusion by expanding access to underserved populations. 01	**Green finance** Enabling sustainable investing and financing for environmental initiatives. 02	**GenAI** GenAI is transforming FinTech through intelligent automation, personalisation and decision-making. 03
Longevity finance FinTechs are catering to the financial needs of an aging population. 04	**Ecosystem banking** Partnering with traditional banks to create integrated financial ecosystems. 05	**Cross-border finance** Facilitating seamless cross-border transactions and remittances. 06
Alternative investments Alternative investment products exist outside traditional ecosystems such as P2P lending, lease financing, start-up equity, among others. 07	**Embedded finance** FinTech's capabilities are embedded into non-financial platforms to provide financial services. 08	**Central Bank Digital Currency (CBDC)** Digital form of a country's official currency, issued and regulated by its centeral bank. 09

Source: PwC analysis

Regulatory developments

The regulatory landscape for FinTech in India is evolving to support the sector's growth while enabling consumer protection and financial system stability. FSRs like RBI, SEBI, IRDAI and IFSCA are implementing guidelines and regulations to promote growth in the FinTech sector while encouraging innovation, competition, compliance and consumer protection. Frameworks like the Draft Framework for SROs and the streamlined licensing framework for FEMA authorised persons provide regulatory clarity and support for FinTech. These efforts address industry concerns, streamline processes, and enhance the financial ecosystem in India. Initiatives like IRDAI's Bima Vahak Guidelines aim to boost insurance product distribution, especially in rural areas, promoting financial inclusion and expanding insurance access across the nation.

The Indian FinTech sector is driven by technological innovation, digitalisation and supportive government initiatives aimed at financial inclusion. Despite challenges such as low financial literacy and evolving regulations, startups in areas like WealthTech, FinTech Infra and LendingTech are still attracting investments. The sustained growth of the sector will depend on how well organisations and the government can address these challenges and foster collaborations between regulators and industry players while regulatory developments focus on promoting innovation, ensuring compliance and protecting the interest of the consumers.

02

Setting the context: Evolution of FinTech since the COVID-19 pandemic

Over the past decade, the FinTech sector has emerged as a dynamic force reshaping traditional banking and financial services across the globe. In India, the FinTech revolution has been catalysed by factors such as increasing internet penetration, government initiatives promoting digitalisation and a growing appetite for innovative financial solutions among consumers and businesses. Considering the impact of the FinTech ecosystem on the consumers and other stakeholders, it is crucial to look at the emerging trends in the global and Indian landscape from various aspects. Therefore, the global and Indian FinTech market has been examined with the help of four key pillars – market, investment, technology and talent to provide a comprehensive view of the FinTech landscape.

Global context

a. Market

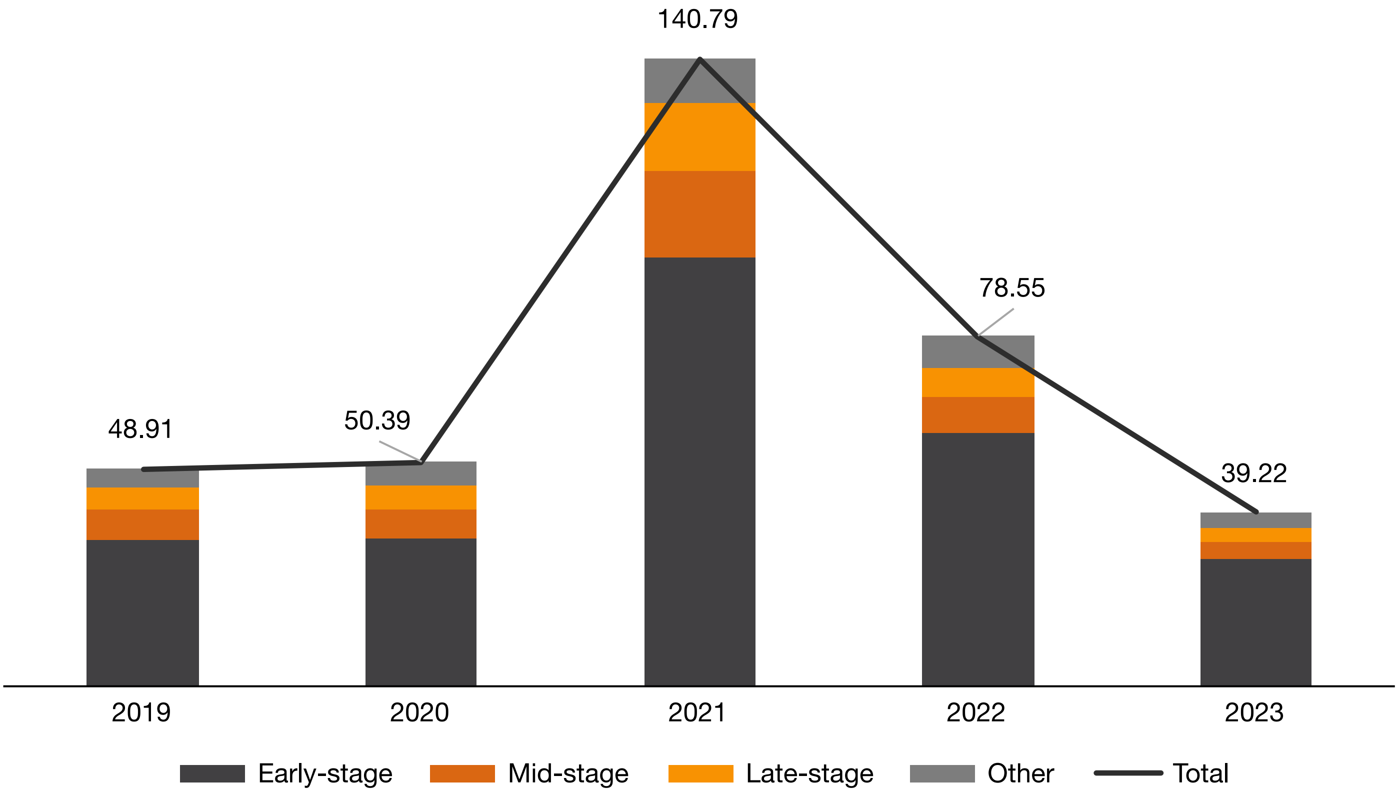
The global FinTech market is continuously evolving and is driven by the convergence of technological innovation, shifting consumer behaviours and regulatory reforms. With an increasing number of consumers adopting digital banking, payments and investment solutions, the FinTech landscape has become an ecosystem characterised by rising competition and continuous innovation. FinTechs and incumbents are leveraging emerging technologies such as AI, blockchain and data analytics to deliver personalised and efficient financial services, thereby challenging traditional banking and reshaping the way financial transactions are conducted worldwide.

Despite the immense opportunities in the global FinTech market, certain challenges related to regulatory compliance burdens, cybersecurity threats, market fragmentation and legacy infrastructure constraints persist. Regulatory frameworks vary across jurisdictions, posing compliance challenges for FinTech companies operating internationally, while concerns about data privacy and security might undermine consumer trust in digital financial services. Moreover, the complexity of integrating FinTech solutions with legacy banking systems presents technical hurdles for both FinTechs and incumbents, highlighting the need for interoperable and standardised platforms to enable seamless collaboration and data exchange. As the global FinTech market continues to mature, addressing these challenges will be crucial for sustaining growth, fostering innovation and promoting financial inclusion on a global scale.

b. Investment

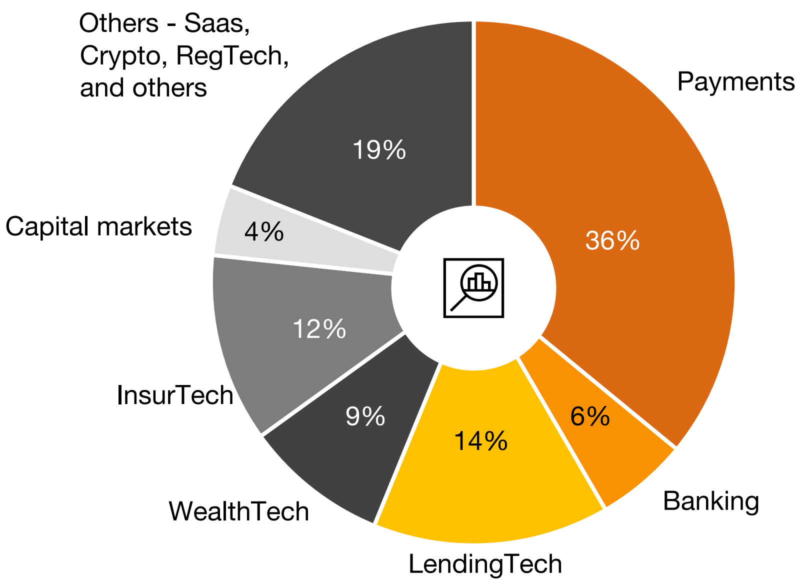
In 2023, FinTech investments reached a five-year low of USD 39.22 billion globally as investors became cautious due to factors such as high-interest rates, geopolitical unrest in Europe and the Middle East, declining FinTech valuations and the difficult exit environment.[10]

Figure 2: Global FinTech funding by deal stage (in USD billion)



Source: FinTech News Singapore

Figure 3: Sector-wise global funding in FY23 (% share)



Source: FinTech News Singapore

10 https://fintechnews.sg/84269/funding/fintech-funding-in-asia-sees-positive-signs-despite-56-plunge/

While the payments sector received the highest amount of funding globally (36%), it was specifically payments processing startups that received the highest amount of funding within payments with USD 6.6 billion, followed by digital wallets (USD 1.3 billion) and BNPL startups (USD 1.19 billion) respectively.[11,12] Some of the potential reasons behind the higher funding towards these startups could be the increasing demand for digital payment solutions, growth of e-commerce and the global shift towards cashless transactions. Payments processing startups help in facilitating secure and efficient payment transactions which are essential for businesses and consumers alike. Digital wallets and BNPL startups may have seen significant investment as they cater to consumers demanding flexible payment options.

In the case of digital lending, consumer lending, business lending and credit scoring are the leading areas that attracted higher investments. This could be due to the growing need for accessible and streamlined lending services in the digital age. In the case of other sectors, the areas that led funding rounds are FinTech Infra including CFO Tech, emerging technology solutions like DLT or blockchain, accounting and RegTech.

11 https://www.cbinsights.com/research/report/fintech-trends-2023/

12 PwC analysis

c. Technology

The global FinTech landscape has witnessed a rise in technological innovation, revolutionising traditional financial services in the past few years. From blockchain-powered transactions to AI-driven robo-advisors, such innovations have streamlined processes, enhanced security and have helped in democratising access to financial services on a global scale. Here are a few key technological trends in the FinTech sector across the globe:

Figure 4: Technological trends in the FinTech sector across the globe

Degree of maturity

IoT: The internet of things (IoT) refers to the network of physical objects embedded with sensors, software, and other technologies that enable them to connect and exchange data with other devices and systems over the internet. In FinTech, IoT is used for improving customer experiences, enhancing security and providing personalised financial services.

Blockchain: Blockchain technology continues to innovate the financial services globally, offering secure, transparent and efficient transaction solutions. For instance, in Singapore, Project Ubin, a collaborative initiative by the Monetary Authority of Singapore (MAS) and the financial industry, demonstrated the feasibility of using blockchain for cross-border payments.

AI integration: The application of AI, including the rapid advancements in GenAI, is a major focus area for FinTechs. Over USD 12.1 billion was invested in AI-powered FinTech solutions in 2023. AI is being leveraged in various solutions catering to fraud detection, credit scoring, personalised financial advice, etc.

Quantum computing: Quantum computing offers improved data processing speeds for applications in risk management, trading and fraud detection. This innovation, however, also presents challenges, particularly in the realm of encryption security as quantum computers may surpass current standards. Despite these challenges, financial modelling could see substantial benefits with quantum algorithms potentially enhancing decision-making capabilities. The sector is seeing collaborative efforts between startups to develop quantum-resistant encryption and responsibly integrate quantum advancements.

Source: Business Standard; Project Ubin: MAS Completes Final Phase Central Bank Digital Currency Project - Fintech Singapore (fintechnews.sg)

d. Talent

As the global FinTech industry continues to evolve, so do the trends which are shaping the professionals who are driving this innovation. Some initiatives which have been taken to develop the FinTech workforce across the globe are:

- **Initiatives by incumbents:** Established FIs often collaborate with universities and vocational training institutes to offer internship programmes, apprenticeships and specialised training courses tailored for FinTech roles. For example, a global bank runs a fellowship programme that supports underrepresented youth in gaining access to higher education and career opportunities.
- **Initiatives by FinTech companies:** FinTech firms invest in talent development through internal training programmes, hackathons and innovation labs aimed at fostering creativity, collaboration and continuous learning among employees. These initiatives help attract top talent and retain skilled professionals in a competitive market.
- **FinTech courses:** Universities and online learning platforms offer a range of FinTech courses and degree programmes designed to equip students with the knowledge and skills needed for careers in the industry. For example, FinTech specialisations on MOOC platforms offered by leading universities and the Master of Science in Financial Technology programme at one of the leading universities of London.
- **Government initiatives:** Governments worldwide recognise the importance of nurturing FinTech talent and often implement initiatives to support education and skill development in this field. For instance, Singapore's SkillsFuture initiative provides subsidies and grants for individuals pursuing training courses related to FinTech and financial services.
- **Partnerships:** Collaborative initiatives between industry players, academic institutions and government bodies facilitate knowledge transfer and talent development on a broader scale. For example, events such as the FinTech hackathons give students the opportunity to solve real world business problems and these events can be sponsored by FIs and FinTech startups.[13]

13 https://innovation.mit.edu/resource/mit-fintech/

- **Talent development initiatives:** Some of the leading global FinTech talent associations focus on talent development through networking events, workshops and mentorship programmes. These initiatives provide opportunities for knowledge sharing, skill development and career advancement within the FinTech industry.

The Indian FinTech landscape

The Indian FinTech sector has experienced growth in recent years, driven by increasing smartphone penetration and a robust digital payments infrastructure. Key players in the industry are leveraging innovations like AI and API-driven business models to enhance financial inclusion and offer innovative solutions. Policy-level support and a thriving startup ecosystem further bolster the sector's potential, positioning India as one of the global hubs for financial technology advancements. The following section analyses the Indian FinTech market based on the four-pillar approach consisting of market, investment, technology and talent.

a. Market

The value of the FinTech market in India was estimated to be approx. USD 689 billion as of 2023. The market is expected to reach USD 2.1 trillion by 2030, expanding at a predicted CAGR of 18% in the 2023 to 2030 period.[14] The COVID-19 pandemic has potentially accelerated the shift towards digitalisation across various sectors, driving awareness and adoption of FinTech solutions, particularly among retail consumers and MSMEs. The increasing focus on digitalisation and formalisation of the economy has led to a rise in awareness and acceptance of digital financial products. This shift towards digital platforms has not only streamlined financial processes but has also facilitated the growth of the platform economy where businesses and consumers can connect and transact efficiently.

The demand for financial services has been considerably influenced by digital transformation. The growth in adoption of smartphones, mobile internet penetration and digital payment platforms like UPI have made digital transactions more convenient, accessible and secure for both consumers and businesses. The regulators and government's push towards a less-cash economy through initiatives like UPI and financial inclusion programmes have contributed to the growth of digital payments. This digital transformation has enabled faster, more efficient and contactless transactions, especially during the COVID-19 pandemic, leading to a surge in the use of digital payment methods across the country. Consequently, the potential for total transaction value of digital payments in India is expected to reach USD 10 trillion by 2026.[15] This shift has been further facilitated by government initiatives, technological innovations and increased awareness and acceptance of digital financial products.

One of the key areas where FinTech has made inroads is in the rural areas of the country. Despite initial challenges, there has been growing awareness and acceptance of digital financial products among rural population which could be due to increasing consumerism (with the growth in e-commerce in rural areas being 22% compared to 15% in urban areas) and the development of digital infrastructure in remote areas eventually leading to a growth in credit demand. This growth can also be attributed to the increasing penetration of digital payments, with mobile payment platforms and digital wallets becoming increasingly popular and UPI transactions at retail stores in rural and semi-urban India witnessing a 118% YoY growth in the year 2023.[16] The growth of FinTech in rural areas is also driven by the Government's focus on financial inclusion through various initiatives such as the Pradhan Mantri Jan Dhan Yojna and India Stack (Aadhar, DigiLocker and Account Aggregator) along with the growth of smartphone and internet penetration which led to the development of UPI and KYC norms that aids in enhancing the security and reliability of digital transactions.

14 https://inc42.com/reports/state-of-indian-FinTech-report-q4-2023-infocus-rural-FinTech/

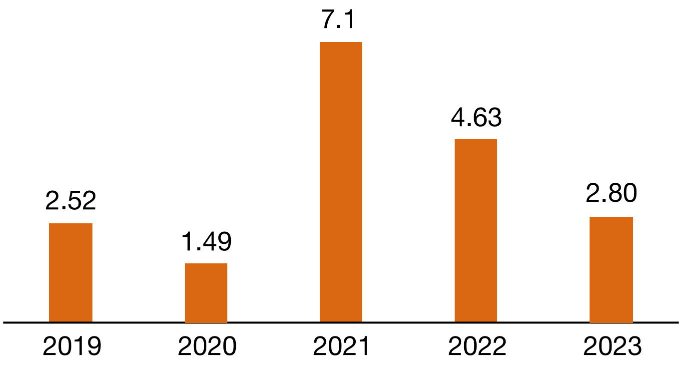
15 https://www.meity.gov.in/writereaddata/files/Impact-Assessment-of-DigiDhan-Mission.pdf

16 https://www.financialexpress.com/business/banking-finance-upi-transactions-soar-118-in-semi-urban-rural-stores-3343848

b. Investment

Funding in the FinTech industry has slowed down in India to approx. USD 2.8 billion[17] as of 2023, which is in line with the global trends. However, in terms of global FinTech funding ranks, India is at the third place in 2023, establishing the country's status as one of the major players in the international arena in the FinTech domain.

