

# A wider circle

Digital lending and the changing landscape of financial inclusion

November 2019



# Message from FICCI

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**Sudhakar Ramasubramanian**  
Co-Chair, FinTech Committee, FICCI

In the past few years, India's economic performance has largely been steady, and it has been able to hold ground, despite frequent bouts of external as well as internal risks. However, the latest GDP data from various agencies points towards moderating growth levels. In order to regain a consistent 7–8 % growth rate, the role of medium, small and micro enterprises (MSMEs) is very critical. However, due to their informal nature of operations, MSMEs lack access to formal credit as banks face several challenges in credit risk assessment owing to lack of financial information, historical cash flow data, etc. Assessing the creditworthiness of an MSME can be difficult due to information asymmetry, particularly with respect to financial performance of the business. Consequently, MSMEs are plagued by a massive credit demand-supply mismatch. As per estimates, the overall demand for both debt and equity finance by Indian MSMEs was around INR 87.7 trillion, of which the debt demand alone was INR 69.3 trillion and formal sources catered to only 16% of the total MSME debt, i.e. INR 10.9 trillion.

With the Government of India (GoI) and regulators pushing for improved digital financial infrastructure, digital lending has provided a strong impetus to financial inclusion, especially helping borrowers who are otherwise unlikely to benefit from formal sources of finance. New lending platforms are transforming credit evaluation and loan origination, as well as opening consumer lending to non-traditional sources of capital. Many emerging innovations leverage advanced algorithms and computing power to automate activities that were once highly manual, allowing them to offer cheaper, faster, and more scalable alternative financial products and services. The major business opportunities in the FinTech lending industry are cluster-centred funding, point-of-sale (POS)-based lending, peer-to-peer (P2P) lending, invoice-based lending, cash flow-based lending and online microcredit.

A mix of traditional credit facilities from banks, NBFCs and innovative financing mechanisms from new age digital lenders will be critical for the growth of the MSME sector. Collaborative strategies can lead to better outcomes for banks and FinTechs by helping both develop and refine productive ways to evolve and serve MSMEs better. Some positive outcomes of FinTech-bank partnerships are already visible, and these engagements should be further nurtured and strengthened.

The low level of financial inclusion is a barrier to socio-economic development in developing countries. Financial inclusion can be better achieved with digital technology. Digital technology improves the accessibility and affordability of financial services for the previously unbanked or underbanked individuals and MSMEs.

Some of the new enablers for furthering financial inclusion are account aggregator models and public credit registries, and a lot would also depend on how the digital on-boarding and know your customer (KYC) processes of MSMEs and individuals evolve.

FICCI's FinTech Committee has been working closely with GoI and regulators to promote digital financial inclusion in the country. The conference provides an opportunity for further deliberations on the subject and I wish the FICCI team success.

I would also like to thank the team from PwC India for putting together this report and being the knowledge partner for the conference.

# Message from PwC

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**Vivek Belgavi**  
FinTech Leader and Partner, Financial Technology

One of the key imperatives for the further advancement of the Indian economy is the need for inclusive growth, and opportunities for participation and contribution from all sections of the society. This is currently a challenge owing to the limited access to financial services and products available to rural populations and low-income strata, together with a lack of financial literacy and awareness. These factors are impeding the inclusive financial growth of country. Facilitating an inclusive financial ecosystem is a significant part of the development agenda for social and economic progress. Moreover, within the larger sphere of financial inclusion, access to capital and borrowing opportunities is a key component that needs to be addressed in order to financially empower and drive traditionally underserved sections.

While there are many top-down approaches to widening inclusion, there is a need for more organic financial models that align with standard economic incentive paradigms, apart from government rules and regulatory mandates, for such inclusiveness to be truly sustainable. Technological advancements and their rapid adoption by lending companies have helped in realising novel, technology-based platforms, lean and agile business models, and innovations in delivering financial services, particularly in the lending space. Such advancements are now providing financial services players with the ability to reach underserved markets without forgoing economic and profitable opportunities.

This report aims to provide incumbent banks, non-banking financial companies (NBFCs), new-age FinTech lenders, regulators, industries and other stakeholders with a comprehensive view of the FinTech lending landscape in India, and helps to understand key market trends, drivers and enablers of the ecosystem, emerging technologies in the lending sector and players operating in the market.

I would like to thank the Federation of Indian Chambers of Commerce and Industry (FICCI) for organising this conference and inviting PwC India as a knowledge partner to share its vast experience of working with the Indian economic, business and regulatory sectors and strive towards achieving greater financial inclusion.



# Executive summary

Financial inclusion has been an important part of Gol's pro-growth economic policy measures and initiatives. Financial inclusion can pave the way for poverty reduction, financial stability and economic development for all sections of the society. Lack of access to financial services is underpinned by factors such as lack or easy access to banking services, economic unviability from a demand and supply side, and cultural as well as regulatory factors. Application of pioneering technologies, advances in and adoption of Gol's IndiaStack infrastructure and innovative business models can foster products and services that enable growth and efficiency to overcome such impediments, contributing to improved and sustainable financial inclusion.

In an evolving economy like India, FinTech lenders must navigate multi-faceted webs of compliances, regulations and the current domestic and global macroeconomic environment. This has raised the cost of borrowing, leading to supply-side constraints for alternative digital lenders. FinTech lenders are now more focused on developing innovative products and catering to low-income, semi-urban and rural customers in unorganised sectors. In such a scenario, FinTech lenders are adopting business and operational models powered by cutting-edge technologies such as big data, open application programming interface

(API) and artificial intelligence (AI) that seamlessly facilitate the design, launch, implementation and execution of tailored and hyper-personalised products and services. Investing in new technologies and strategic partnerships with incumbent financial institutions (FIs) also allows digital lenders to lower the cost of increasing their customer base, reduce customer acquisition costs, provide services to existing customers or de-risk the portfolio, while trying to handle the increasing volume of individuals and businesses availing formal credit in a growing economy.