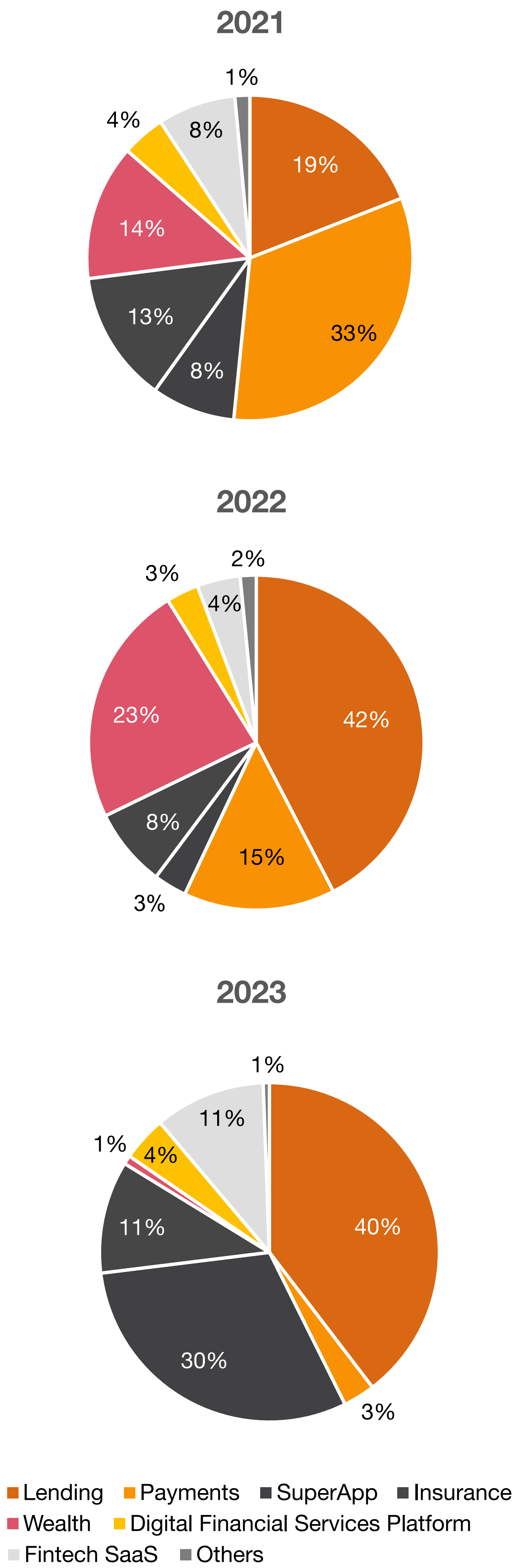
Figure 5: Indian FinTech funding between 2019 and 2023 (USD billion)[18]



Source: PwC analysis of Venture Intelligence data

The Indian FinTech sector's top-performing segments in 2023, in terms of funding, were lending, insurance, payments, and SuperApps. SuperApps and payments attracted higher investments due to the growth in adoption of digital financial services, like UPI and the government's push towards a cashless, digitised and formalised economy, as well as due to innovations embedding payments technology to other financial and non-financial allied services. Transactions via UPI saw a 56% growth in volume in the second half of the year 2023 compared to the same period in 2022.[19] The alternative lending sector, offering innovative credit products and exploring new customer segments, garnered substantial funding as FinTech companies leveraged technology to provide accessible and efficient lending services.

Figure 6: Funding split by sector (2021 to 2023)



Source: PwC analysis of Venture Intelligence data

17 Venture Intelligence

18 Ibid

19 https://www.business-standard.com/finance/personal-finance/how-india-spends-upi-reigns-supreme-credit-cards-witness-highest-growth-124040400094_1.html

In the last three years, lending has seen the highest increase in the share of total funding for the year, with its share going from 19% of total funding in 2021 to 40% in 2023. It is also noticeable that the payment aggregators and wallets that received funding in 2021 and 2022, are now diversifying their products and services and transitioning into SuperApps. Conversely, the share of funding for the WealthTech sectors has seen a decline in the past three years from 13% and 23% in 2021 and 2022 to a mere 1% in 2023. This can be attributed to a decline in funding of cryptocurrency startups, which had 3 mega-deals (over USD 100 million) in 2022 and 1 mega-deal in 2021.[20]

c. Technology

This section explores the latest technological innovations in India's FinTech sector, highlighting advancements that are driving growth and transforming financial services in the country.

- **API banking:** The practice of API banking, facilitated by sharing financial data with third-party providers through APIs, has fostered collaborative innovation in India's FinTech space. This approach has enabled FinTech companies to integrate services from various institutions, create personalised and seamless financial experiences for consumers, promote healthy competition and enhance customer-centricity.
- **Biometric authentication:** Biometric authentication is increasingly being integrated into banking and financial services to enhance security and user convenience. It provides a high level of security by ensuring that only authorised users can access accounts and conduct transactions. It reduces the risk of fraud and identity theft by making it difficult for unauthorised individuals to impersonate legitimate users. Furthermore, it improves user experience by enabling quick and hassle-free authentication processes.
- **PayTech innovations:** PayTech innovations such as UPI 2.0, contactless payments enabled by NFC technology and voice-enabled payments through integration of AI and ML are revolutionising how transactions are conducted, making payments faster, more secure, and convenient. As these innovations continue to shape the payments sector in India, there has been a rise in digital payments with the growth in the volume of digital transactions from 20.71 billion in FY18 to 147.26 billion in FY24 (as of February 2024).[21]
- **India Stack:** The India Stack has facilitated the creation of scalable financial solutions by providing essential infrastructure for digital payments, identity verification and secure data sharing through its diverse tech stack consisting of account aggregator, Aadhar and allied Aadhar-based solutions, UPI and more. The India Stack is still continuously evolving with new digital rails such as the OCEN and ONDC, and can potentially have benefits at a global scale if expanded internationally.

Illustrative case studies for expanding financial services to rural India

Digital banking correspondents (BCs)

Many leading payment companies are leveraging digital BCs to extend financial services to rural and underserved areas. By partnering with local *kirana* stores and small merchants, these companies enable rural customers to access digital payments, loans and other financial products through its platform.

Mobile-based agricultural finance

Mobile-based agricultural finance startups are pioneering to address the financing needs of farmers in rural India. By offering digital lending and insurance products tailored to the agriculture sector, these companies promote financial inclusion and empower rural communities.

Rural-focused payment banks

Payment banks are expanding their footprint in rural India, offering basic banking services and digital payments to unbanked and underbanked populations. With a network of rural agents and digital platforms, these payment banks are bridging the gap in financial inclusion.

Digital microfinance platforms

Digital microfinance platforms are providing small-ticket loans to micro-entrepreneurs and self-help groups in rural areas. By digitising the loan application and disbursement process, these companies are reducing operational costs and improving access to credit for rural borrowers.

20 PwC analysis of Venture Intelligence data

21 https://pib.gov.in/PressReleasePage.aspx?PRID=1988370

d. Talent

Some of the emerging trends in the Indian FinTech workforce are:

Figure 7: Top initiatives for building and retaining FinTech talent pool

State-run banks in India plan to create a central talent pool of senior domain experts from all public sector banks and build peer-to-peer collaboration.	Initiatives by incumbents
FinTechs in India offer flexible working policies, unlimited leave, ESOPs, internal growth opportunities, access to free courses for reskilling and upskilling, support in personal development, etc. to attract and retain talent.	Initiatives by FinTechs
Accelerators, incubators and FinTech hubs help build a talent pool for FinTechs. The Government of India has also launched a digital upskilling programme 'AI for India' campaign to educate around 2.5 million citizens.	Government initiatives
Premier business and non-business institutes of India are offering various diploma and post-graduates courses on FinTech.	FinTech courses
Partnership between incumbents and private players with government and accelerators to provide mentorship, learning sessions, guidance and support.	Partnerships
Various NGOs and organisations have started numerous initiatives to increase financial literary such as Sukalyan India through financial literacy centres and literacy programmes.	Initiatives by non-profits

Source: PwC analysis

Challenges

The Indian FinTech landscape is witnessing an increasing demand for digital financial services as well as the Government's push towards financial inclusion. However, the industry also faces several illustrative challenges, both on the demand and supply side:

Demand side challenges

- **Importance of promoting financial literacy:** An important challenge in the Indian FinTech landscape is the lack of widespread financial literacy among the population. The current financial literacy rate is lower in Indian adults than in other developed nations including the USA, the UK, and Singapore.[22] A survey reveal that only 27% of India's population is financially literate as of 2023.[23] Additionally, only 16.7% of Indian students have a basic understanding of finance and money management according to RBI.[24] Thus, many potential users might lack the understanding of financial products and services offered by FinTech companies. This may create a barrier to adoption as users may be sceptical or unaware of the benefits and risks associated with these services. Promoting financial literacy through educational initiatives is crucial to bridge this gap and empower users to make informed financial decisions.
- **Incentive-based adoption:** The rapid proliferation of FinTech solutions in India has led to a plethora of choices for consumers. Typically, customers are more prone to adopting a new product/service if they are given a monetary incentive to do it. A common strategy used by FinTech startups is to offer a multitude of benefits as value-added services to attract users to use their service and optimise these rewards, incentives and benefits to attract users after an initial customer acquisition spree. However, since India has witnessed rapid growth of new FinTech establishments and their aligned incentives to acquire and engage customers, customers typically switch to avail the services of a new FinTech, resulting in the difficulty in monetisation due to competition, pricing pressure

22 https://www.adb.org/results/india-financial-literacy-programs-lifting-families-out-debt-fueling-new-prosperity

23 Ibid

24 https://www.business-standard.com/content/press-releases-ani/spreading-the-financial-literacy-wave-across-india-national-finance-olympiad-2023-123122100732_1.html

and the expectation of free or low-cost services among users. With typically high initial marketing and operational costs, finding sustainable revenue models while keeping services affordable and accessible can be testing for FinTechs.

- **Informal credit behaviour:** India has witnessed informal credit practices which might pose a challenge for FinTech companies vying to disrupt traditional lending systems. Only 14% of MSMEs out of the total 64 million have access to formal credit, leaving a large credit gap, which may be catered to by informal lenders.[25] This may stem from a lack of formalisation and documentation of these MSMEs, thus, convincing them to transition from familiar informal channels to formalised digital platforms requires spreading awareness about the benefits and possibly incentives for formalising.

Supply side challenges

- **Digital divide with rural India:** Even though rural India had more active internet users than urban India in 2023, with 442 million users compared to 378 million[26], rural users are still underserved when it comes to accessing FinTech services. A higher average income, better infrastructure and more digital and financial literacy in urban areas typically lowers the cost of distribution and attracts companies to focus primarily on urban areas compared to the rural areas.
- **Cyber threats and risks:** With the increasing digitisation of financial services, cybersecurity threats pose a significant risk to both users and FinTech companies. Protecting sensitive financial data and building robust cybersecurity measures are imperative to safeguard businesses against cyberattacks and maintain trust in the FinTech ecosystem.
- **Funding winter:** Despite the strong initial growth surrounding funding in FinTech, there has been a tightening of funding in recent years with only USD 2.8 billion in the calendar year 2023 compared to USD 7 billion (approx.) in the year 2021[27], leading to a ‘funding winter’ for many startups as the sector matures. Access to capital to support growth and innovation remains a challenge, particularly in a competitive market environment.

The Indian FinTech ecosystem is facing challenges which need to be tackled to fully unlock growth potential. On the demand side, there needs to be a fundamental shift in the consumer behaviour towards more digitisation, both for retail consumers as well as MSMEs, while on the supply side, there needs to be a push from the government and regulators to spur development and formalisation within the ecosystem. This can aid in improving funding growth within the FinTech sector as well.

25 https://bfsi.economictimes.indiatimes.com/news/editors-view/from-informal-to-formal-economy/100516872

26 https://m.economictimes.com/tech/technology/how-india-is-using-the-internet/articleshow/108354854.cms .

27 PwC Analysis of Venture Intelligence data

03

Market trends in the Indian FinTech landscape

FinTech in India includes the following sectors – payments, digital lending, digital financial services platform, InsurTech, WealthTech and FinTech Infra. This section covers the market trends, funding, challenges, drivers and emerging models across each of the above mentioned FinTech sectors.

Payments

a. Market trends and growth

India's payment ecosystem has witnessed growth in recent years, making the country a powerhouse for digital payment transformation. Digital payments in India continued to have a YoY growth rate of 58% in FY 2022–2023 compared to FY 2021–2022. UPI continues to be the flag bearer of this growth story, accounting for over 75% of retail digital payments in India. Amongst cards, credit card transaction volumes saw a YoY increase of 22% in FY 2023–2024 compared to FY 2022–2023, while debit card transaction volumes saw a YoY decline of 33% in the same time period.[28]

Over the last five to seven years, as digital payments adoption increased with the introduction of new use cases and innovative products by PSPs, major digital payment instruments have witnessed growth in the adoption. The growth of UPI payments has driven the overall growth story of digital payments in India and is expected to maintain its high growth trajectory, given the RBI and NPCI's sustained efforts to introduce innovative features. Acceptance of UPI has grown not only in India but across the globe, with various partnerships being forged. NETC and credit cards also continue to grow at a significant rate. Various significant players in the ecosystem which offer such digital payment services around UPI, bill payments, and other complementary FS and non-FS have experienced traction from customers

which can be observed through their number of application downloads. They have a total combined application downloads of more than 2.6 billion.[29]

The transaction value of digital payments in India was approximately USD 2 trillion as of the 2023 and it is expected to grow five times in value to USD 10 trillion by 2026.[30]

As on September 2023, RBI-DPI, which measures the degree of payment digitisation across the nation, stood at 417.88 as against the base of 100 in March 2018 depicting nearly four times growth in the degree of digitisation.[31] This could be attributed to the initiatives taken by the Government, RBI and NPCI by introducing programmes like Digital India to encourage adoption of digital payments, introduction of innovative products such as credit on UPI, offline payments and PPIs for improving inclusivity of digital payments and the increasing smartphone and internet penetration.

28 https://www.business-standard.com/economy/news/upi-emerges-as-most-popular-method-to-transact-digitally-rbi-report-124053001664_1.html

29 PwC analysis

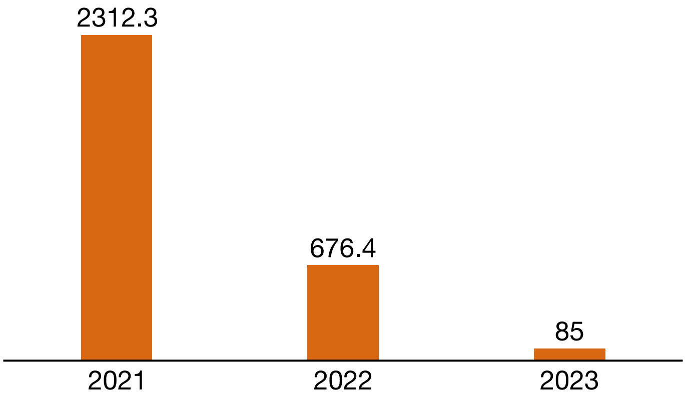
30 https://www.meity.gov.in/writereaddata/files/Impact-Assessment-of-DigiDhan-Mission.pdf

31 https://economictimes.indiatimes.com/news/economy/finance/digital-payments-rise-10-94-pc-annually-at-september-end-2023-rbi-data/articleshow/107300454.cms?from=mdr

b. Funding

There has been a drop of 87% (approx.) in the funding for payments FinTechs in India from the year 2022 to 2023 as shown in the graph below. The diminishing trends for the funding in the Payments domain as can be seen from the graph below, which was approximately USD 2,312 million in year 2021 to USD 85 in year 2023, could be potentially attributed to the factors such as pivot in the business models of many payment startups to lending and other sectors due to the lower sustainability and monetisation options in the payments domain, high costs of operations and reducing valuation of payment startups leading to increasing investor concerns.[32]

Figure 8: Payments funding across the years in India (USD million)



Source: PwC analysis of venture intelligence data

c. Key emerging business models

Cross border payments: Due to the expansion in global economic integrations, there is a need to enhance cross-border payment systems. Countries like India which are emerging as manufacturing powerhouses are attracting trade flows. In the year 2022, India reportedly received the largest remittance in a single year, exceeding USD 100 billion.[33]

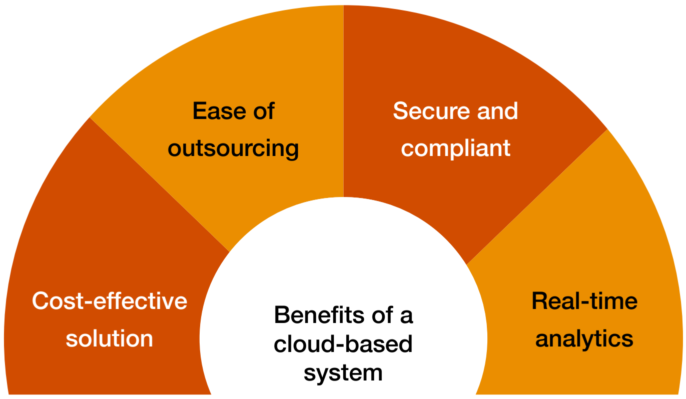
In order to facilitate cross border payment remittances, the trend of integrating with regional payments platforms is gaining traction to facilitate quicker, safer and more affordable cross-border money transfers. Several initiatives are taken to enable the integration of UPI with payment systems of different countries. UPI can be further used to make payments after its integration with the payment systems of six other countries – Sri Lanka, Mauritius, France, the UAE, Bhutan, and Nepal.[34]

These interconnections are a step towards enhancing the cross-border payments ecosystem, aligning with the policy focus of the G20 Summit. Some of the key focus areas for cross border payment system integration include making cross-border payments cheaper, more transparent and accessible and increasing the affordability of remittance.

Cloud based payments infrastructure: In response to evolving demands and escalating difficulties, FIs are adopting numerous technological innovations, including the transition to cloud computing. These institutions are moving away from traditional on-site infrastructure and legacy systems to embrace the superior advantages offered by cloud technology.

Some of the key benefits of a cloud based solution includes:

Figure 9: Benefits of a cloud based solution



Source: PwC analysis

As the volume of digital transactions is projected to grow further in the future, it would be necessary for FIs to build a payment system capable of efficiently managing and consistently enhancing response times. This system would also be able to cope with fluctuating peak loads while maintaining cost efficiency.

32 PwC analysis

33 https://pib.gov.in/PressReleasePage.aspx?PRID=1897036

34 https://www.livemint.com/money/personal-finance/india-upi-power-list-of-countries-where-bharats-unified-payments-interface-can-be-used-to-make-digital-payments-11707897469247.html

Central Bank Digital Currency: CBDC represents a digital version of a country's legal tender, issued by the central bank which can be traded for fiat currency. Many nations' central banks are currently exploring the launch of CBDCs as they are risk-free assets backed by the central bank and are expected to streamline global payment services.

In India, RBI has decided to opt for both retail and wholesale CBDC in its pilot phase. An intermediary approach is being adopted for retail CBDC, where RBI issues CBDC to authorised intermediaries who then distribute it further, mirroring the cash distribution method. The pilots for retail and wholesale CBDCs were launched in December 2022 and October 2022, respectively. As of FY24 the wholesale CBDC in circulation was valued at USD 0.009 million and the retail CBDC in circulation was valued at USD 28.54 million.[35] The insights gained from this pilot could potentially aid in resolving uncertainties for stakeholders, enhancing transparency, and reducing the likelihood of failure at various stages of implementation, usage and scaling.

d. Challenges

Increase in frauds: With the growth of digital payments, there has been a corresponding increase in frauds and cybercrimes targeting unsuspecting users. Fraudsters often use sophisticated techniques like phishing, vishing and spoofing to trick users into revealing their sensitive information. The lack of robust security measures and awareness among users has made it easier for cybercriminals to carry out fraudulent activities in the digital payment ecosystem.

Need to increase customer awareness: Despite the government's efforts to promote digital payments, there is still a lack of awareness among a significant portion of the population regarding the benefits and risks associated with digital transactions. Many people, especially in rural areas[36] are still reluctant to adopt digital payment methods due to concerns about security and privacy. There is a need for more widespread education and awareness campaigns to increase acceptance and usage of digital payment solutions in India.

Regulatory compliance: The regulatory framework governing digital payments in India is constantly evolving. Companies operating in the digital payment space have to adhere to the guidelines issued by RBI and other regulatory bodies. Ensuring compliance with these regulations can be challenging, especially for small and medium-sized businesses which may not have the resources to navigate the regulatory landscape effectively. Non-compliance with these regulations can lead to penalties and fines which might disincentivise the SMEs from adopting digital payments.

e. Drivers

Some of the key drivers which are responsible for the growth in digital payments include:

Government initiatives: The Indian Government has introduced various initiatives to promote the adoption of digital payments in the country and these policies are playing a crucial role in promoting digital payments. Initiatives like UPI and the push for a less-cash economy have encouraged businesses and consumers to adopt digital payment methods. Additionally, the rise of e-commerce platforms has further fuelled the growth of digital payments in India. Some of the key initiatives taken by the Government for promoting the digital payments ecosystem include India Stack, zero MDR policy, incentive schemes and budget allocation.

Initiatives undertaken by the RBI and NPCI: RBI has introduced several measures to promote digital payments in the country. The introduction of guidelines for interoperability of digital wallets, the issuance of prepaid payment instrument licence, and the implementation of strong customer authentication (SCA) norms have all contributed to the growth of digital payments in India. The regulatory framework put in place by RBI has created a conducive environment for the growth of digital payment solutions in the country such as protecting and safeguarding customers including guidelines on tokenisation, storage of payments data, 24x7 availability of payments systems and access of central payment system to non-bank PSPs.

NPCI is an umbrella organisation for operating retail payments and settlement systems in India. NPCI has taken a number of initiatives for the development of the digital payments ecosystem in India including setting up of indigenous card network (RuPay) and the establishment of NIPL for transforming payments across the globe among others.

35 https://www.business-standard.com/economy/news/wholesale-cbdc-circulation-falls-whereas-retail-circulation-rises-in-fy24-124053001564_1.html

36 https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/6SBUELE070114.pdf

Smartphone penetration and internet expansion: India has a large smartphone user base, driving mobile-based payments. India has witnessed significant improvements in internet connectivity, with 5G services on the horizon. Simultaneously, smartphone usage has surged with around 650 million smartphone users as of 2023[37], making India the second-largest digital population globally (after China). With the availability of affordable smartphones (average typical amount for the lowest segment of smartphone can go below approximately USD 83[38]) and affordable data plans (typical amount for 1 GB data is USD 0.17[39]), more and more people are using their mobile devices to make payments and transact online. The rise of digital wallets and mobile payment apps has further accelerated the adoption of digital payments in the country.

Digital financial services (DFS) platform

a. Market trends and growth

A DFS platform provides banking and other financial services primarily through a digital form factor. They are mobile-first, digital-only banks that provide FS without any physical branches. DFS platforms akin to other FinTechs focus on providing enhanced user experience through their digital platforms focusing on specific or niche customer segments and their needs such as MSMEs, Gen Z, industrial workers and others to make banking more accessible for their customers.

Contrary to traditional banks, they often operate as FS distributors and VAS orchestrators, thereby earning revenue through channels other than traditional lending. They can earn revenues through NIM, commissions, subscriptions and partnerships with third-party FSPs.

DFS platforms develop and utilise modernised platforms for collecting and analysing vast amounts of data, enabling their users to make data-driven decisions and provide personalised solutions. For both B2C and B2B relationships, they leverage the data that is collected to create curated value propositions and to identify new opportunities for growth. Additionally, these platforms provide VAS and allied offerings, such as integrated accounting tools or business management solutions, to differentiate themselves in the market.

DFS platforms also work on creating customer-centric innovations, continuously updating their value propositions based on user feedback and current market trends. They closely analyse customer behaviour and action to create dynamic cohorts of customers to provide services that meet their needs and preferences.

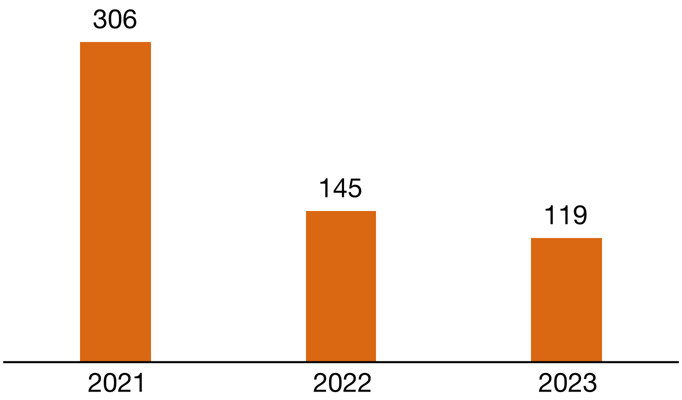
The DFS platforms providers are estimated to occupy 9% of the overall Indian FinTech market by 2030. The value of transactions done through digital DFS platforms is forecasted to exceed USD 155 billion[40] by 2027 growing at a potential CAGR of 19.21%.[41]

This rise in DFS platform adoption in India could be possibly attributed to factors such as increased adoption of digital transactions which has been growing at a CAGR of 45% from 2017 to 2023[42], rising demand for personalised and digitised banking services, and the expansion of DFS platforms catering to customer cohorts such as MSMEs, industry workers and other customers through partnerships with traditional FIs.

b. Funding

The funding of DFS platforms has seen a decline from the year 2021 to 2023, with fundings falling from USD 306 million in the year 2021 to USD 119 million in 2023.[43] However, data also indicates that there is a shifting focus towards funding early-stage start-ups[44], showing growing interest in supporting growing players in the DFS platform space.

Figure 10: Digital financial services platform funding across the years in India (USD million)



Source: PwC analysis

37 https://www.bbc.com/news/world-asia-india-64293857

38 https://economictimes.indiatimes.com/industry/cons-products/electronics/indian-smartphone-market-grows-8-10-pc-in-mar-quarter/articleshow/109987902.cms?from=mdr

39 https://www.firstpost.com/world/india-has-the-third-cheapest-mobile-data-in-the-world-people-is-us-pay-33x-more-than-indians-12614602.html

40 https://inc42.com/reports/state-of-indian-FinTech-report-q4-2023-infocus-rural-FinTech/

41 https://www.timesnownews.com/business-economy/industry/neobanks-in-india-opportunities-advantages-challenges-article-106079902

42 https://pib.gov.in/PressReleasePage.aspx?PRID=1988370

43 PwC analysis of venture intelligence data

44 Ibid

Among digital financial services platforms, there are a number of entities that are providing a wide range of solutions including personalised savings, debit and credit cards, zero balance accounts, expense management and a feature to have an overall view of all their bank accounts from a single application. Investors have shown growing interest in these platforms which focuses on directly serving customers.[45,46,47]

c. Key emerging business models

One of the significant models for DFS platforms is to partner with regulated FIs (especially NBFCs) to bundle financial and non-financial services and provide these offerings to the customers. Other emerging business models are:

Challenger DFS platform: Challenger DFS platforms are FinTechs or entities that offer a wide range of banking services including a savings account, loans and credit cards among others. In India, the challenger DFS platforms operate as a banking platform provided by the parent traditional bank, providing customers with innovative solutions while utilising the established infrastructure and data of the parent FI. They cater to customers that need innovative and user-friendly alternatives to offerings from traditional banks, which can offer the services (including accounts and credit) at a comparatively lower fee. They focus on providing a seamless user experience through mobile applications, offering innovative features that help their users manage their personal finances, make instant payments, and offer loyalty and cashback programmes.

For instance, a public sector bank in India developed an integrated digital banking platform that improved customer experience by providing a wide range of FS and lifestyle services to its customers. Apart from banking services such as account opening, funds transfer, bill payment, lending among others, the platform also provides access to services like online shopping, travel planning, online education, and offline retail through partnerships with other firms.

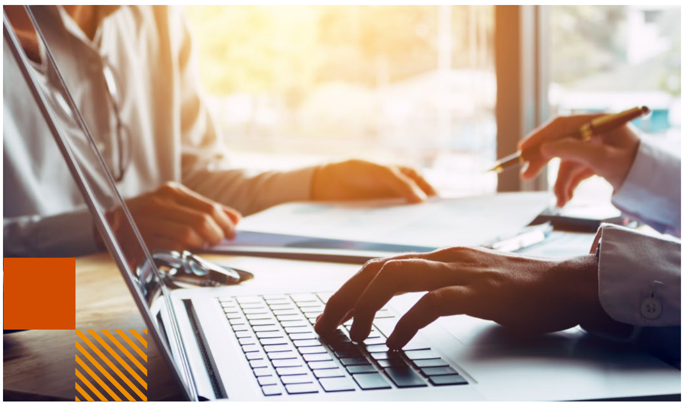
Ecosystem focused digital financial services platform: These are digital financial services platforms with curated solutions for specific customer cohorts or ecosystems. These platforms provide specialised offerings tailored to the needs of freelancers, international travellers, school or college students, family caretakers, millennials, Gen Zs and small businesses among others. By focusing on a specific niche customer segment, these can solve the unique FS needs of their customers and differentiate themselves. Additionally, these platforms integrate FS and non-FS services to stitch together a comprehensive value proposition that can cater to the broader needs of the ecosystem players. These platforms also use innovative approaches to access customers through ride-hailing and food aggregator platforms to offer FS offerings to the users.

For instance, a cross-border digital financial services platform in India offers multiple offerings including checking accounts in the US, payments, insurance, credit products including loans and credit cards, other VAS like edtech consultations, for young students, immigrants and other moving to the US, to help them traverse complexities in the financial systems.

Similarly, an agri-focused digital financial services platform in India, offers an end-to-end digital platform for providing supply chain financing and BNPL offerings to dealers, retailers, and merchants. The platform also offers other VAS to help track expenses, manage inventory, collect dues and track credit repayments.

API-first digital financial services platform: These are entities that offer business banking solutions to other non-FS companies like e-commerce platforms, SaaS players, in the forms of APIs to manage their internal financial processes. The solutions offered by these platforms are customised based on the requirements and offer additional flexibility.

For example, a digital financial services platform focused on API-first banking model in India provides solutions to small businesses, SMEs, start-ups and other businesses across industries like retail, e-commerce, manufacturing, healthcare, and other professional services. The solutions include tools and services to manage business payments, account automation (including accounts receivables, payables, invoice management) and other BaaS products.



45 https://yourstory.com/companies/indmoney

46 https://yourstory.com/companies/open

47 https://yourstory.com/companies/jupiter

Digital financial services platforms in general offer a wide range of both FS and non-FS offerings tailored to meet the diverse needs of their customers. Some of these offerings include:

Figure 11: Illustrative FS and non-FS offerings from digital financial service platforms

FS offerings	Non-FS offerings
• Payment gateways to facilitate secure and efficient online transactions • Digital banking services including CASA • Flexible and personalised lending solutions • Simplified Forex transactions to manage currency risk efficiently	• White label solutions for FIs: Customisable FS that can be offered by other financial intuitions • Expense management tools to track and manage expenses effectively • Financial education to empower users with valuable financial knowledge • Credit score monitoring: Monitor and improve creditworthiness with real-time credit score monitoring services • Automated accounting and invoicing for streamlining financial management

Source: PwC analysis

d. Challenges

Monetisation for digital financial services platform: Building of revenue streams and monetisation of offered products and services is critical for equitable and sustainable growth for digital financial services platform. They earn revenues in the form of fees when they act as a channel partner for facilitating financial services, usage or subscription fees for value added services and earn a part of the interchange fee on payments processed. The monetisation streams for digital financial services platform in India is limited, as they are non-deposit taking entities, which is one of the key challenges for them. For example, one of the most notable digital financial services platform start-ups in India, spent USD 0.65 to earn USD 0.012 in operations for FY23.[48]

Navigating regulatory flexibility to operate directly: Regulatory challenges are another problem for digital financial services platforms in India. A fully functional independent digital financial services platform is not yet defined or operable as per RBI's regulations. They are dependent on regulated partnerships with banks or NBFCs to provide financial products such as credit and investment products to its customers in India. While these partnerships offer a pathway for providing services to their customers, they also limit the range of FS that can be provided by the digital financial services platform. While this limitation could potentially be mitigated through multiple partnerships, challenges might arise in coordinating and integrating diverse offerings from different partners. Furthermore, the willingness of banks to partner with other potential partners and the ability of digital financial services platforms to orchestrate these partnerships effectively could be critical factors to in overcoming this challenge. Additionally, the absence of clear licensing regulations could create a low barrier to entry for players with similar products to enter the market.

e. Drivers

Adoption and growth of API Stack for banks: Impetus from the growth of the FinTech sector has incentivised banks to modernise their core infrastructure to be API-ready. Indian banks have also created API portals that allow for co-creation of solutions for their customers.[49] This can enable easier integration with digital financial services platforms.

Customer centricity and customer experience: The unique value proposition that these digital financial services platforms offer is its fully digital outlook and customer experience. The platforms provide FS to customers through their mobile applications and online platforms, enabling 'digital-first' customers to access

48 https://inc42.com/buzz/neobank-jupiter-spent-inr-54-to-earn-every-rupee-in-fy23/ | Conversion ratio - INR/USD: 82

49 https://ibsintelligence.com/ibsi-news/4-top-indian-private-banks-apis-enabling-innovations-in-open-banking/

their finances as per their convenience. Additionally, these platforms use innovative business models to reach customers through their preferred channels and create personalised products that cater to their demands by leveraging the insight gathered from the data collected. For example, an Indian start-up is equipping its agents to cater to customers without smartphones so as to rely solely on a single channel for engaging with their customers.

This has potentially led to the increased usage of digital financial services platform from customers across various segments and niches. For example, it can be noted that some of the major DFS platforms in India have a total combined application downloads of more than 32 million (top 5 in terms of downloads) through Google playstore.[50]

WealthTech/InvestmentTech

a. Market trends and growth

WealthTechs form the subset of FinTechs that use emerging technologies like AI/ML, big data analytics and digital tools to improve the efficiency and effectiveness of traditional wealth management offerings from distribution, and manufacturing, to post-trade and back-end activities. They develop applications/solutions which help in automating wealth-management decision-making for both businesses and retail users.

The players in the WealthTech market in India provide solutions majorly under the following buckets:

Figure 12: WealthTech solution buckets in India

Portfolio management

- These are mobile applications or platforms that provide their users with curated options for managing their portfolio through both equity linked and fixed income instruments.
- These players offer solutions that cater to both short- and long-term investment goals of the users providing a layer of personalisation based on the individual's risk appetite.

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Engagement management for advisors

- These are financial platforms that offer end-to-end solutions for engaging the customers for financial advisors.
- Some of the common tools offered include compare tool, goal planning, product listing, credit solution, reports and dashboards and accounting solutions for advisors among others.