Technological advances have already shown tangible results in enhancing access to financial services by lowering operational costs and ensuring that end consumers are able to access financial services, even in areas where bank branches may not exist. Advancements in both storage and computation of data and the impetus to financial infrastructure development from the government will encourage and enable financial inclusion.

Within the ambit of financial inclusion, access to funds and capital is a key problem to solve. The FinTech boom that India has witnessed over the last few years has given rise to some interesting opportunities to tackle this problem. The opportunities that the FinTech lending landscape provides to address issues related to access to capital are shown below.

**India has a unique FinTech lending ecosystem due to the nature of its market and regulatory approach.** The evolution of India's FinTech lending structure, even though similar, is not necessarily comparable to other countries.

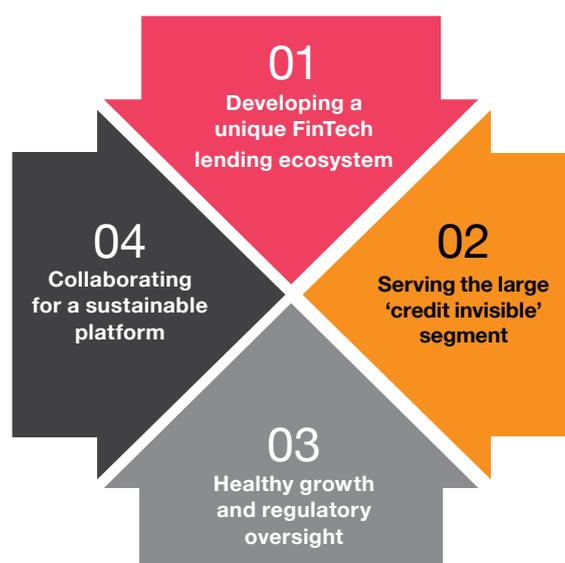
**A majority of underserved individuals and MSMEs with limited physical and data access create differentiated business models,** supported by a **principle-based regulatory approach.**

**Collaboration is the key to ensuring stable financing and sufficient loan portfolio.**

As the industry grows, **balancing demand and supply** in the platform becomes crucial.

Through collaboration with **financial institutions and tech companies**, FinTech players may have a **more stable source of funds** while also increasing **wider use cases of their loan portfolio.**

Capability to develop collaboration becomes a **must-have competitive advantage** for players.



**Expanding the coverage of India's 'credit invisible' segment may require a tailored approach.**

At least **90%** 'credit-invisible' individuals and MSMEs who previously had no credit access will be served. There are also huge **untapped opportunities**, especially outside metro and urban cities and in specific sectors/verticals.

Due to **challenges in physical outreach and data availability**, innovation is required.

The growth of **loan disbursements is subsequently built on growth and widespread reach of basic banking services.** In the future, **more transparency** will be **key** to ensuring **sustainability.**



A modern, growing and robust economy rests and grows on the pillars of financial inclusion, which entails providing access to financial services and products to all individuals and businesses across the social spectrum at affordable costs, in a timely manner and tailored to their needs, from reliable and responsible providers.

In 2014, 62% of adults worldwide had a bank account, but in India, only 53% of adults had a bank account, as per the 2014 Global Findex.<sup>1</sup> But Gol's push for financial inclusion through JAM (Pradhan Mantri Jan Dhan Yojana [PMJDY], Aadhaar and mobile connectivity) since 2014 has increased the percentage of adults in India having bank accounts to 80%, as per the 2017 Global Findex Report.<sup>2</sup> As per government data, 37.3 crore bank accounts have been opened under the PMJDY initiative till October 2019.<sup>3</sup> Though in absolute numbers, India still has a population which is considerably underbanked and unbanked,

and Gol would focus on them as a part of its pro-financial inclusion policies. Further, use of advanced technologies and initiatives by traditional banking sector players and FinTechs is also gradually resulting in availability of financial products and services to the bottom of the pyramid segment, who have otherwise been largely devoid of basic bank accounts, credit and other financial services.

Macroeconomic studies and evidence demonstrate that countries with far-reaching financial inclusion tend to achieve faster growth and lower income inequality.<sup>4</sup> These studies further show that financial inclusion also boosts and improves local economic activity. A study by Burgess and Pande used state-level data in India to show that opening bank branches in underbanked and unbanked rural localities led to a substantial reduction in rural poverty.<sup>5</sup>



“By making financial services accessible at affordable costs to all individuals and businesses, irrespective of net worth and size, financial inclusion strives to address and offer solutions to the constraints that exclude people from participating in the financial sector. Research shows that countries with deeper levels of financial inclusion – defined as access to affordable, appropriate financial services – have stronger GDP growth rates and lower income inequality.”<sup>6</sup>

## 1.1 | The purpose of financial inclusion

Financial inclusion widens the capital base of the financial system, by encouraging a habit of savings and building a formal system for borrowing credit and accessing financial services like investments and insurance among a large segment of the rural population, which has traditionally been unserved or underserved. Availability of and convenient access to financial services play a vital role in broadening and deepening the financial system, which lays the foundation for long-term economic development. Further, by increasing the participation of low-income groups and credit-starved micro and small

business segments within the formal financial services sector, the financial wealth of these customer segments is safeguarded through savings and investments. On the other hand, access to credit enables individuals and business to purchase more, and small and medium businesses to grow, thus creating jobs, reducing inequality and facilitating economic growth. Innovations in financial inclusion also reduce the exploitation of the credit-invisible strata by traditionally unorganised channels through the implementation of technology solutions across the lending value chain.

1 Demircug-Kunt, Asli, et al.2015. “The Global Findex database 2014: Measuring financial inclusion around the world.” <http://documents.worldbank.org/curated/en/187761468179367706/pdf/WPS7255.pdf>

2 Demircug-Kunt, Asli; Klapper, Leora; Singer, Dorothe; Ansar, Saniya; Hess, Jake. 2018. Global Findex Database 2017 : Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/29510> License: CC BY 3.0 IGO

3 <https://www.pmjdy.gov.in/account>

4 [http://siteresources.worldbank.org/DEC/Resources/Finance\\_Inequality\\_and\\_the\\_Poor.pdf](http://siteresources.worldbank.org/DEC/Resources/Finance_Inequality_and_the_Poor.pdf)

5 Burgess, Robin, and Rohini Pande. 2005. “Do Rural Banks Matter? Evidence from the Indian Social Banking Experiment.”

6 Demircug-Kunt et al. 2017; King and Levine 1993; Beck et al. 2000; Clark et al. 2006; Beck et al. 2007; Demircug-Kunt and Levine, 2009

Financial inclusion also nurtures 'social inclusion'. For example, by depositing savings in a government-regulated bank account or fixed deposit, individuals are protected by deposit insurance and credit guarantee schemes and laws. Further, financial inclusion also makes transfer of government funds to beneficiaries of welfare schemes cheaper, faster, and less susceptible to leakage, benefiting both the government and the beneficiaries. All-embracing financial inclusion is a step forward towards poverty reduction, financial integrity and a catalyst for India's economic efficiency, growth and development.

Financial inclusion and inclusive growth are beneficial for both consumers and financial service providers. Access to financial services allows individuals to save money, harmonise consumption of financial products and invest for the future. Access to credit also enables businesses to expand, invest further, create jobs, stimulate growth and reduce inequality. In addition, financial inclusion aids banks and financial institutions to reach out to a wider base of depositors and borrowers across demographics, diversifying their sources of funding and lending opportunities, and fortifying them against sudden external economic shocks.

## 1.2 | Barriers to equitable and inclusive credit growth

Financial stability is a crucial underpinning for economic development and financial inclusion. The robustness and resilience of FIs are as significant as that of its financial system and markets. If an NBFC or a cooperative bank fails, its customers may tend to lose faith in the broader financial and banking system as well. Such failures may emanate not only from inferior banking practices, but also from insufficient deposit insurance and inadequate regulation, governance and supervision – all of which result in trust erosion.

A key deterrent is perceived lack of trust in banking and financial system, which may be due to prevalent headlines of past bank fall-outs and the accompanying loss of hard-earned savings. Perceived lack of trust may also be caused due to 'deprivation of financial literacy'.

Recent economic fluctuations, predominantly stemming from asset-liability mismatches of NBFCs and their trickle-down effect in the broader financial market and the banking sector, have prompted FIs to become cautious and put the brakes on unencumbered lending. This has raised borrowing costs and led to a credit crunch for industries and individuals. It has been observed that in a financially adverse climate, credit may be cut off for embryonic start-ups like FinTechs, who usually depend on NBFCs for their capital needs, or receive credit furnished at a steep interest cost, making business viability more difficult.

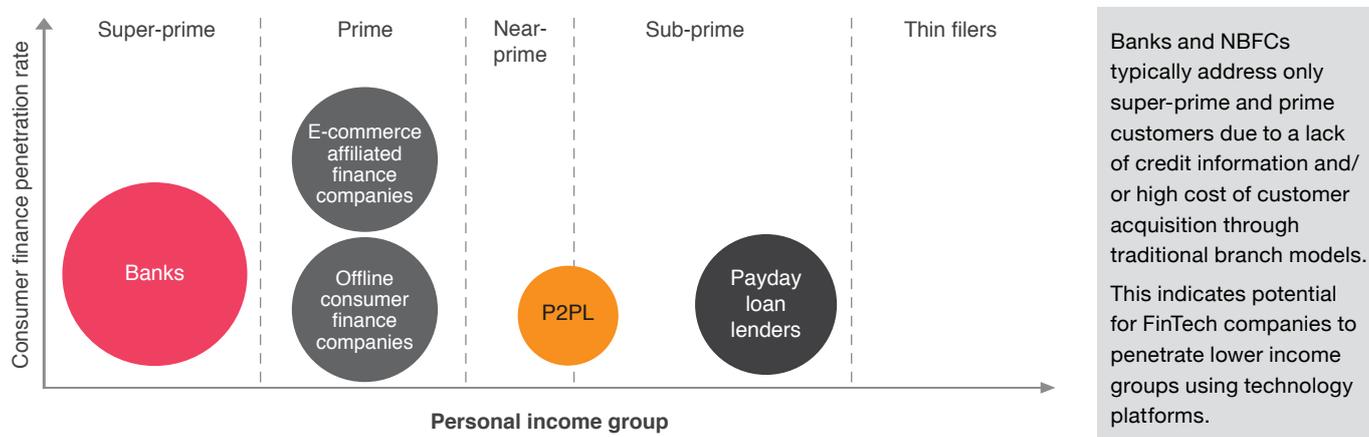
Another, barrier to financial inclusion is 'high costs'. Financial products and services such as bank accounts and borrowing are high-priced for the targeted 'next half billion' users of India. The penetration of credit in Tier-II and Tier-III cities and rural areas of India is still very stunted and can be viewed from a demand and supply viewpoint. Low demand for formal credit penetration could be attributed to factors such as low- or unsteady-income

levels, inexperience and unawareness of financial products and services. On the other hand, the issues related to supply could be attributed to unavailability of appropriate credit products corresponding to the needs of the low-income segment and businesses, complex and time-consuming processes and language blocks because of scarcity of bank/NBFC branches in low-income localities. This is particularly true of traditional financial service models which are dependent on manual processes and are labour intensive, leading to high-unit economics. This makes it financially unviable for such banks/ NBFCs to cater to customer segments that have low-ticket size. Credit from the formal sector, as compared to informal credit, has better repayment terms and conditions and is typically cheaper, but shadow market lenders exploit demand- and supply-side issues areas to exercise usury.