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Discount brokers

- These are financial platforms that provide digital brokerage services to retail investors and traders at a comparatively lower cost.
- These platforms offers tools including market research reports, tools for fundamental and technical analysis and grievance redressal support for customers

03

Source: PwC analysis

50 PwC analysis of data from Google playstore

WealthTech market's revenue in India was estimated to be around USD 9.2 billion in the year 2022 and is predicted to reach three times its size by 2030 to over USD 31 billion, growing at an expected CAGR of 30% (from 2022–2030).[51] WealthTechs are expected to occupy 3% of the overall Indian FinTech market in India by 2030.[52]

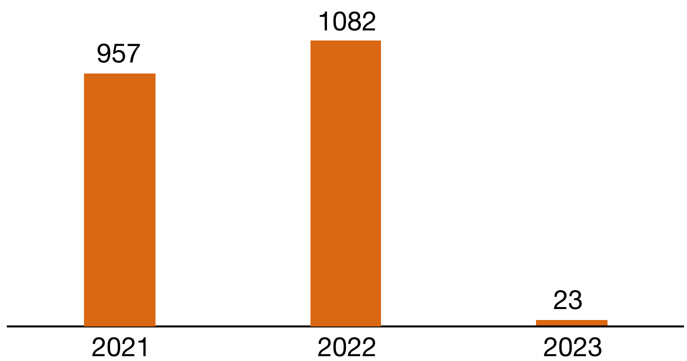
In India, there has been an increase in the penetration of demat accounts with the number of demat accounts increasing to 151.4 million[53] as of March 2024. Also, some of the major players providing WealthTech services to the customer including discount brokers and portfolio management platforms have a total combined application downloads of more than 131 million (top five in terms of downloads) through Google playstore.[54]

There is also a growing shift in terms of household savings, with allocation moving from banks to other instruments including retirement savings, mutual funds and insurance. The AUM for these instruments has grown at a CAGR of 15% while bank deposits have grown at a CAGR of 9% in the period between 2013–23.[55] This change in investment behaviour in India could be attributed to factors such as low interest rates in bank savings accounts as compared to potential return from capital market products, increased interest and awareness about investments especially in instruments like mutual funds among the populace, and a shift in the mindset of the expanding middle class and the millennials towards investing.

b. Funding

In 2023, WealthTechs faced funding challenges with funding levels remaining relatively low (USD 23 million) compared to 2021 (USD 957 million) and 2022 (USD 1082 million).[56] The increase in funding of WealthTech start-ups in the year 2021 and 2022 could be attributed to the increasing interest among Indian investors to invest in financial instruments that could fetch potentially higher returns when compared to traditional savings instruments from banks. However, the general slowdown in terms of start-up funding affected by global macroeconomic events could be one of the reasons for the fall in funding in the year 2023, indicating subdued investor interest.

Figure 13: WealthTech funding across the years in India (USD million)



Source: PwC analysis of venture intelligence data

However, the trend has seen a shift in the year 2024 with WealthTech start-ups securing new influx of funding from investors, placing WealthTech funding at the forefront again.[57]

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51 https://inc42.com/reports/state-of-indian-FinTech-report-q4-2023-infocus-rural-FinTech/

52 Ibid

53 https://www.business-standard.com/markets/news/india-s-demat-tally-crosses-150-million-mark-for-the-first-time-in-march-124040501034_1.htmlhttps://www.business-standard.com/markets/news/india-s-demat-tally-crosses-150-million-mark-for-the-first-time-in-march-124040501034_1.html

54 PwC analysis on data from Google playstore

55 https://www.business-standard.com/economy/news/financialisation-of-household-savings-can-fund-private-capex-goldman-sachs-124052201203_1.html

56 PwC analysis of venture intelligence data

57 https://economictimes.indiatimes.com/tech/funding/wealthtech-startups-dezerv-stable-money-close-fresh-funding-amid-larger-FinTech-stress/articleshow/108981043.cms

c. Key emerging business models:

The key emerging WealthTech business models can be classified as follows:

Figure 14: Emerging WealthTech business models

01

Formalisation of independent financial advisory

- WealthTechs are offering platforms and solutions focused on enabling financial advisors with digital tools that aid them in providing personalised financial advisory to their customers.
- They also aid in improving the overall customer experience by providing customers with access to view all their investments in one place, while providing access for financial advisors to easily track the investments made by their customers and automating administrative tasks. For example, a WealthTech platform in India aids independent financial advisors with tools to support their customers including research reports, recommendations, portfolio reviews, skill-building session and support for restructuring portfolio basis customer input.
- They also provide support for customised marketing to improve online visibility of the advisors.

02

Embedded and micro investment products

- WealthTechs are integrating investment products and solutions into other platforms at interaction points that could be contextually relevant for the customers to encourage them to save and invest more.
- WealthTechs can partner with digital finance service platforms, health insurance providers, and other financial health platforms to offer investment products in the form of micro-savings, digital gold investments and loose change investments.
- Some WealthTechs also offer these micro-savings products in a standalone manner. For example, an Indian WealthTech in enabling micro-saving for the underserved through its platform which caters to both individuals as well as enterprises.
- The platform facilitates goal-based investments in a variety of instruments including mutual funds and gold, with micro savings starting at INR 1.
- The platform also provides its users with content on taking informed decision on investments promoting financial literacy.

03

Global/offshore investment

- WealthTechs are offering solutions/platforms which enable retail investors in India to directly invest in publicly traded assets (direct equity, ETFs) from other geographies.
- There is a growing demand for investing in countries outside India as it can offer retail investors with an option to diversify their portfolio and reduce the risk exposure to a specific geography.
- RBI's Liberalised Remittance Scheme (LRS) programme allows for retail investors in India to remit up to USD 250,000 outside India per financial year for investment purposes. For instance, an Indian WealthTech player is offering solutions for Indians to invest in stocks from the US through their application. Apart from that, the app also offers users insights on their current investment and recommendations for future investments basis their financial goals.

Source: PwC analysis and RBI

Figure 15: Use cases for wealth management

Some of the key use cases that WealthTechs are typically offering to their customers include:

- Wealth as a Service: These solutions are offered to wealth management firms to support in managing their portfolios and curate specific insights for their advisors. For example. B2FI platform that offer portfolio construction and optimisation services.
- Embedded wealth management: These solutions integrate wealth management products at the point of consumption of other FS or non-FS products/services where the wealth offering is contextually relevant. For example. offering investment solutions to employees through employee well-being platforms.
- Digital portfolio management: These are solutions that help customers curate a portfolio based on their investment goals.
- Thematic investment: These are solutions that provide retail investors with an option to invest in a curated list or group of stocks that can be linked to specific themes of interest like tech companies and manufacturing companies.

Source: PwC analysis

d. Challenges

- **Financial awareness for taking informed decision:** In 2022,[58] only 27% of adults and 24% of women in India met the minimum financial literacy level defined by RBI. This is a concern that affects not only the marginalised groups but also the middle- and upper-middle-class income groups within the country. Financial literacy is an important factor for making informed investment decisions. For WealthTechs to improve their scale, investors would need to be educated on market products and the impact that could be created through making informed financial decisions.
- **Customer acquisition:** Customer acquisition for WealthTechs in India can be impacted due to various factors. The cost of acquisition of customers has increased due to increased competition. The rising demand for personalised product propositions among customers also requires investments in technology and customer support. Furthermore, there is a need to invest effort and money in educating the customers on financial products and services to improve the customer's trust and confidence in investing, which can further drive up the acquisition costs.
- **Monetisation through distribution:** WealthTech in India could generate revenue through advisory fee, subscription fee, performance fee, training and education among other streams. In many cases WealthTechs partner with FIs and other intermediaries to distribute their products and earn a percentage of the invested capital as distribution fee. Since the distribution margins would be controlled by the manufacturers, it offers little control for the WealthTechs. Due to this, WealthTech platforms are expanding to become investment product manufacturers.[59]

e. Drivers

- **Increased accessibility, adoption and relevance of WealthTech solutions:** Between 2021 and 2023, India witnessed a sizable growth of its average household by 12.3%. This growth has been seen across different income levels especially among the lowest income groups 20%, while the lower-middle and middle segments' household income grew by 31.6%, 52.3% and 75.3% respectively.[60] The boost in household income could be attributed to the enhanced accessibility and adoption of WealthTech solutions across these different income level groups.

58 https://www.pwc.in/assets/pdfs/industries/financial-services/fintech/b-ank%E2%80%93fintech-collaborations-for-promoting-financial-inclusion.pdf
59 https://economictimes.indiatimes.com/tech/startups/zerodha-gets-final-nod-for-amc-licence-from-sebi/articleshow/102654499.cms?from=mdr
60 https://timesofindia.indiatimes.com/india/incomes-up-since-covid-but-poorest-20-still-below-fy16-level-study/articleshow/107124541.cms

Additionally in the period from 2019 to 2023, India's mutual fund industry has notably grown by 200%, indicating an expansion of financial participation across the population.[61] Particularly, the AUM for B30 locations (areas beyond the top 30 geographical locations in India) increased by 44%, from USD 88.25 billion in April 2023 to USD 127 billion in April 2024, indicating the widespread geographical reach of these financial products.[62]

WealthTech companies have capitalised on these trends by offering retail investors curated product recommendations which align with their risk preferences and financial goals, making WealthTech solutions more relevant and appealing to the populace.

- **Increasing interest in alternative investments:** Globally, investments into alternative asset classes are seeing increased adoption, as retail investors are increasingly recognising the importance of diversifying their portfolios beyond traditional assets. Retail investors have started exploring alternative investments to generate higher yields from their portfolio, especially on instruments like private debt, startup equity, corporate bonds, asset leasing and other fixed income alternatives such as invoice discounting, revenue based financing and asset leasing.

Some of the key factors fuelling the adoption of alternative investments in India include:

- **Broadened investment appetite:** There has been a notable increase in the investment interest beyond tier-1 cities, as reflected by the share of AUM in these cities rising from 10.21% in the year 2020 to 17.44% in 2023.[63]

- **Regulatory support:** Support from the regulator indicated by the growth of AUM from USD 12 billion in the year 2017 to USD 102 billion in 2023 in government recognised AIFs[64] is aiding in the growth of the alternative investment landscape.

- **Potentially higher returns:** Fixed-income investment products such as asset backed securities, lease financing and invoice discounting could potentially provide higher returns as compared to traditional fixed deposits in banks.[65] This is attracting investors to invest in alternative asset classes.

- **Improved accessibility through prices:** The accessibility of alternative investment products has improved with the lowering of minimum ticket sizes for investments in products such as start-up equity (USD 60.9)[66] and corporate bonds (USD 121.9)[67] through WealthTech platforms.

  According to a PwC report, the total addressable market of alternative investment products in 2023 for India was estimated to be USD 73.2 billion and is expected to potentially grow to USD 165.8 billion by 2025.[68] This growth presents a significant opportunity for WealthTechs to leverage and create solutions across the value chain to cater to the increased demand in alternative investments.

- **Financial literacy initiatives:** SEBI has taken initiatives to improve financial literacy and access to basic financial education through programmes like Financial Education through Resource Persons (RP) Programme for enabling the public with financial education. The RPs are empanelled by SEBI to deliver content on the basics of banking, investments, insurance, and pension. The programmes are targeted to be delivered to home-makers, self-help groups, middle-income groups, executives and retired personnel. SEBI also organises visits for students to inculcate basic financial knowledge at a young age.

  AMFI's 'Mutual Fund Sahi Hai' campaign launched in 2017[69] to promote mutual funds and educate investors was an important lever in increasing the consumption of mutual funds. Since the inception of the campaign, the mutual fund industry's AUM has grown from USD 243 billion in 2017 to USD 695

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61 https://economictimes.indiatimes.com/mf/mf-news/indian-mutual-fund-industry-likely-to-hit-rs-100-lakh-crore-by-2030-axis-capital/articleshow/107941531.cms?from=mdr

62 https://www.amfiindia.com/Themes/Theme1/downloads/home/B30vsT30.pdf

63 https://indianexpress.com/article/explained/explained-economics/mutual-fund-investments-big-change-in-small-towns-8580110/

64 https://www.pwc.in/assets/pdfs/industries/financial-services/publications/expanding-horizons-for-wealthtechs-alternative-investment-products.pdf

65 Ibid

66 https://www.livemint.com/money/personal-finance/know-the-risks-rewards-of-startup-equity-investing-11655309979134.html#: | Conversion ratio - INR/USD: 82

67 https://economictimes.indiatimes.com/wealth/invest/now-investors-can-buy-corporate-bonds-for-just-rs-10000-should-you-go-for-it/articleshow/110027300.cms?from=mdr | Conversion ratio - INR/USD: 82

68 https://www.pwc.in/assets/pdfs/industries/financial-services/publications/expanding-horizons-for-wealthtechs-alternative-investment-products.pdf | Conversion ratio - INR/USD: 82

69 https://www.amfiindia.com/aboutamfi

billion in April 2024.[70] Many investment platforms and leading digital brokerage players are also offering free-of-cost modules to help retail investors learn more about the instruments that they want to invest in. NSE also offers a financial literacy programme through NSE academy for educating retail investors on key concepts like PFM.[71]

- **Reducing friction in UX:** Investment traditionally required multiple layers of verification through signatures, mandates and submission of physical documents and pictures. The WealthTech value propositions have evolved and equipped the industry with solutions to manage these verifications through eKYC and fully online mandates and leverage automation to reduce the friction in the user journey.

InsurTech

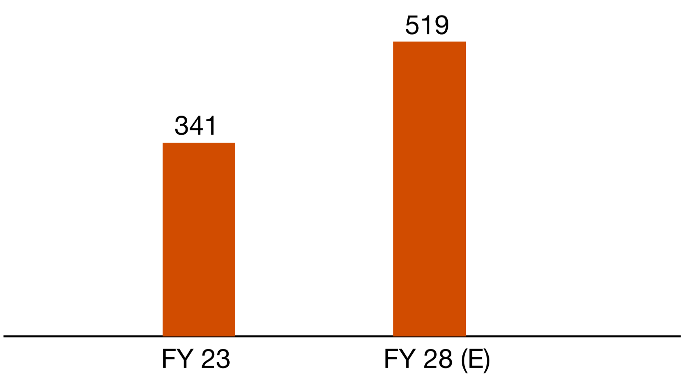
a. Market trends and growth

InsurTech refers to leveraging technology across the insurance value chain from customer acquisition/ engagement, underwriting to claims management, for developing innovative products and building efficiencies in process and solutions for delivering a seamless customer experience. Across the InsurTech value chain, types of players who are present typically include insurance providers, insurance intermediaries (corporate agents, brokers and web aggregators), insurance SaaS providers who commonly provide technology solutions for insurance products sales and distribution, policy management, underwriting and risk assessment, automation of processes like claim management, CRM and agent management.

InsurTech in India is expected to rise in the coming years, majorly driven by the adoption of digital and phygital distribution channels, technology enabled underwriting, credit assessment and risk management, innovation in claims management, and growth in partnerships and collaborations between insurance players and FinTechs. The major players providing InsurTech services to the customer have a total combined application downloads of more than 16.2 million[72] through Google playstore, indicating the growth in the adoption of InsurTech platforms in India. Additionally, initiatives from the regulatory authority, IRDAI, aim to increase insurance awareness and penetration in underserved segments and regions and increase partnerships and collaboration between insurance players and FinTechs.

The premium underwritten through the InsurTech channels in India (web aggregator and direct online, e.g. through websites) for life insurance (individual and group) and health insurance is estimated to be around USD 341 million and is expected to grow by a CAGR of 8.7% from FY23 to FY28 to reach potential underwritten premiums of USD 519 million by FY28.[73]

Figure 16: Insurance premiums in USD million



Source: PwC analysis of IRDAI data

A number of emerging players providing InsurTech services in India across the insurance value chain have been observed to provide services and solutions that enable seamless distribution of insurance policies and adoption of phygital and digital channels for the last mile reach through POSP model, web aggregator model or embedded insurance model. These InsurTechs are also working towards digitising and automating end-to-end insurance processes to make the customer lifecycle smoother.

70 https://www.amfiindia.com/indian-mutual#:~:text=The%20Industry's%20AUM%20had%20crossed,first%20time%20in%20August%202017. | Conversion ratio - INR/USD: 82

71 https://www.nseindia.com/learn/nse-academy-mkcl-financial-literacy-program

72 PwC analysis on data from Google playstore

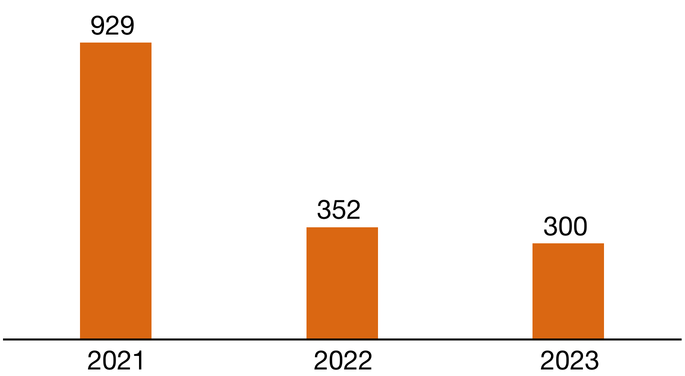
73 PwC analysis and IRDAI data

b. Funding

Funding in InsurTechs reduced by approximately 14.5%[74] from the year 2022 to 2023, amounting to a funding value of USD 300 million as of FY 23[75], due to overall slowdown in the economy and funding in the global landscape. Majority of InsurTechs that received funding in the year 2022 and 2023 were across series A and B which might be indicative of the investors' interest to enter the InsurTech market in the early stages. Around 95%[76] of the InsurTech funding across all the years from the year 2021 to 2023 has gone to B2C InsurTechs which might indicate that more InsurTechs in B2C business models are working towards improving the accessibility and distribution of insurance in India.

The following are the figures for the funding in InsurTechs as of the year 2023 in USD million.

Figure 17: InsurTech funding across the years in India (USD million)



Source: PwC analysis of Venture Intelligence data

c. Key emerging business models

This section discusses a few emerging business models in InsurTech in India which offer innovative insurance products and are helping to increase the distribution and reach of the insurance of India.

IoT and big data analytics enablement for hyper personalisation: It is the type of insurance where the premium is calculated based on the monitoring of the usage of the product/service (e.g. usage of a vehicle) or through tracking of real-time data of customers (e.g. health related data) through IoT and using data analytics to derive insights. It has major use cases in the auto insurance industry for providing car and bike insurance and in the health insurance industry for providing discounts on health insurance based on health related parameters.

For tracking the use of car or bike, smartphone or dongle that uses global positioning system GPS technology, IoT devices and sensors are used to track the average speed, acceleration, angle of turns taken, time of drive, place of drive, time taken to drive, frequency of drive, distance covered and braking patterns. These are the factors on which premiums are decided. Smartphones are usually preferred to develop a UBI model due to typically lower costs involved related to tracking of usage of vehicles by the customers for insurers or intermediaries. One of the leading general insurance providers in India offers a usage based insurance using their own tracking application and device which works on GPS. This app tracks distance travelled, speed, and other driving pattern parameters to decide the premiums.

For providing health insurance and renewals at discounted price, health parameters such as body mass index, cholesterol levels, blood pressure levels and smoking and drinking habits are monitored through regular health screenings. Data from a wearable gadget like smartwatch or fitness band or an application, can be used to track and analyse data such as number of steps, number of calories burnt and distance covered to provide health insurance renewal discount to the customers. One of the health insurance providers in India provides a discount of up to 30%[77] on the renewal of health insurance premiums.

Embedded insurance: Through the embedded insurance model, insurance products/services are offered to users during the point of sale of a non-insurance product or service. It is usually provided on e-commerce, travel, telemedicine and ride-hailing apps and platforms through partnerships between insurance companies and non-FS service providers. There are several technology solution providers that help these non-FS providers to integrate FS products on their platforms through necessary infrastructure for data exchange and integration while maintaining data security and interoperability. These technology solutions provide APIs to the non-FS providers to make FS products from insurance providers accessible on the non-FS platform. An embedded InsurTech solution provider in India offers

74 PwC analysis of Venture Intelligence data

75 Ibid

76 Ibid

77 https://www.moneycontrol.com/news/business/personal-finance/win-win-deal-now-save-on-health-insurance-premiums-even-as-your-smartwatch-or-fitness-band-helps-you-maintain-good-health-10615291.html

a set of APIs that enables e-commerce players and cab aggregator platforms to serve relevant insurance policies at several touchpoints in the customer journey.

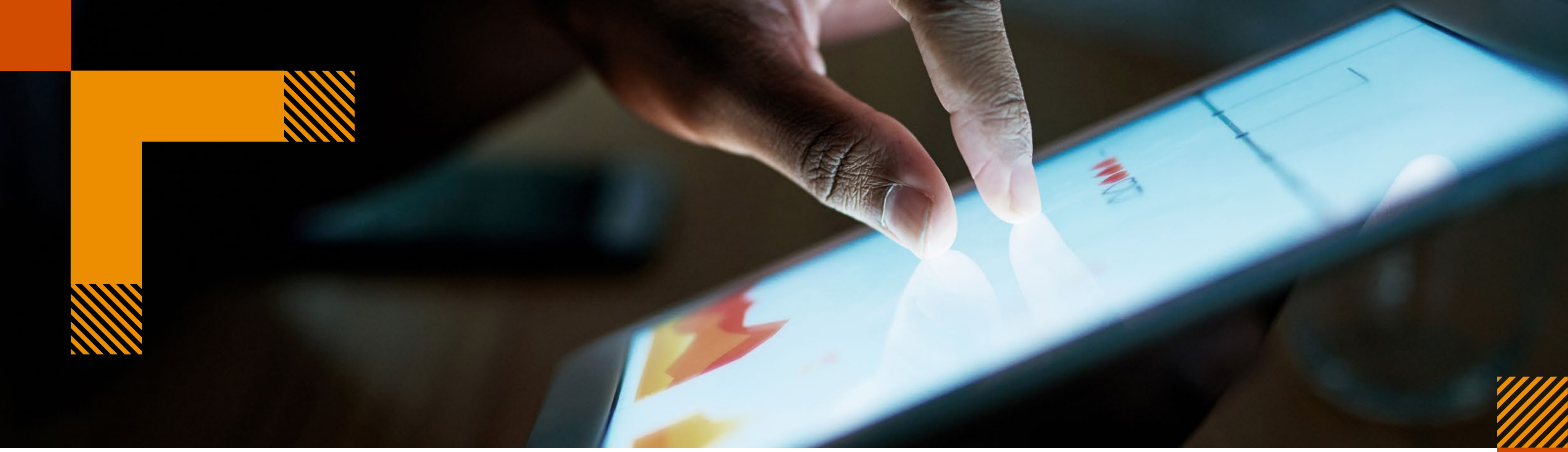
This insurance product, which is embedded in other FS or non-FS platforms, is of typically low-ticket size and contextual to product or service consumed/bought from the FS or Non-FS platform. Embedded insurance could help in increasing insurance penetration in India by providing insurance at affordable prices to the customers on non-FS platforms which are typically used by customers on a daily basis such as social media, e-commerce websites, food, cab and travel aggregators. For instance, an online travel aggregator in India provides travel insurance, and insurance for lost baggage and delayed flight while the customers are booking flight tickets or hotels. The following are the illustrative industries where embedded insurance is expected to see adoption.

Figure 18: Use cases for embedded insurance

Source: PwC analysis

Bite-sized/sachet insurance: These types of insurance products typically cover the very specific needs of customers and are valid for a short term. Certain insurance providers have also been partnering with non-FS providers and e-commerce brands to offer affordable or free insurance coverage on every customer purchase or customer purchase till a particular amount. This helps customers in buying certain insurances with incremental covers for life insurance, personal accidental insurance and other emergencies.

Typically millennials or Gen Zs buy such types of insurance, but other niche customer segments who require insurance for short term and specific purposes and are looking for affordable insurance products could also be targeted for these types of insurance products such as freelancers and gig workers. Examples of such insurance products include online protection, insurance for mobile phone theft and damage, insurance for cycle, insurance for specific diseases such as dengue, accidental insurance among others. For example, one of the insurance providers providing affordable insurances to the Indian population, provides backpack insurance theft valid for a few months since the date of purchase of the backpack.



d. Challenges

The InsurTech domain in India and players operating under the same face the following challenges:

- **Preference of offline channels and cost of servicing:** For health insurance in FY23, the major contribution to the premium came from offline channels, specifically direct sales through offline channels (28%) and individual agents (30%).[78] For life insurance products in FY23, 52.97% of premiums for individual new business were generated through individual agents that sell insurance through offline channels. Banks, which are corporate agents, contributed to 32.7% of the overall premiums.[79] The preference towards offline channels for buying life insurance could be higher because of the hand-holding that is provided in the offline mode by agents/personnel for the complex and difficult-to-understand products. However, the cost of acquisition and insurance distribution via offline channels for insurance providers is generally higher compared to the cost of insurance distribution through online channels as offline channels require the deployment of sales agents, processing of physical paperwork and time-consuming manual processes.
- **Problem of plenty and low affordability of products:** Currently customers might face difficulty in understanding the insurance products and selecting the most suitable insurance products from multiple products available in the market. One of the other challenges for customers to buy insurance has been premium paying capacity for life and health protection covers, especially for low income segments. As per a recent 2023 survey, 40% and 43% of the respondents cited 'high premiums' as the reason for not purchasing life insurance and health insurance respectively.[80]
- **Claim management:** Figure 19 illustrates the typical process of claim management in India.

Figure 19: Claims management value chain

Source: PwC analysis

The insurance claim management process in India is currently complex and involves multiple underlying mechanisms. It is generally lengthy and data-intensive and typically requires extensive paperwork and documentation. The overall experience of customers filing for claims and policy renewals requires further streamlining and automation to reduce the time taken for insurance claims settlement and improve the customer experience. There is a need to employ more trained professionals or insurance agents for guiding customers through the claim management process. Introduction of technologies like automation and AI/ML can help to further streamline the claim management processes, increase transparency and identify any irregularities in data.

78 https://irdai.gov.in/annual-reports

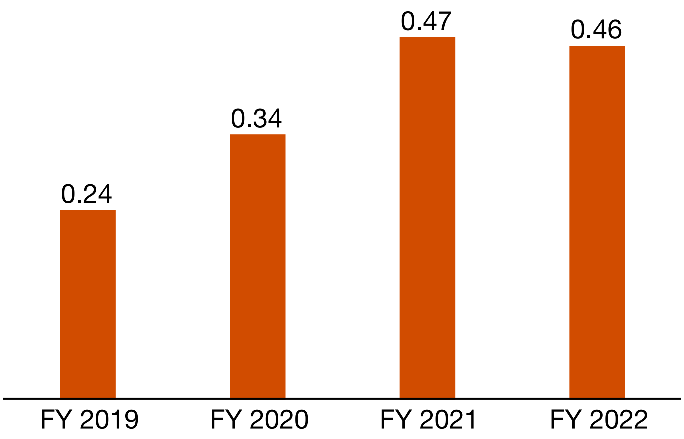
79 Ibid

80 https://static.pbcdn.in/cdn/pdf/how-india-buys-insurance.pdf

e. Drivers

- **Gradual increase in customer awareness for online channels:** Customers in metros, tier 2 and tier 3 cities and other parts of the country are becoming more cognisant of the availability of a diverse range of insurance products accessible through online platforms as can be seen from a recent 2023 survey. Around 79% of the survey respondents utilised online sources for information on health insurance whereas 83% of the survey respondents looked online for life insurance.[81] It can also be observed through the increase in premium underwritten for online channels for both life and health insurance. The premium underwritten through online channels has observed CAGR of 23% from FY19 to FY22[82] as can be seen from the graph below.

Figure 20: Premium underwritten through online channels (USD billion)

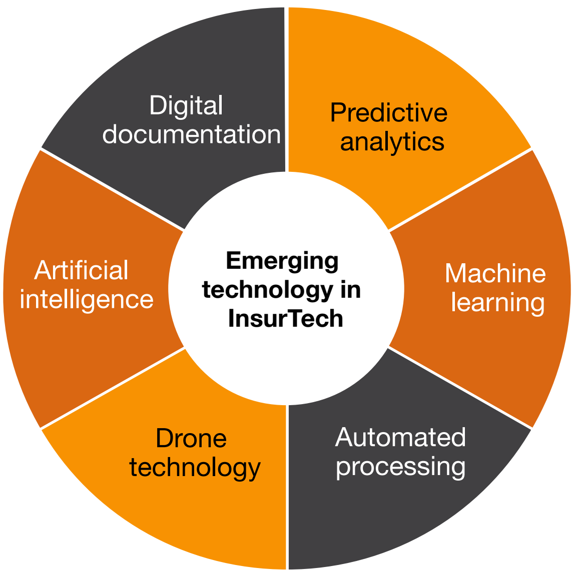


Source: PwC analysis of IRDAI data

- **Emerging technologies and automation:** Onboarding and underwriting with the help of technologies and processes such as predictive AI/ ML, automated processing and video KYC, could help in smoother customer acquisition, distribution and servicing. The use of digital documentation and automation for claim management could possibly help in streamlining the claim management processes. Drone technology is also being used for property risk assessment in case of farm and property insurance. Technologies such as AI chatbots could also help provide enhanced customer experience through swift customer query resolution.

- **Development of sales assist distribution platforms:** InsurTechs have been developing platforms which could potentially help with sales of insurance policies across different customer segments and demographics such as users in tier 2, 3 cities and employees. These sales assist platforms enable agents (such as POSP, motor insurance service provider) with marketing of insurance policies via multiple online and offline channels, lead generation, comparison between different insurance policies, real-time access to quotes, instant issue of policies, commission tracking, claim management, reporting and help with customer support.

Figure 21: Emerging technologies in InsurTech



Source: PwC analysis

81 https://static.pbcdn.in/cdn/pdf/how-india-buys-insurance.pdf

82 https://irdai.gov.in/annual-reports

Digital lending

a. Market trends and growth

Digital lending in India typically includes loans or other credit services that are provided through online platforms to the customers, or loans that are underwritten digitally and distributed physically or the loans that might be distributed digitally but collected through physical means. The stakeholders in the digital lending value chain typically include lenders like banks, NBFCs, MFIs and lending service providers which can include digital lending platforms and LendingTechs and borrowers. The borrowers could be either retail borrowers or business borrowers. MSME loans form a part of business borrowing.

The book size of Indian digital lending companies is expected to reach USD 515 billion by 2030.[83] The growth in the digital lending market in India could be attributed to factors such as improvement in credit assessment and underwriting with the help of technologies such as AI/ML, usage of alternative data sources such as social media, phones, online transactions, behavioural patterns, and psychometric tests, streamlined onboarding on digital lending platforms, sales assist with the help of business correspondents, ability to share data in a secure manner and managing customer consent through account aggregator, STP for end-to-end digital lending process and increase in the number of digital lending players or platforms. As per the latest data available as of June 2024, the number of application downloads from Google Playstore for the leading five digital consumer lending platforms in India has been more than 90 million[84] which is indicative of the growth in the adoption of such platforms.

MSMEs contributed around 29.2% to the GDP of India for the period FY 21–22.[85] Only 25 million out 63 million MSMEs have received some form of formal credit.[86] As of November 2023, the credit gap for the 63 million MSMEs in India was USD 400 billion.[87] This credit gap could exist since MSMEs, typically, lack formal credit scores or collateral. Additionally, around 51.25%[88] of the total MSMEs are located in rural areas, which could cause higher cost of servicing for banks due to the low ticket size and short tenure loan requirements. There is also a general lack of awareness among MSMEs about the different credit solutions currently available in the market. Although loan origination for MSMEs in India has grown 20%[89] YoY from Q2 FY 2022 to Q2 FY 2023, with the increase in digitisation and formalisation of MSMEs, usage of alternative data for underwriting of MSME loans and initiatives by the government to provide access to credit and boost the sector, micro enterprises saw the highest growth in loan origination volumes with a YoY increase of 28% from Q2 FY 2021–2022 to Q2 FY 2022–2023.[90]

83 https://bfsi.economictimes.indiatimes.com/news/fintech/indias-digital-lending-market-likely-to-grow-515-bn-by-2030-report/101057337#

84 PwC analysis on data from google Play store

85 https://timesofindia.indiatimes.com/blogs/truth-lies-and-politics/underscoring-contribution-of-msme-sector-to-economic-growth-of-india/

86 https://bfsi.economictimes.indiatimes.com/news/nbfc/msmes-face-major-challenge-to-get-sufficient-funding-credit-gap-of-33-tn-report/105445995

87 Ibid

88 https://www.nabard.org/auth/writereaddata/careernotices/2701235242msme.pdf

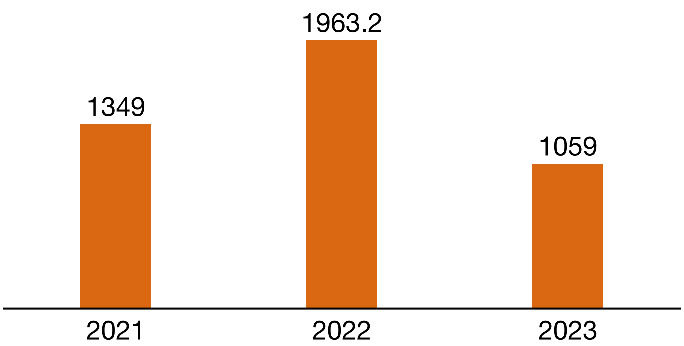
89 https://www.financialexpress.com/business/sme-msme-loans-rise-20-in-july-sept-3408477/

90 Ibid

b. Funding

The reduction in funding in digital lending FinTechs in India from the year 2023 to 2022 was 46% approximately.[91] This could be potentially due to the reasons similar to the decline in funding of the other FinTech sectors such as increasing investor caution and overall global economic slowdown. Additionally, dynamics specific to the digital lending sector such as tightening of regulations around digital lending by RBI, emergence of fraudulent digital lending applications might also contribute to the reduction in the funding in the year 2023. In the year 2023, growth stage FinTechs received approximately 3.5 times more funding compared to early stage digital lending FinTechs.[92] This could be due to the perceived reduced risk of investing in growth stage startups by the investors. Notably, early stage startups had a higher number of deals in 2023 (approximately 2 times higher) compared to growth stage startups indicating a greater number of lower ticket sized deals.[93]

Figure 22: Funding in digital lending across the years (USD million)



Source: PwC analysis of Venture Intelligence data

c. Key emerging business models

A few emerging business models in retail lending in India are mentioned below. These business models help to offer credit services to the masses.

- **BNPL:** BNPL loans are expected to grow in India in terms of overall GMV. The predicted CAGR in the growth of overall GMV could be 13.8% from the year 2022 to 2028.[94] The potential factors for the growth of BNPL in India could be seamless user experience during online checkouts, rise in online e-commerce shopping, increase in smartphone penetration and internet penetration, increase in adoption of digital payments and low penetration of credit cards in India (5%[95]) among others. Typical BNPL transactions are done online. Major categories or industries where BNPL is most prominently used in India are e-commerce platforms and food aggregators platforms. These platforms typically provide access to the customer's transactional data to the BNPL providers for underwriting and disbursing quick BNPL loans. A leading e-commerce platform in India offers BNPL at the checkout option which allows customers to avail the loan and repay at a later date.
- **Embedded finance:** Embedded finance involves the integration of FS into non-FS providers' platforms and in the customer transaction journey. Embedded finance ecosystem has the potential to grow at a CAGR of 30.4% from the year 2022 to 2029.[96] FinTechs and established FIs can work together to create consumer-facing platforms that enhance convenience and improve the user experience by providing loans at key customer journey touchpoints. Embedded finance enables users to conduct transactions and get access to credit seamlessly without switching between different applications or platforms. FIs have also been partnering with certain ecosystem players such as ride hailing platforms to provide FS services like loans to its driver ecosystem. One of the major food aggregator platforms in India provides embedded credit services on its platform through which customers can order food and pay later for the delivery.