'Lack of documentation' is another weighty impediment to financial inclusion. Elementary documents such as national identity cards for banking services and income proof or asset record for credit applications are required for traditional FIs. Often, the absence of these result in shadow banking lenders providing credit at exorbitant interest rates.

While regulations, governance and financial stability measures resolve trust-related hindrances to some extent, such measures are insufficient on their own to promote financial inclusion. Among other facets, such as a competent legal system, technology and innovation are crucial to address and resolve barriers to financial inclusion. Cutting-edge technology-aided new business models are the key to tackle other barriers to financial inclusion, including high costs of financial services and potential customers' lack of documentation and credit history.

**Figure 1.1: Penetration rate of financial services based on personal income**



Source – PwC Analysis

### 1.3 | Access to credit – deterring complete financial inclusion

Although India is one of the world’s fastest-growing economies and boasts the world’s sixth-largest GDP and a dynamic business landscape,<sup>7</sup> access to credit remains one of the major impediments, resulting in low financial inclusion. As of FY17, India’s household debt per GDP is only 11% compared to 49% in China and 78% in the USA,<sup>8</sup> indicating that there is a huge gap to fill underutilised financing capacity. Further, access to credit is so limited in India that rather than asking who can’t access formal credit, the more relevant question in the Indian financial set-up is, who can access formal credit? As per World Bank data, less than 10% of Indians have access to formal credit.<sup>9</sup>

At the centre of India’s still evolving economic landscape are about 65 million MSMEs, contributing 38% of the gross domestic product (GDP) and generating one-fifth of the country’s employment, collectively employing more Indians than any other

sector, barring agriculture. While remarkable, MSME contribution to India’s GDP is about 23% lower than that of China and 10% lower than that of the USA.<sup>10</sup>

Even though MSMEs in India are vastly wide-ranging, they face a common impediment – the lack of access to formal credit. The MSME sector, though an integral part of India’s economic growth, continues to struggle with access to credit, with only 10% of small businesses having access to formal credit.<sup>11</sup> A multitude of MSMEs lack the necessary documentation required to secure a formal loan. Several cannot offer worthwhile collateral or have under-reported and incomplete financials. Consequently, availing formal credit may get painstakingly time consuming for MSMEs and expensive for borrowers and lenders alike, leaving traditional FIs’ lending models incapable of suitably addressing MSMEs’ borrowing needs.

7 <https://www.ibef.org/research/newstrends/fm-india-now-6th-largest-economy-in-the-world-with-high-growth>

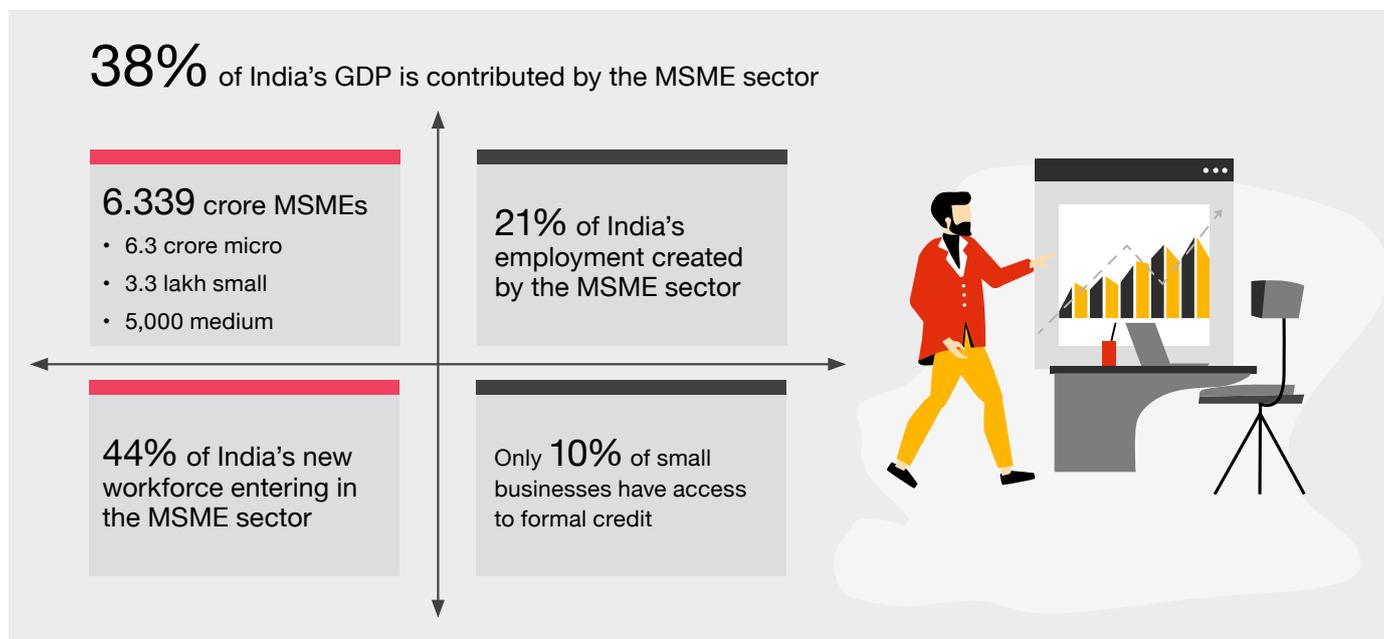
8 International Monetary Fund and Asian Development Bank