91 PwC analysis on Venture Intelligence data

92 Ibid

93 Ibid

94 https://www.businessworld.in/article/Indian-BNPL-Market-To-Be-Worth-14-3-Bn-In-2023-Report/13-02-2023-465414/

95 https://www.business-standard.com/content/press-releases-ani/bnpl-to-contribute-14-per-cent-of-e-commerce-transaction-value-by-2026-market-research-by-benori-knowledge-122032801064_1.html

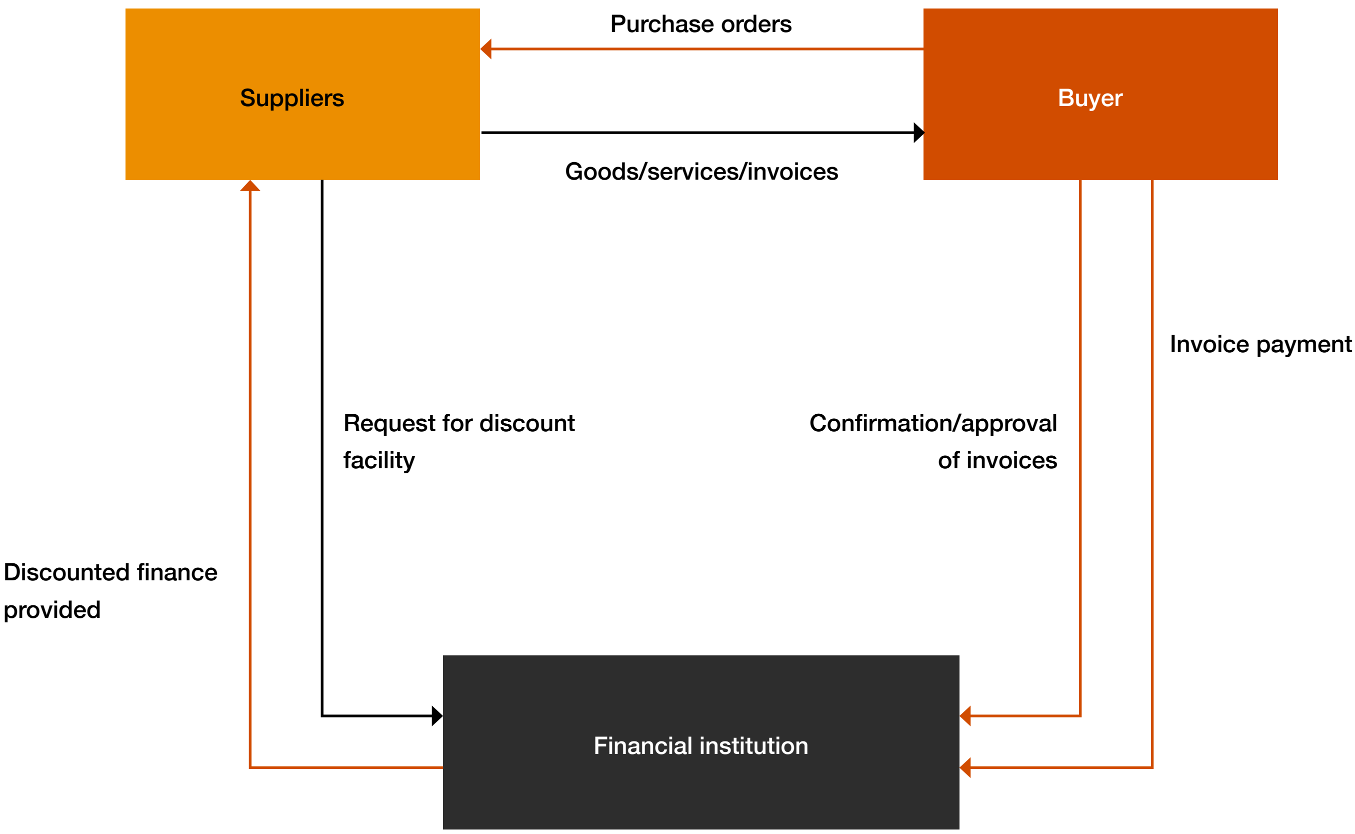
96 https://www.pwc.in/assets/pdfs/consulting/financial-services/FinTech/publications/embedded-finance-a-strategic-outlook.pdf

Some of the emerging business models in MSME lending in India are:

- **Supply chain financing (SCF):** SCF uses invoices and receivables to provide financing to the merchants. Supply chain financing could potentially help to fill the USD 400 billion[97] MSME credit gap by offering financing options to merchants who typically lack credit scores or ratings and those that have no or minimal collateral. SCF can help MSMEs with access to working capital financing solutions at relatively lower interest rates compared to typical working capital business loan. The interest rates for loans through SCF could be between 2–4%[98] compared to a business loan for which the average interest rate could go up to 24%[99] per annum. One of the SCF solution providers has created a platform to connect corporates and MSME players in their supply chain to SCF financing institutions to provide trade credit.

The following is an illustration of the typical value chain of supply chain finance in India.

Figure 23: SCF value chain



Source: PwC analysis

- **POS-based B2B lending:** As per the data from the RBI as of April 2024, around 8.8 million[100] PoS terminals are in use by different types of merchants across the country. POS-based lending enables merchants with access to loans against the transactions on the POS machines/terminals by the customers. POS-based B2B lending could potentially help boost sales and smoothen cash flows for the merchants. POS-based lending also allows MSMEs to opt for loans against receivables through the POS. A MSME lending services provider in India offers loans against POS to small and medium enterprises on potential future debit card and credit card swipes.

97 https://bfsi.economictimes.indiatimes.com/news/nbfc/msmes-face-major-challenge-to-get-sufficient-funding-credit-gap-of-33-tn-report/105445995
98 https://timesofindia.indiatimes.com/blogs/voices/how-supply-financing-can-change-the-way-sme-get-financed/?source=app&frmapp=yes
99 https://www.businessworld.in/article/Lack-Of-Collateral-Limited-Credit-History-Hindering-MSMEs-Growth-In-India/28-02-2024-511371/
100 https://rbi.org.in/scripts/ATMView.aspx?atmid=158

e. Drivers

- **Digital public infrastructure:** Development of digital public infrastructure such as Account Aggregator, OCEN, TReDS, and ONDC have potentially contributed to increasing the digitisation and formalisation of the economy leading to the increase in retail customers and MSMEs getting registered with these platforms. Account aggregators could help real time data exchange between different FIs and lenders and help in better underwriting and instant disbursement of retail loans. TReDS and OCEN help in providing access to credit for the MSMEs.

- **Emerging technologies for underwriting, monitoring and collections:** Data analytics and AI enable analysing alternative data such as digital transactional data to predict patterns and derive actionable insights in the case of limited availability of data for better, faster and more accurate underwriting and risk assessment. Technologies such as AI/ML can aid in identifying early warning signs. These technologies can also help lenders to identify suspected borrowers by analysing the data and help lenders take necessary action against defaulters. In servicing, monitoring and collection, the digitisation and availability of online repayment of loans has not only reduced the cost of collections but also improved the overall experience for the borrowers.

- **Intersection of non-FS and FS services:** Players that have been traditionally providing non-FS services such as B2B marketplace, digital ledger and tax solutions have also started to provide credit solutions for the customers on their platform. Through these types of business models the customers can fulfil their credit needs from one single platform. The intersection of non-FS and FS services can also help with increase in accessibility of credit among the retail and MSME borrowers. One of the leading B2B digital ledger solution providers has started to extend loans to its existing merchant base mostly consisting of small kirana stores.

d. Challenges

- **Lack of credit history and collaterals:** One of the significant reasons for MSMEs being underserved in access to credit is due to the absence of credit history or proper documentation or collateral which makes it risky for traditional lenders such as banks to lend to MSMEs. Despite the potential accessibility of loans from a formal financial institution, the high interest rates which can go up to the maximum of 24%[101] per annum could make the loan costly for the MSMEs. There are certain challenges with the usage of alternative data for underwriting such as low data quality, comprehensiveness and hygiene of alternative data, data privacy concerns, and requirement of advanced technology capabilities for using alternative data for risk scoring that can also impede the access of credit to these MSMEs.

- **Low loan collection efficiency rate:** The usage of digital debt collection is currently limited and banks and other FIs typically rely on traditional methods for collecting loans physically from the consumers or MSMEs. This could be due to certain reasons such as reliance of banks on face-to-face interactions, lack of digital infrastructure in remote and rural areas and customer preference for offline repayment of loans. The debt collection through traditional processes is generally slow, erroneous, and might increase the overall costs of collections. There have been various cases where there have been reports of harassment and intimidation by the customers against lenders.

101 https://www.businessworld.in/article/Lack-Of-Collateral-Limited-Credit-History-Hindering-MSMEs-Growth-In-India/28-02-2024-511371/

FinTech Infra

a. Market trends and growth

FinTech Infra in India comprises front-end and back-end solution providers for the BFSI sector and FinTech sector and for non-FS providers trying to embed and provide FinTech related services to their customers. They provide solutions across hardware, software, networks and different FS domains such as digital banking, digital lending, Payments, WealthTech and InsurTech which are typically enabled through white-labelled or API based services. FinTech infra has the potential to facilitate the growth of the FinTech sector by assisting them with streamlining of operations, automating workflows and enhancing efficiency to improve overall customer experience.

The combined market value of the FinTech Infra players in India was estimated to be around USD 9 billion as of FY 2024.[102] The popularity of FinTech Infra players in India could be due to the offerings provided by them in regulatory compliance, identity management, customer onboarding and verification solutions, customer servicing and management, risk management, loan origination and management, payment processing and reconciliation, wealth management, underwriting, fraud collection and cybersecurity. These solution aids BFSI players and FinTechs to become more efficient and deliver superior service to their customers. These players also help in the modernisation of IT systems and infrastructure of FinTechs and other FIs. They enhance internal business capabilities and efficiencies, and assist the movement to the cloud for scalability, faster computing and possible cost optimisation.

Some of the solutions across different FinTech Infra domains are:

Figure 24: Solutions across FinTech Infra domain

	Major solutions	
PaymentTech	• Payments switch • Payment reconciliation	
BankingTech	• Core banking solutions • Cards as a service	• Banking as a service
RegTech	• Early warning signs • Fraud monitoring	• Identity management
LendingTech	• LOS/LMS • Lending as a service	• Underwriting and collections
InsurTech	• Claims management • Policy management	
WealthTech	• Portfolio/wealth management solutions for IFAs • WealthTech as a service	

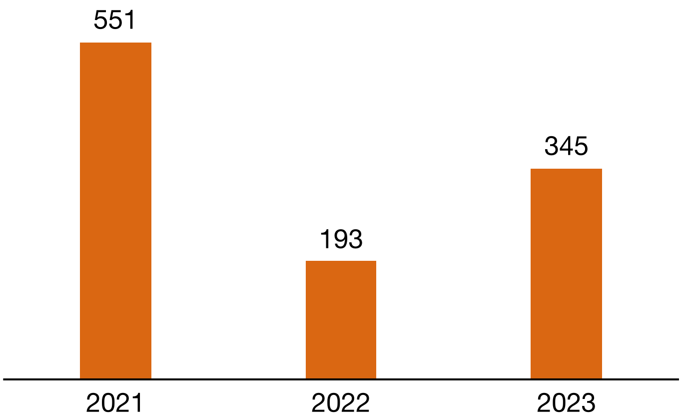
Source: PwC analysis

102 https://www.forbesindia.com/article/leadership/its-time-for-consolidation-in-fintech-saas-bala-srinivasa/93154/1

b. Funding

From 2022 to 2023, funding amount for FinTech Infra domain has witnessed an increase of 78% (approx.).[103] The players in FinTech Infra domains such as Payments, InsurTech, banking, RegTech and WealthTech domains observed decrease in funding by 100% (approx.) or no funding in the year 2023.[104] However, FinTech Infra players operating in the LendingTech domain observed an increase in funding by approximately two times from the year 2022 to 2023. This indicates investor interest in players who provide infrastructure for digital lending such as risk assessment and management, AI for underwriting and embedded lending solutions.[105]

Figure 25: FinTech Infra funding across the years (USD million)



Source: PwC analysis of Venture Intelligence Data

c. Key emerging business models

A few business models across FinTech Infra are mentioned below:

- **BaaS:** BaaS enables FinTechs and other FIs such as NBFCs, FinTechs and MFIs to connect with the infrastructure of the bank through APIs and provide modular services or certain components of core banking solutions or end-to-end banking services to the customers. BaaS enables those who do not have access to a banking licence or cannot get a banking licence, such as FinTechs and FIs, to offer a variety of FS services to their customers. A few examples of such FS services include co-branding banking services offerings credit/debit cards, bank accounts, loan products, embedded finance services such as embedded payments, BNPL and embedded insurance. A leading neo bank for SMEs uses APIs of a major commercial bank to provide credit services on its platform.
- **LOS/LMS:** LOS helps to streamline the loan origination process by making the workflow from the initial loan application more efficient by utilising the data received from the customers for underwriting purposes and verifying necessary documents. LMS helps to manage the loan lifecycle and ensures efficient loan account management through tracking of loans. LOS/LMS is expected to have increased use cases and applications with the rise in digital lending in India to provide customers with improved experience while availing digital loans, making the digital lending value chain more efficient and introducing more automation. It can help lenders to launch innovative and customised loan products across different customer segments, keep the loan lifecycle agile and help lenders to navigate the regulatory environment better. One of the major LOS platforms in India is a cloud-based, fully automated platform that helps lenders to originate and underwrite loans starting from customer onboarding, LSP onboarding, disbursal stage management and KYC.
- **GRC:** The awareness of GRC is growing in India due to the rising need for FIs to comply with regulations, improve risk management and achieve business goals while being resilient. GRC platforms typically offer tools for risk management, policy management, audit management, compliance management, internal control management, and incident management. These platforms help FinTechs and other BFSI players to maintain regulatory compliance, manage and mitigate risks and enhance sustainability of the organisation. Many GRC solutions are becoming cloud based as this allows them to analyse data, provide insights and perform reporting in real-time. Technologies such as big data are also used for better assessment of risks and recommend strategies to ensure compliance. A leading compliance management software offers cloud-based, comprehensive, integrated, scalable and secure GRC solutions to make organisations more adaptive and agile.

103 PwC analysis on venture intelligence data

104 Ibid

105 Ibid

04

Emerging trends

Despite funding winters and having to navigate complex market challenges in India, FinTechs have continued to work on developing trust among customers, intermediaries, financial institutions and policymakers as they innovate and create new age FS solutions for diverse Indian demographics. Owing to the continued focus from the FS ecosystem to offer banking and financial services to underserved customers, FinTechs are either partnering with banks or are independently building solutions to enhance capabilities for last mile distribution. Some of the new opportunities to facilitate this include ecosystem banking, supply chain financing, sustainable or green financing and embedded finance. Some of the key emerging themes in the FinTech ecosystem to look forward to in the coming years are:

Inclusion

Holistic inclusion is not limited to financial inclusion, but it also focuses on participation from women, persons with disabilities, and providing opportunities across the rural and urban demographics. New age players working in the domain of insurance distribution, prepaid cards, UPI payments, merchant payments, savings and investments have deployed innovative distribution strategies to increase penetration among the masses. These strategies combine the capabilities of digital infrastructure with physical distribution through agents/ representatives for deeper penetration and last-mile awareness and outreach to potential customers. For example, an insurance broker provides digital training, curated policy documentation, and real time expert support to its POSPs for offering insurance products to customers.

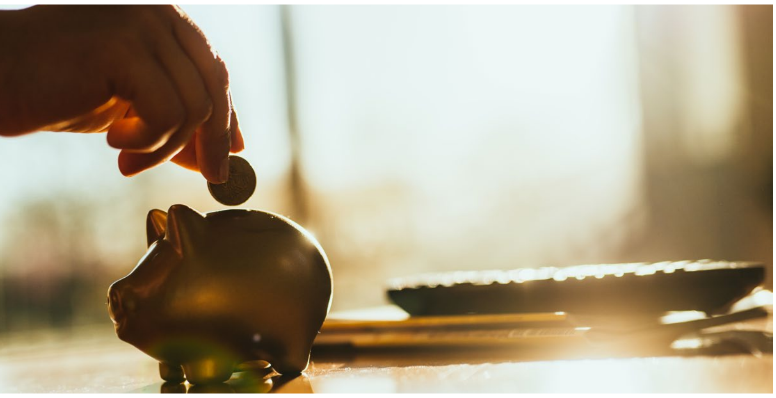
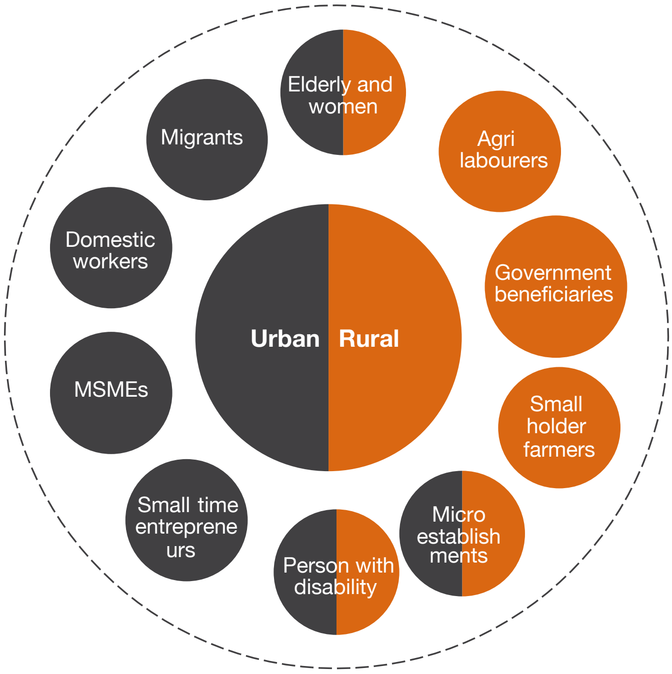


Figure 26: Holistic financial inclusion covering segments across urban and rural areas



Source: PwC analysis

FinTechs have been at the forefront in driving the inclusion agenda in India with innovations like seamless customer onboarding process through innovations built on India Stack, alternative credit assessment methods, microfinance and lending, sachetised products, omnichannel distribution models, faster and economical remittance services for industrial workers, and other services. These initiatives benefit the last mile customers in the form of personalised financial services, enable access to micro-savings and investment opportunities, last mile availability of insurance and other FS products, and fulfilment of small ticket credit requirements. For example, prepaid card, POS machine and digital app-based phygital solution which targets migrant workers and helps them perform remittance transactions and manage the savings on a single platform. Features like real-time tracking, multi-lingual support and competitive exchange rates have positively impacted customer experience.