9 <http://datatopics.worldbank.org/financialinclusion/country/india>

10 <https://economictimes.indiatimes.com/small-biz/sme-sector/digital-lending-to-msmes-poised-for-major-growth-in-india-omidyar-bcg-report/articleshow/66735018.cms?from=mdr>

11 <https://www.entrepreneur.com/article/335704>

**Figure 1.2: The MSME sector's contribution to India's GDP**



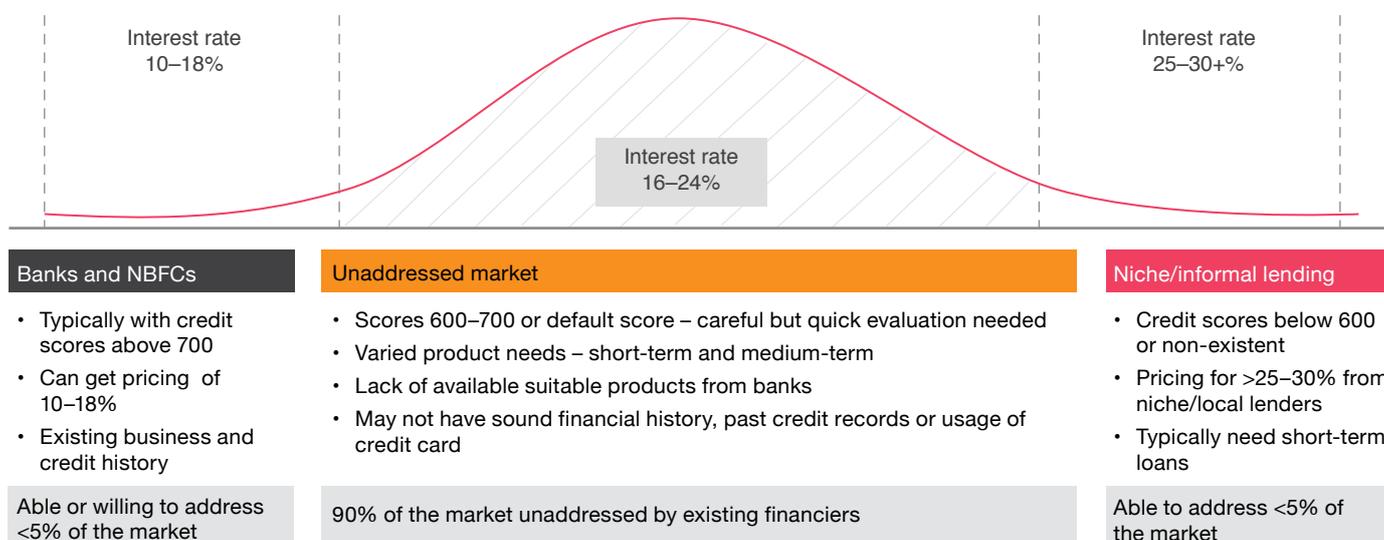
Source: MAPE Group report

For example, think of a kirana store owner who wants to seek credit to stock up during peak season, a small textile manufacturer who wants to revamp his production floor, or a family that can't afford to pay for medical treatment during an emergency. A considerable amount of people and businesses face such situations today. All these consumers fall under the

untapped market as illustrated in the bell curve (Figure 1.3).

Unsurprisingly, these individuals and small businesses may be coerced to look outside the formal financial system – at friends, family or moneylenders – falling prey to exorbitant terms and conditions for credit borrowed, further restricting them from financial inclusion.

**Figure 1.3: Varying interest rates of credit lending across Indian markets<sup>12</sup>**



<sup>12</sup> [https://www.omidyar.com/sites/default/files/file\\_archive/18-11-16\\_Report\\_Credit\\_Disrupted\\_Digital\\_FINAL.pdf](https://www.omidyar.com/sites/default/files/file_archive/18-11-16_Report_Credit_Disrupted_Digital_FINAL.pdf)

## 1.4 | FinTech lending overcomes the challenges of conventional lending

The aversion of traditional FIs to service apparently risky low-income but credit-devoid segments has enabled new-age digital lenders leveraging cutting-edge technology and alternative credit assessment models to quickly fill the void and reach out to a wide customer base. With technological advances and a conducive policy environment, alternative lending as a service has caught the eye of consumers and investors alike. FinTech lenders have capitalised upon the needs and pain points of the consumers across the lending value chain for uncomplicated on-boarding/ KYC processes, prompt decision-making and instant disbursements in a seamless, automated and personalised experience.

Digital lending has significant advantages over traditional lending, with the potential to address prevalent credit-related challenges in India. One of the most distinguishable advantages of digital lending is speedier approval of credit. Credit evaluations and loan disbursements on digital platforms have visibly quicker turnaround times than traditional loans – particularly for small-ticket credits and advances, which are most common among new-to-credit borrowers. Some of the factors why the disbursement turnaround time is significantly lower in digital lending are replacement of manual form filing by digital data captures, automated evaluations leveraging on technologies like advanced analytics, artificial intelligence (AI) and machine learning (ML) and no or little in-person visits.

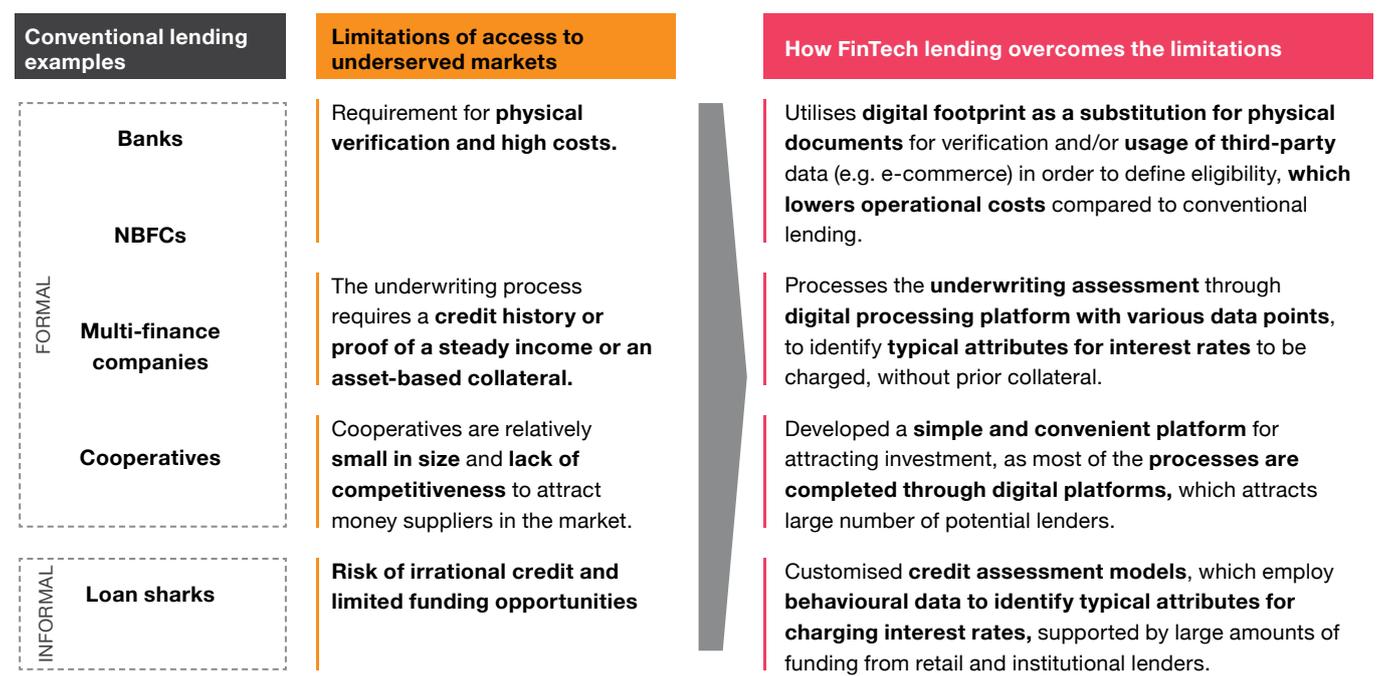
Traditional credit scores consider repayment records, delinquency, data related to delay and default on outstanding

loans to determine a credit score. This results in a majority of creditworthy thin-file individuals and businesses being unable to access credit. The usage of alternative data rather than traditional asset-based data to determine the creditworthiness of an individual/business is the underpinning advantage of FinTech lenders over traditional lenders. The shift from asset-based data to cashflow-based data and other surrogate data from sources such as telecom, utility and social media, combined with psychometric analysis to evaluate ability and willingness to pay, is augmenting or substituting traditional sources to service credit-invisible strata.

Conceivably, another key advantage associated with digital alternative lending models is the operating cost efficacy. Traditional lending models, usually, have high overhead costs, surfacing from deeply entrenched manual processes. FinTech lending models, conversely, do not require physical branch networks, are asset-light and have technology-enabled operating and business models which require minimal human intervention, thus reducing manual operating costs.

This model allows FinTech lenders to keep fixed costs nominal and aggregate a multitude of low-value loans, which enables them to serve low-ticket credit individuals in semi-urban and rural areas and previously credit-devoid MSMEs. Furthermore, FinTech lenders are also able to pass on the benefits of lower costs to customers, making their digital lending products more attractive.

Figure 1.4: How FinTech lending addresses limitations of traditional lending





# 2.0

## Market size and opportunities

The diversified Indian financial sector is rapidly expanding with the rise in skilled employment, working-age population and increasing disposable incomes. This has driven rising interests and need for banking, and related products and services. Even though traditional banks still hold the largest market share for business lending, alternative lending has matured with increasing demand from credit-neglected but digital-savvy borrowers.

In terms of GDP, financial services are the largest contributor towards adoption of digital technology. Adoption of digital technologies, and consequently reaching remote geographies and serving the underbanked have been the catalyst for financial inclusion initiatives and have raised the standards of living in semi-urban and rural areas.

With the rise of the FinTech 2.0 wave, has India successfully achieved financial inclusion and captured the untapped lending market? Although India is one of the major developing markets for microfinance, it covers just one-fifth of the nation's 75 million poor<sup>13</sup> who need financial assistance. Demand for small-scale credit has been assessed at INR 150,000 crore per annum, but the credit disbursed till now stands at just INR 8,000 crore.<sup>14</sup> Credit demand from MSMEs and consumers presents an addressable opportunity of more than USD 1 trillion by 2023.<sup>15</sup>

To capture the towering potential of the unfulfilled credit market, many agile technology-driven start-ups have entered the industry. These FinTech lenders use technology capabilities like data analytics, AI, ML and open application programming interface (API) to get insights into consumer behavioural patterns and spending to build alternative credit models and provide credit. Alternate credit models build their own repository of consumer credit scores, in addition to credit rating agencies' scores, based on telecom, utility, e-commerce, bank transactions and other similar attributes. FinTech lenders scout for every possible data point and solution to build more robust alternative lending models and cater to the untapped lending requirements.