- As of December 2023, women constitute less than 20% of the MSME workforce.[106] Even after various initiatives from the government such as the MUDRA loan scheme, the share of retail loans disbursed to women still remains at 26% of the overall retail loans.[107] Due to societal norms, gender biases and lack of a supportive ecosystem, women's participation in the FS sector still remains low. FIs and regulators continue to focus on bridging the gap in the equal access of products and services to women. For instance, a microfinancing firm which provides small ticket loans to women customers under SHGs typically for entrepreneurial purposes or setting up small businesses. It provides tracking of banking activities, multi-lingual and ground support, doorstep services to aid their banking or lending needs. It has translated to an increase in adoption of formal lending of women entrepreneurs with over 22 lakh women entrepreneurs onboarded on the microfinancing firm's platform.[108]

- Persons with disabilities and degenerative conditions struggle to get access to financial services and be a part of the formal financial ecosystem as they are typically dependent upon their families and caregivers. RBI in the past has issued guidelines to banks such as use of braille and voice assistant at ATMs provide ease of access to visually impaired and allow alternative verification methods in place of fingerprints.[109] Some banks have also taken initiatives to train their employees on how they can help differently abled customers during offline services at the bank's branches.

  For example, a bank has built a host of services catering to visual and hearing impaired customers such as bankbooks and cards with braille, ATMs with voice guides and braille and voice support on banking apps. It has helped the bank garner higher customer loyalty especially among the differently abled customers and their families. It has indirectly helped banks in increasing the customer base and garner positive brand perception.

Green finance

With the increase in demand for sustainable solutions, the need for green financing could also increase. Push from developed economies and regulatory organisations for integrating ESG in the business value chain has also encouraged Indian BFSIs to seek ways to fulfil investor interests and customers that prioritise ESG aspects while making decisions. Government initiatives such as Green Bond framework[110], or NABARD's Green Refinancing scheme, had been implemented to provide accessible capital for sustainable businesses. According to data from financial markets regulator SEBI, 15 Indian firms have raised USD 666 million in the domestic green bond[111] market in the period between 2017 and May 2024.[112]

India's startup landscape is working on various green solutions and green initiatives in the following areas:

- electric vehicles' supply chain, hired taxis, flexible EMIs
- clean energy and battery solutions, shared mobility and solar energy
- agriTech solutions like smart irrigation, organic farming, and farm-to-fork supply chains
- sustainable infrastructure, real estate, battery charging infrastructure.

Banks, FIs and FinTechs could play an integral role to empower these SDG-focused, ESG-driven ecosystems and the relevant stakeholders by providing:

- access to credit to MSMEs/startups for green entrepreneurship
- micro-credit and micro-insurance solutions for purchase and rental of EVs
- investment instruments for retail investors to invest in ESG themes
- governance and monitoring of ESG based parametric progress for green financing projects/ investments

106 https://economictimes.indiatimes.com/small-biz/sme-sector/unlocking-potential-why-womens-participation-remains-low-among-msmes-and-what-can-be-done-about-it/articleshow/105463763.cms?from=mdr

107 https://timesofindia.indiatimes.com/business/india-business/share-of-women-in-retail-loans-drops-to-24-in-dec-2023-from-25-a-year-ago/articleshow/108257007.cms

108 https://blogs.adb.org/blog/how-FinTech-can-enable-financial-inclusion-and-reduce-gender-gaps-india

109 https://www.rbi.org.in/Commonperson/english/scripts/Notification.aspx?Id=2647

110 https://dea.gov.in/sites/default/files/Framework%20for%20Sovereign%20Green%20Bonds.pdf

111 Green bonds are a subset of corporate bonds, where proceeds towards funding are earmarked for financing green projects like renewable energy, clean transport, sustainable water management, energy efficient buildings, biodiversity conservation, etc. Read more, from SEBI

112 https://www.sebi.gov.in/statistics/greenbonds.html | Conversion ratio - INR/USD: 80

- financing for agricultural practices like installing irrigation systems and solar panels on field
- financing for sustainable practises like water harvesting by individuals or biodiversity conservation by local groups or NGOs.

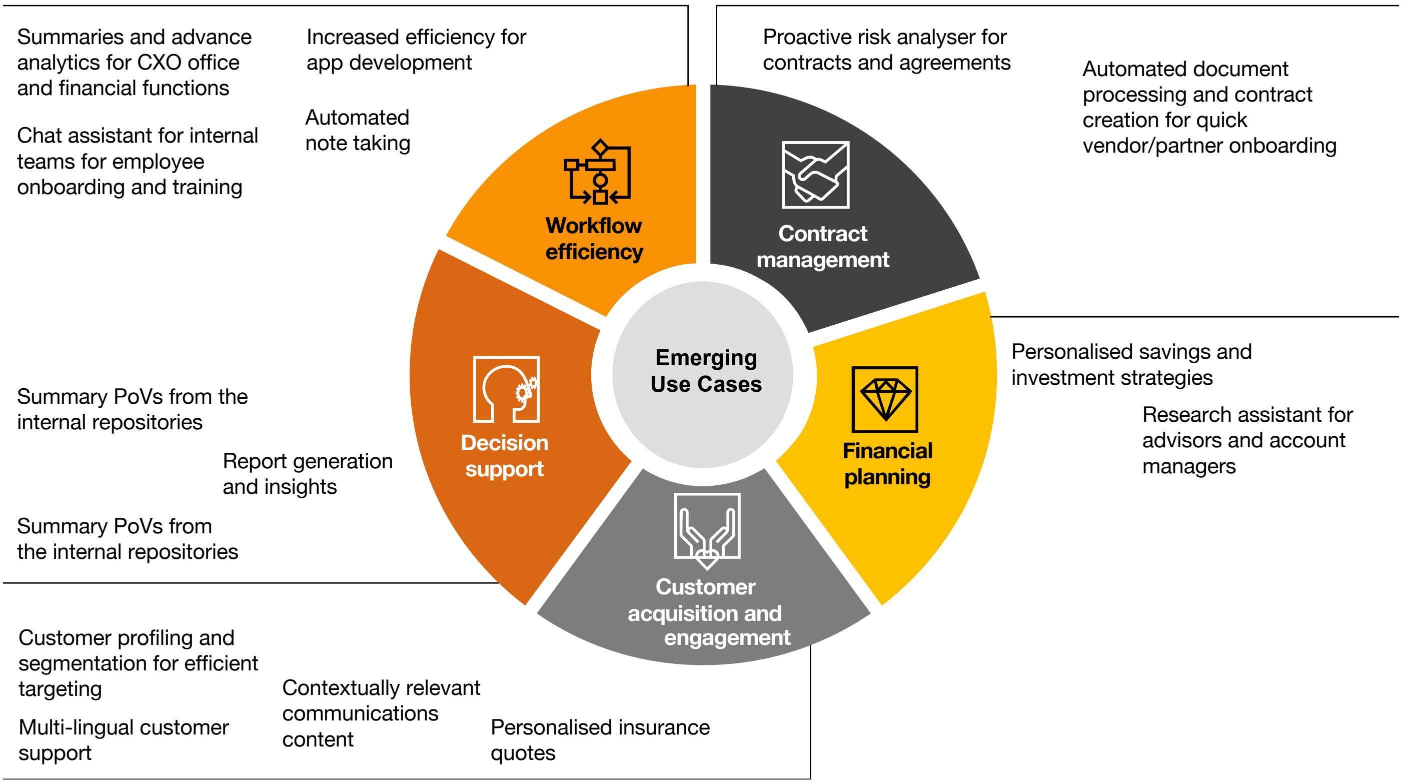
Advent of GenAI

The financial sector has embraced AI-based innovations with many medium to large FIs building in-house capabilities or nurturing partnerships to drive new use cases, streamline the existing processes and co-create solutions. As per a survey by FIs in 2023, 91% of the Indian respondents were open to using GenAI powered financial solutions.[113] The innovations in GenAI have led some of the FIs to mobilise and prioritise GenAI innovations that can be implemented readily.

Some of the initiatives being taken up by banks and FinTechs are:

- A leading investment bank co-created a GenAI based internal chatbot to provide investment advisory help which could generate insights from the internal reports and previous project documentations. In order to minimise mis-representation of data, it trained and tested the model on a vast internal repository.
- An Indian private sector bank is partnering with a new-age startup for enhancing personalised experience for its users in the form of GenAI based search results and recommendations. Similar use cases have gained traction among other public and private sector banks in India, which are contextualising and testing various such customer experience solutions in sandboxes.
- An Indian discount broker and personal finance management platform have started utilising GenAI-based chatbot for its customers. It helped to increase interaction on platform during exploration journeys and helped reduce the volume of customer issues redirected to its agents, thereby improving efficiency.

Figure 27: Impact areas of GenAI



Source: PwC analysis

113 Economic Times

Longevity finance

Even though India's median age of the population (28.2 years) is less than the global median (30.5 years), and much less than a few developed economies in Europe and Japan (more than 40 years), India's ageing population is growing gradually. The older adult population (45 years and above) in India is expected to constitute over 40% of the population of India or 655 million people by 2050.[114,115] A higher share of old age populations would require targeted financial planning better than existing alternatives, especially in terms of medical costs, assistance in accessing financial services, or fulfilling personal or familial financial goals. There has been an increase in traction, with more than 10 startups (AgeTechs) having their primary business models focused on elderly care including longevity finance.[116] Some of the opportunity areas for FS sector are:

- insurance curation and co-creation among insurance manufacturers and startups
- union of FS services with non-FS offerings to the elderly such as medical credit, pre-planning of bill payments based on type of ailments, etc.
- early investment strategies for retirement planning and future planning for the children/grandchildren
- product innovations like conversational digital journeys, voice-based banking, easy to use UI, etc. for near retirement age, and retired customers especially the ones who have non-working co-dependents
- credit solutions for emergency medical and hospice care
- supporting silver entrepreneurs.[117]

For example, an Indian FinTech offers a seamless and flexible pension planning through digital pension app to individuals in the formal and informal service sector. Features like personalised retirement planning, tracking savings, tax saving support and pension withdrawal guidance. The FinTech's simplified pension planning solution has observed an increase in traction and has formed partnerships with white labelled HRMS solutions.

114 MoHFW

115 World Bank

116 PwC Analysis from secondary resources

117 Journal of Entrepreneurship, Management and Innovation (JEMI)

Fixed income alternative investments

Factors such as increasing investment appetite of the middle class and residents outside tier 1 cities, demand for diversification of investments to distribute risk, visibility of returns, awareness and adoption among the masses, accessibility of digital infrastructure and improvements in digital and financial literacy has led to a traction in WealthTech's offerings like fixed income alternative investment products.

Alternative investment products exist outside traditional ecosystems such as equity, MFs, fixed deposits, real estate, physical gold savings, pension funds, provident fund and government bonds, and offer new investment avenues for investors. The alternative investment products market offers growth opportunities for WealthTechs across its value chain – streamlining distribution, co-creating small ticket-sized fixed-income products, automating underwriting processes, simplifying contracting and documentation processes, and enabling fractional investments.[118]

Figure 28: Various types of illustrative alternative investment products/models

P2P lending	Lease financing	Digital gold
Corporate debt/bond	REITs/InvITs	Revenue-based financing
Tokenisation	Start-up equity	Gold ETFs
Invoice discounting	Fractional real estate	Art/spirits/precious metals

Source: PwC analysis

For instance, a WealthTech startup offers a host of small ticket alternative investment products like corporate bonds, invoice discounting, and revenue based financing with minimum ticket size in the range of INR 10 thousand to INR 1 lakh. It has seen high activity among its retail investors base, where the deals listed on the platform gets fulfilled within a few hours owing to the comparatively higher return than traditional bank deposits.[119]

118 https://www.pwc.in/assets/pdfs/industries/financial-services/publications/expanding-horizons-for-wealthtechs-alternative-investment-products.pdf
119 Ibid

Ecosystem banking

Financial service players are realising the value of capturing untapped wallet share and stickiness with customers by providing holistic offerings that go beyond their typical offerings. This helps them to align with the growing customer preferences to access multiple services at a single platform. By developing a solution that enables the integration of FS services within the non-FS ecosystem, the FIs are able to unify the fragmented processes throughout the customer value chain. The use cases extend beyond banking services catering to whitespaces found within the non-banking value chain and address the specific needs of end customers.

Few solutions enabled by bank-FinTech partnerships to provide host of FS and non-FS offerings allied to some of the retail and business ecosystems are listed in Figure 29.

Figure 29: Ecosystem banking solutions

Evolving ecosystems

Education

A digital platform for students, parents and institutes to provide:

- educational financial services like fees payments, collections, education loan
- international transactions and forex prepaid cards
- individual and group health insurance
- tailored solutions for institutions
- non-FS solutions like admission counseling, rental references and other services.

MSME/start-ups

One stop application for merchant solutions and business banking that allows MSMEs to:

- manage their payroll, expenses, loans, suppliers AR/AP
- collect payments
- file taxes and embeds CASA and SCF utilities on the platform.

Agri start-ups

An annual programme to enable FoodTech and agri startups to co-create innovative solutions for agri-finance and allied farming activities. The solutions span across the following areas:

- onboarding farms on FS platforms
- credit risk assessment
- sustainable crop financing
- weather-indexed insurance
- cash management for farming activities
- mentorship and support to AgriTechs.

Healthcare

A plug and play solution for healthcare institutions, which helps them in:

- managing payments, reconciliation, supply chain operations, Insurance claims/TPA, offering group insurance to staff
- providing role-based services for corporates, doctors, nurse, pharmacists and other professionals.

Source: PwC analysis

Some examples within various ecosystems are:

- university management solution catering to needs and requirements of students, university and teachers
- curated banking and insurance offerings for agri-businesses and farmers on a single platform to access
- vendor management portal for hospitals to patient record management, payment gateways for patients and staff, invoicing portal for admin staff
- business banking suite for merchants – to fulfil payments, credit and tax filing requirements
- financing platform for agriculture-related activities such as inputs, production, storage, processing and marketing of goods.

In order to deploy an effective ecosystem strategy FS players should be able to build core capability of forming partnerships in short cycles and manage them efficiently. Ecosystem banking potentially bridges the whitespaces along the value chain, creating a customer-centric, unified value proposition in which users benefit from an end-to-end experience for a wide range of products and services through a single gateway. It helps business by reducing cost leakage due to redundant resource usage in siloed operations and fulfil unmet demands of the customers. For example, an Indian private sector bank offers a platform that provides hosts of banking and non-banking products and value added services like counselling, preparation, accommodation and travel assistance and tax benefits information to the students aspiring for foreign studies and their parents. The single access platform with 6+ non-FS partnerships has helped the bank in building over 1,200 collaborations with institutions and providing services to more than 36,000 students.

CBDC

Central banks across the world are at various stages of conceptualisation, testing, piloting and deploying CBDCs in respective countries. Over 100 countries are exploring CBDCs, 19 G20 countries including China, Brazil, the US, the UK, and the UAE have already piloted and are in advanced stages of CBDC releases or have released in initial phases.[120] Some of the widely used general purpose DLT frameworks for implementation of CBDCs are:

- Linux foundation's hyperledger fabric
- Ethereum blockchain

There is a potential for collaboration between multiple countries and their central banks to employ a shared framework that could help streamline cross-border financial interactions and distribution for trade and commerce.

In India, RBI launched Digital Rupee-retail (e₹-R) for customers and merchants, which can be transacted through a digital wallet offered by scheduled commercial banks. It also launched a pilot for Digital Rupee - wholesale (e₹-W) for settlement of secondary market transactions in government securities. Some of the key benefits which could be potentially achieved through CBDCs are:

- monitoring and traceability of transactions due to underlying blockchain/DLT based framework
- pre-programmed DBTs
- instant counter-party payment settlements
- secure retail payments (C2C, C2B).

Some of the applications areas being explored are:

- financial inclusion by enabling offline payments for unbanked population in regions with low connectivity to internet or bank branches through retail CBDCs
- transactions between banks and other financial institutions in different countries through wholesale CBDCs
- settlement of high value securities trades under wholesale CBDCs
- tracking of loan usage and borrower risk profiling
- implementation of AML, CFT and fraud risk measures
- programmable DBTs for distribution of benefits such as subsidies to low-income households, tax rebate for MSMEs and discount on loans to small holder farmers.

For example, an Indian bank collaborated with RBI to facilitate a pilot programme for both retail and wholesale CBDC. The bank onboarded more than one lakh merchants and over one lakh customers to use the wallet for hosting and performing transactions. It provided users with facilities such as QR based payments, Instant money transfer to contacts and merchant payments. It also partnered with merchandise brand to offer discount on CBDC based payments and provided cashbacks on merchant payments for using its mobile application.

Another example of a CBDC prototype for banks is a FinTech firm with operations in India, Japan, Singapore and USA which utilised blockchain and hyper-ledger technology to offer a reference implementation (RI), a prototype for CBDC implementation by central/ national banks. The architecture and implementation were designed to focus on security and confidentiality of the transactions, handle scalability as per demand, interoperability between digital wallets and fiat currency transfers and adherence to regulations and compliance mandates.

120 https://www.forbes.com/sites/forbestechcouncil/2024/03/08/cbdcs-and-the-evolving-global-currency-landscape/

Cross border finance

With an estimated inflow of over USD 125 billion as of 2023, India is the largest market for inward remittance flow.[121] Meanwhile, outward remittances in India also grew by 68% from USD 19 billion in FY22 to USD 32 million in FY24. Travel forms more than 50% of the share, followed by overseas education, maintenance of close relatives and gifts.[122] With the rise in cross border e-commerce, MSMEs exports, which account for 40%[123] of India's overall export market, ought to drive the growth further.

There are certain challenges and whitespaces which requires a robust support ecosystem and partnerships which can be addressed by FIs:

- complexities in settlement procedures due to multiple currencies involved
- longer transaction processing time as the money flows through multiple banks, payment operators and payment facilitators
- high remittance costs, which averages around 6.2% of the value of transaction globally, and approximately 4.3% in Asia, as opposed to the target of approximately 3% under UN's SDG 10c[124]
- compliance and regulatory challenges when partners/vendors and customers are from different geographical regions
- unavailability of insurance products and services which are aligned with business needs
- low participation among various stakeholders within the cross-border ecosystems.

Some of the opportunities and innovations offered by FinTechs entrants in partnership with banks are:

- innovations in marine insurance which provides better risk management for goods in transit and potentially lowers the insurance premiums through accurate risk assessment
- customised tailor-made payments systems to SMEs working under different functions based on the countries of operation and trade
- working capital loans and invoice discounting to support cross-border B2B relationships by shortening cash conversion cycles and improve financial leverage[125]
- streamlining overall trade flow and secure channels for cross-border ecosystem orchestration of import-export focused MSMEs.

For example, a global technology service provider built a blockchain based solution for businesses or SMEs working in the cross border finance ecosystem that helps in removing inefficiencies in international payments systems. While decentralised validation improves security of the platform, instant real-time settlement translates to transaction efficiency and reduces the cost. Using the solution, a business can send and receive money in over 40+ countries with settlement time as low as 3-5 seconds.

Embedded finance (EmFi)

The Indian embedded finance market revenue is expected to grow at a CAGR of 30.4% from FY22 to FY29 to reach USD 21.12 billion by 2029.[126] It offers opportunities for collaboration between traditional FIs and non-FS businesses, which opens up opportunities to provide value to all stakeholders involved. Partnering with non-FS business offers FIs potential access to new customer segments, which could lead to increased customer acquisitions and improved engagements. Similarly, non-financial businesses could enjoy the benefits of enhanced customer loyalty, expect new revenue streams and offer their customers improved experiences.

Adoption and growth of DPIs could aid in significantly reducing the friction among different processes such as automated contracting and documentation, customer/product identity verification, account and payment aggregation, and last-mile distribution. Therefore, improving the efficiency and streamlining the integration and partnerships among FS and non-FS players. Maturity of India Stack (which include DPIs like Aadhar, UPI, DigiLocker, OCEN, and ONDC) could allow embedded finance to further bridge the gap for underserved populations and benefit segments such as SMEs, migrants, farmers and industrial workers. The DPIs' microfinance institutions can also extend lending and banking services to rural communities and low-income households.

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121 World Bank

122 ET BFSI

123 World Bank

124 Economic Times, World Bank

125 Financial leverage refers to practice of borrowing money to increase potential returns

126 https://bfsi.economictimes.indiatimes.com/blog/the-rise-of-banking-as-a-service-and-embedded-payments-in-india/105684040#

Some of the most prevalent solutions under various non-FS ecosystems are:

Figure 30: Emerging embedded finance landscape

E-commerce

- BNPL
- Embedded lending for merchants
- Embedded insurance
- Inventory financing
- Digital wallets

MSMEs

- Credit and crop financing
- Integrated financing for agri products through AgriTech platforms
- Value added services to the MSME segment

Healthcare and insurance

- EMI for medical expenses and insurance payments
- Prescription financing
- Embedded insurance

Mobility and logistics

- Seamless payment and micro insurance for ride-hailing apps
- Recharges and payments for tolls and parking
- Micro loans for rental cars

Travel and lifestyle

- Sachetised travel insurance at the point of sale
- Curated payment and loans offers for travel booking
- Automated savings/ investment

Education

- Student loan and financing
- Personalised education finance solutions
- Course subscriptions and microlearning payments

PropTech

- EMI for medical expenses and insurance payments
- Prescription financing
- Embedded insurance

Source: PwC analysis

Enabling embedded financing capabilities and partnerships can help Fis by:

- limiting dependence on third party intermediaries and tap new customers, especially young and digitally savvy customers looking for seamless FS and non-FS offerings
- utilising real-time data analysis to upsell, cross-sell, and incorporate data into better product solutions
- offering higher convenience and personalisation while serving their existing customers, thereby improving FI's loyalty proposition.

For example, an InsurTech in India offers instant personalised small sachet insurance products during customers non-financial journeys like booking travel tickets, hotel bookings and e-commerce purchase. The platform utilises real-time analytics and ML capabilities by analysing customer's purchasing behaviour, demographic profile, transaction history and other information to create, modify and select the most suitable insurance product. Embedded insurance coupled with streamlined purchase journey has led to service over 10 million customers and more than 5,000 dealers and merchants.

05

Regulatory developments and its impact

The FinTech sector in India has witnessed enormous growth in recent years on account of innovation, rise in the use of smartphones and financial inclusion. However, it is pertinent to note that the FinTech ecosystem is still in its nascent stages with emerging niche business models. At the same time, the regulatory framework governing FinTechs is also evolving.

While there is no unified FinTech regulator in India, the existing FSRs viz. the RBI, SEBI, IRDAI and the financial regulator at GIFT City - IFSCA, are creating an enabling space for growth of FinTechs with appropriate guardrails. Over the past year, the FSRs have come out with various regulations/guidelines which have enabled the FinTechs to play a more pivotal role in facilitating payments, banking related services, securities transactions and delivery of insurance. At the same time, the focus of the FSRs has been to strengthen customer protection and stability of the financial ecosystem through enhanced governance and compliance measures for FinTechs.

The table provides an overview of the key regulatory guidelines which have or will come into effect:[127]

Payments		
1.	Guidelines on Payment Aggregators-Cross Border' or 'PA-CBs', dated 31 October 2023	• These guidelines are applicable to entities that facilitate cross-border payment transactions for import and export of permissible goods and services in online mode. • Such PA-CBs can fall within the following categories: Export only PA-CB (PA-CB-E), Import only PA-CB (PA-CB-I), and export and import PA-CB (PA-CB-E&I).
2.	Regulation of Payment Aggregators – physical Point of Sale – DRAFT, dated 16 April 2024	RBI has introduced draft guidelines for payment aggregators in offline space and revamped the online PA guidelines. The new draft guidelines therefore cover: • PA-O, i.e. online payment aggregators; and • PA-P, i.e. payment aggregators – physical POS. - Draft guidelines mandate the need to do merchant KYC and has provided guidance on manner of doing the KYC depending on the scale of merchant turnover. - Draft guidelines are open for public comments until 31 May 2024.
3.	Key Amendments to Master Directions - Credit Card and Debit Card – Issuance and Conduct Directions, 2022, dated 7 March 2024	The recent amendments to the credit and debit card issuance guidelines underscore RBI's emphasis towards data protection and privacy, monitoring end use of funds, strengthening customer choice, etc. • The key features of the amendment include: - data protection and privacy norms to restrict data sharing with CBP and data storage and ownership to remain with card issuers - card issuers to put in place a mechanism to monitor end-use of funds - explicit consent of the card holder required for change in credit limit, issuance/re-issuance of card in plastic or any other form, sharing of customer information with a third party, etc. • RBI has also released FAQs related to the card's guidelines.

127 PwC analysis

4.	IFSCA (Payment Services) Regulations 2024, dated 1 February 2024	This regulation will allow for seamless cross-border payments in Indian and foreign currencies through GIFT City. • Authorises PSPs to undertake cross-border transactions in the IFSC. • Envisages two types of PSPs based on threshold value of transactions – regular and significant PSP. • Offers multiple activities like account issuance, e-money, escrow service, cross-border payments, etc. • Authorisation for undertaking one activity allows a PSP to offer all activities.
WealthTech		
1.	Regulatory framework for execution only platforms for facilitating transactions in direct plans of schemes of mutual funds, dated 13 June 2023	• Over the past few years, retail investment in the securities market has gained immense traction as investing has become more accessible to retail investors. This has led to the emergence of various FinTech-led platforms which facilitate seamless investment into mutual funds. Therefore, the regulatory framework is intended to bring such 'execution only platforms' facilitating direct investment into mutual funds, under its regulatory umbrella. • SEBI has envisaged two categories of EOPs - EOP I and EOP II where, EOP I is an agent of the AMC and EOP II is an agent of the investor. • In case of EOP I, an entity proposing to provide these services must obtain a registration from AMFI and for EOP II, an entity must apply for stock broking licence with SEBI under the EOP segment.
Other FinTech related regulatory updates		
1.	Draft framework for recognising self-regulatory organisations for FinTech sector dated 15 January 2024	• The move towards creating of SRO-FinTechs has been largely welcomed by the industry as it would provide a platform for interaction and possibly collaboration between RBI and the FinTechs for consultative policy making. • The draft framework envisaged to provide recognition to SROs which represent regulated and unregulated FinTechs across entities of all sizes, stage and activities. • As per the draft framework, formal recognition is not necessary, however, it is encouraged to provide the SRO with legitimacy and regulatory support.
2.	Rationalisation of Licensing Framework for Authorised Persons (APs) under Foreign Exchange Management Act (FEMA), 1999 Draft Licensing Framework for Authorised Persons (APs) under FEMA, dated 26 December 2023	• It is important to note that the industry had been making its case for a relook at the guidelines governing 'authorised persons' for some time. Some key issues which were raised included providing regulatory recognition to FinTechs facilitating foreign exchange transactions, revising existing thresholds for foreign exchange, etc. The proposed rationalisation framework has tried to address these challenges by creating new segments of authorised persons to allow FinTechs facilitating foreign exchange transactions to seek regulatory recognition. • The draft framework proposes rationalisation of the extant FEMA guidelines and introduces the concept of FxCs – as agents of AD-Category I and II entities. • Under the proposed framework, existing FFMCs will either have to convert into FxCs or into AD Category II. Further, existing AD Category II entities (with forex turnover more than INR 50 crores for the last 2 FYs) will have to seek permanent authorisation from RBI or voluntarily convert to FxCs Other AD Category II with lower turnover will have to convert to FxCs. • The RBI has invited stakeholder comments on the draft framework.
3.	Insurance Regulatory and Development Authority of India (Bima Vahak) Guidelines, 2023, dated 9 October 2023	• Bima Vahaks are individual or corporate, technology based, women centric, insurance distribution agents engaged by insurers. • Bima Vahaks will distribute a new insurance product – Bima Vistaar. • Bima Vistaar is a comprehensive insurance product aimed at facilitating expansion of insurance inclusion in rural areas. • One Bima Vahak can only engage with one life, general and health insurer, each. • These guidelines will come into effect, on the date when Bima Vistaar, a new insurance product for distribution by Bima Vahaks, is launched.

06

Conclusion

While the FinTech ecosystem in India is still recovering from the impact of the COVID-19 pandemic, it is expected to bounce back and grow with the help of continued innovation, collaboration and regulatory support to drive sustained growth and transformation in the financial services industry.

The FinTech industry is evolving and its transformation is driven mainly by technological innovations, changing consumer behaviour and regulatory reforms. While the global FinTech market is projected to grow, challenges such as compliance burdens and cybersecurity threats persist, pushing for more interoperable standardised platforms and enhanced collaboration. In India, the FinTech sector's growth is fuelled by increased digitalisation and government initiatives which are promoting financial inclusion. Despite challenges like low financial literacy levels and evolving regulatory landscape, notable startups in WealthTech, FinTech Infra and LendingTech are attracting funding, albeit at a slower pace compared to previous years, pointing towards a promising future for the sector. However, to sustain this growth, addressing the challenges and fostering collaboration between regulators, industry players and other stakeholders will be crucial. Regulatory developments will also continue to shape the FinTech landscape in India, with a focus on fostering innovation, ensuring compliance and safeguarding consumer interests as RBI and other regulators continue to introduce guidelines and frameworks to support the FinTech sector's growth while maintaining regulatory clarity and consumer protection.

Abbreviations

AD: Authorised dealer	FAQ: Frequently asked questions	NPCI: National Payments Corporation of India
AI: Artificial intelligence	FD: Fixed deposit	NSE: National Stock Exchange of India
AIF: Alternative investment funds	FEMA: Foreign Exchange Management Act	OCEN: Open Credit Enablement Network
AMC: Asset management company	FFMC: Fully fledged money changer	ONDC: Open Network for Digital Commerce
AMFI: Association of Mutual Funds in India	FI: Financial institution	PA: Payment aggregators
AML: Anti-money laundering	FS: Financial services	PA-CB: Payment aggregators-cross border
AP: Authorised persons	FSP: Financial service provider	PA-O: Payment aggregators - online
APAC: Asia–Pacific	FSR: Financial sector regulators	PA-P: Payment aggregators - physical POS
API: Application programming interface	FxC: Forex correspondents	PFM: Personal financial management
API: Application programming interface	FY: Fiscal year	POS: Point of sale
ASSOCHAM: Associated Chambers of Commerce and Industry of India	GB: Gigabyte	POSP: Point of Sales Person
ATM: Automated teller machine	GenAI: Generative AI	PoV: Point of view
AUM: Assets under management	GIFT: Gujarat International Finance Tec-City	PPI: Prepaid payment instruments
B2B: Business-to-business	GMV: Gross merchandise value	PSP: Payment service providers
B2C: Business-to-consumer	GPS: Global positioning system	PSSA: Payment and Settlement Systems Act
B2FA: Businesses to financial advisors	GRC: Governance, risk, compliance	PwC: PricewaterhouseCoopers
B2FI: Businesses to financial institution	HDFC: Housing Development Finance Corporation	RBI: Reserve bank of India
BaaS: Banking as a service	IFSCA: International Financial Services Centres Authority	RD: Recurring deposit
BC: Banking correspondents	IFTA: International FinTech Talent Association	REIT: Real estate investment trusts
BFSI: Banking, financial services and insurance	IIM: Indian Institutes of Management	RP: Resource persons
BITS: Birla Institute of Technology and Science	INR-Indian Rupee	RTGS: Real-time gross settlement
BNPL: Buy now pay later	IoT: The internet of things	SaaS: Software as a service
CAGR: Compound annual growth rate	IRDAI: Insurance Regulatory and Development Authority of India	SCA: Strong customer authentication
CASA: Current account savings accounts	KYC: Know your customer	SCF: Supply chain finance

CBDC: Central bank digital currency	LMS: Loan management system	SDG: Sustainable development goals
CBP: Co-branded partners	LOS: Loan origination system	SEBI: Securities and Exchange Board of India
CFO: Chief financial officer	MAS: Monetary Authority of Singapore	SHG: Self-Help Groups
CFT: Combating financial terrorism	MDR: Merchant discount rate	SME: Small and medium enterprises
CPS: Centralised payment systems	MFI: Micro finance institutions	SRO: Self-regulatory organisation
CRM: Customer relationship management	MIT: Massachusetts Institute of Technology/full name	STP: Straight through processing
CXO: Chief experience officer	ML: Machine learning	The UK: United Kingdom of Great Britain and Northern Ireland
D2C: Direct-to-consumer	MOOC: Massive open online courses	The US: United States of America
DBT: Direct benefit transfer	MSME: Micro, Small and Medium Enterprises	TReDS: Trade receivables electronic discounting system
DLT: Distributed ledger technology	MUDRA: Micro Units Development and Refinance Agency Ltd	TSP: Technology solution provider
DPI: Digital payments index	NABARD: National Bank For Agriculture And Rural Development	UBI: Usage-based insurance
EMEA: Europe, Middle East, and Africa	NASSCOM: National Association of Software and Service Companies	UPI: Unified payments interface
	NBFC: Non-banking financial company	USD: United States Dollar
EmFI: Embedded finance	NEFT: National electronic fund transfer	UX: User experience
EMI: Equated monthly instalment	NETC: National Electronic Toll Collection	VAS: Value-added services
EOM: Expenses of management	NFC: Near-field communication	YoY: Year on year
EOP: Execution only platforms	NGO: Non-governmental organisation	
ESG: Environmental, social and governance	NIM: Net interest margin	
ESOP: Employee Stock Ownership Plan	NIPL: NPCI International Payments Limited	
EV: Electric vehicles	NPA: Non-performing assets	

About ASSOCHAM

The Associated Chambers of Commerce & Industry of India (ASSOCHAM) is the country's oldest apex chamber. It brings in actionable insights to strengthen the Indian ecosystem, leveraging its network of more than 4,50,000 members, of which MSMEs represent a large segment. With a strong presence in states, and key cities globally, ASSOCHAM also has more than 400 associations, federations and regional chambers in its fold.

Aligned with the vision of creating a New India, ASSOCHAM works as a conduit between the industry and the Government. The Chamber is an agile and forward looking institution, leading various initiatives to enhance the global competitiveness of the Indian industry, while strengthening the domestic ecosystem.

With more than 100 national and regional sector councils, ASSOCHAM is an impactful representative of the Indian industry. These Councils are led by well-known industry leaders, academicians, economists and independent professionals. The Chamber focuses on aligning critical needs and interests of the industry with the growth aspirations of the nation.

ASSOCHAM is driving four strategic priorities - Sustainability, Empowerment, Entrepreneurship and Digitisation. The Chamber believes that affirmative action in these areas would help drive an inclusive and sustainable socio-economic growth for the country.

ASSOCHAM is working hand in hand with the government, regulators and national and international think tanks to contribute to the policy making process and share vital feedback on implementation of decisions of far-reaching consequences. In line with its focus on being future-ready, the Chamber is building a strong network of knowledge architects. Thus, ASSOCHAM is all set to redefine the dynamics of growth and development in the technology-driven 'Knowledge-Based Economy. The Chamber aims to empower stakeholders in the Indian economy by inculcating knowledge that will be the catalyst of growth in the dynamic global environment.

The Chamber also supports civil society through citizenship programmes, to drive inclusive development. ASSOCHAM's member network leads initiatives in various segments such as empowerment, healthcare, education and skilling, hygiene, affirmative action, road safety, livelihood, life skills, sustainability, to name a few.

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