The following can be said to be the major drivers for growth of FinTech and alternative lending:

- strategic partnerships and collaborations between traditional financial institutions and new-age FinTechs
- easy market entry and targeted loan offerings due to availability of large sets of customer data, which can give collective and individual insights
- government initiatives like launching Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGS), issuing guidelines to banks regarding collateral requirements and setting up Micro Units Development and Refinance Agency (MUDRA) banks which can provide loans at low interest rates to micro-finance institutions and NBFCs
- better margins than other FinTech business models, such as payments and other financial services
- changing consumer behaviour and expectations shaped by purchase/transaction experiences offered by e-marketplaces like food delivery, e-commerce and travel portals
- affordable alternative lending practices can help FinTech leaders explore the huge untapped market for loans and bring in more inclusion; there is a need to 'sachetise' finance – i.e. increase availability of small-ticket size products – to lift people out of poverty.



13 Industry FinTech report

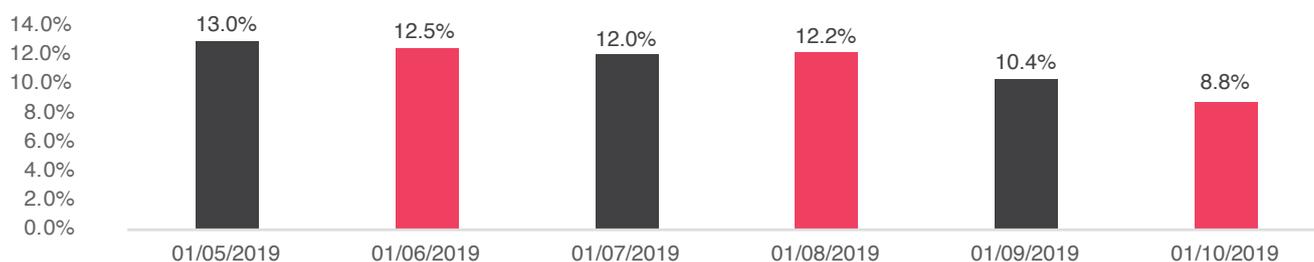
14 Ibid.

15 Ibid.

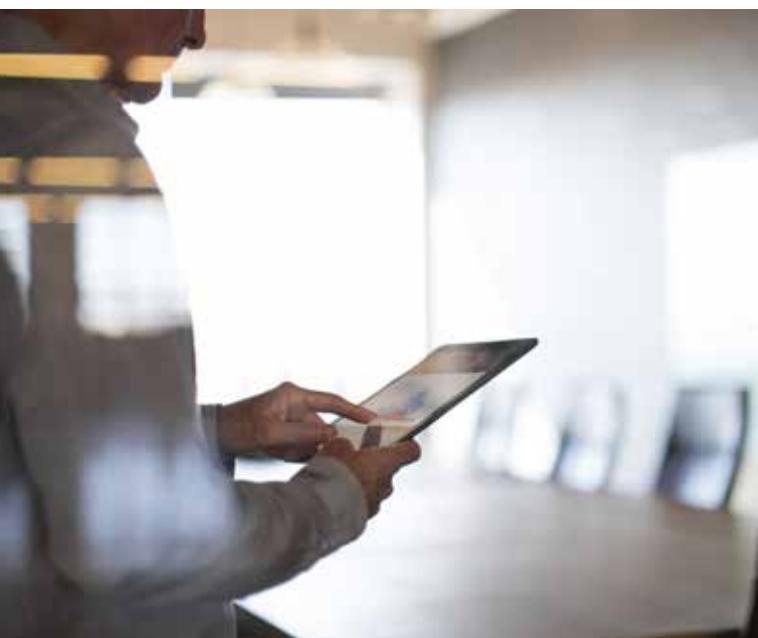
## 2.1 | Potential market size

The FinTech lending market is forecasted to exhibit accelerated progress between 2019 and 2025 owing to factors such as growing increasing internet and smartphone penetration, the thrust from digitisation and regulatory reforms. The value of loans in India increased 8.80% year-on-year<sup>16</sup> by 27 September 2019, as illustrated below. Loan growth in India averaged 11.87% from 2012 until 2019.<sup>17</sup>

**Figure 2.1: Loan growth in India**



In FY17–18, total lending and deposits grew at a compound annual growth rate (CAGR) of 10.94% and 11.66% respectively. The fastest growing segment in the emerging markets is the retail credit market, which is the fourth largest.<sup>18</sup> It accelerated to USD 281 billion from USD 181 billion between December 2014 and December 2017.<sup>19</sup>



Digital lending models are addressing the huge unmet demand for credit. India's digital lending market will see a CAGR of 36% by 2023.<sup>20</sup> Lean organisations, agile processes, innovative business models, digitisation are rapidly changing the digital lending market. The significant disruption to be witnessed in the coming days will mould the lending space. As per industry reports,<sup>21</sup> the prevailing business opportunities which have created a win-win scenario and assisted in financial inclusion are:

- Point-of-sale (PoS) lending – provides unencumbered access to merchant-associated data, allowing easy credit evaluation.
- P2P lending – market place model, which allows individuals to connect and lend to other individuals, based on risk profiling and credit assessment.
- Invoice-based lending – presents an option to businesses to finance against outstanding trade receivables and securitise account receivables to improve liquidity.
- Short-term lending – short term tailored loans such as payday loans, consumer loans for retail, electronic and travel expenditures etc. for instant purchases.

16 RBI data

17 <https://tradingeconomics.com/india/loan-growth>

18 <https://www.ibef.org/industry/banking-india.aspx>

19 <https://www.equitymaster.com/research-it/sector-info/bank/Banking-Sector-Analysis-Report.asp>

20 Industry FinTech report

21 Industry FinTech report

## 2.2 | Opportunities for FinTech lenders?

MSMEs play a vital role in our economy, as roughly 65 million MSMEs in India employ nearly 80 million people. These MSMEs account for 95% of the country's manufacturing output.<sup>22</sup> Despite this, the MSME sector, to a great extent, has remained credit-deficient and underserved by traditional FIs.

Market potential of MSMEs in India:

- Credit demand will see a CAGR of 6% by 2023.<sup>23</sup>
- Unmet credit gap of approximately USD 1 trillion is to be tapped by 2023.<sup>24</sup>
- 47% of Indian MSMEs have adopted digital tools for business processes and payments, and online sales (digital in accounting, payments, sales).<sup>25</sup>

Thus, with a modernised approach towards lending for MSMEs by driving government-focused initiatives and leveraging digital technology, FinTech lenders and FIs can support deeper financial penetration for this segment.

Multiple new models of lending have emerged to boost credit supply, and the continued growth in lending is fuelled by unconventional models, a few of which are discussed below:

- **Alternative credit scoring:** Utilising distinctive non-conventional information sources to evaluate a borrower's financial soundness and repayment capacity can provide an all-encompassing perspective on creditworthiness. Individual data sources can be designated with explicit weightages, relying on the existing category of the businesses within the overall MSME segment. The subsequent credit rating is then utilised by banks/lenders to decide on financing of advances, for example, doling out financing costs, quantum of credits, choosing reimbursement terms and courses of events.
- **Data utilisation:** Various sources of data, like transaction data (PoS information) and utility payments, data can provide a micro and comprehensive view into how people transact with FIs. This information can be used to offer need- and profile-specific lending products.
- **New credit underwriting models:** Open API, automation, data analytics and AI extend a strong understructure for the new-age credit underwriting models, promising better and faster access to products and services across the credit value chain for MSMEs located even in remote, infrastructurally unapproachable towns and villages of India.
- **Marketplace-like models:** Using such models, borrowers can compare lending models and connect to FIs based on best rates and covenants offered.



22 <https://economictimes.indiatimes.com/small-biz/sme-sector/how-alternative-lending-models-are-facilitating-better-access-to-credit-for-the-msme-sector/articleshow/67298802.cms?from=mdr>

23 Industry FinTech report

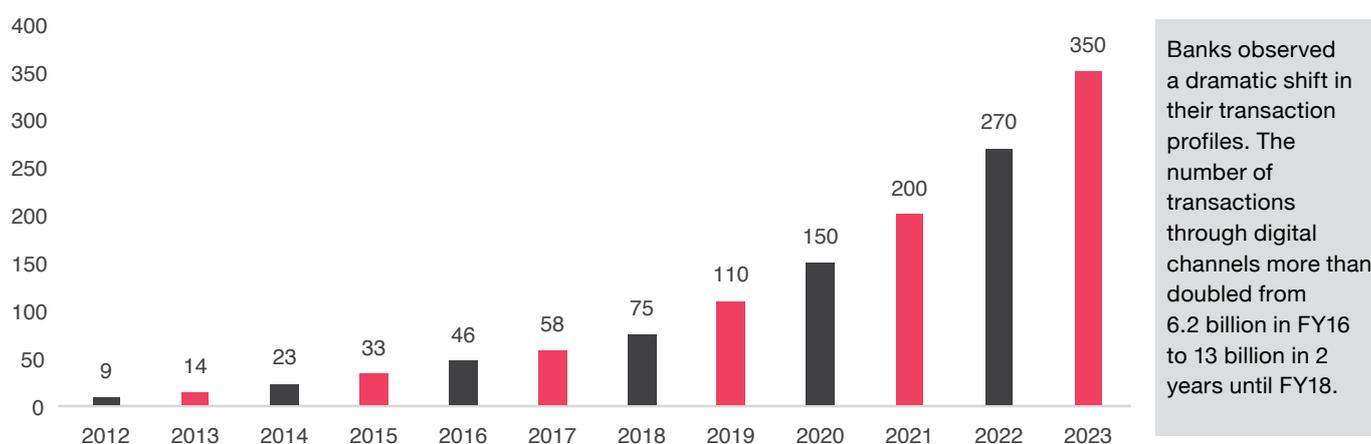
24 Industry FinTech report

25 [https://www.omidyar.com/sites/default/files/file\\_archive/18-11-16\\_Report\\_Credit\\_Disrupted\\_Digital\\_FINAL.pdf](https://www.omidyar.com/sites/default/files/file_archive/18-11-16_Report_Credit_Disrupted_Digital_FINAL.pdf)

## 2.3 | Is there enough investment?

Over the past few months, there has been a spurt in digital lending, resulting in some noteworthy investments in automation, online applications and borrower portals to keep up with radical changes in digital disruption and addition of new digital tools to track and optimise customer acquisition.

**Figure 2.2: Growth of digital lending in India (in USD billion)**



Source: CIBIL, BCG Google 2018 Digital Lending Survey



Digital footprint, which refers to traceable digital activity, acts as a catalyst for digital influence in the Indian banking sector, as institutions can now access consumable data to feed in credit scoring models. A total of 85% of all Indian banking customers use digital banking services for their day-to-day activities.<sup>26</sup> India's market for digital lending is poised to grow from USD 110 billion in 2019 to USD 350 billion in 2023,<sup>27</sup> as shown above. This will increase the share of digital lending in India's overall lending market from 23% in 2018 to 48% by 2023, making digital lending a sector with the highest penetration by digital channels in the country.<sup>28</sup> To ensure that the digital lending model remains sustainable in future, it would be essential for FinTech lenders and incumbent FIs to develop sustainable, secure and scalable technology platforms.

The funding trend until 2018 can be seen below.<sup>29</sup> Interestingly, the alternative lending segment is the second-most funded in the Indian FinTech space.

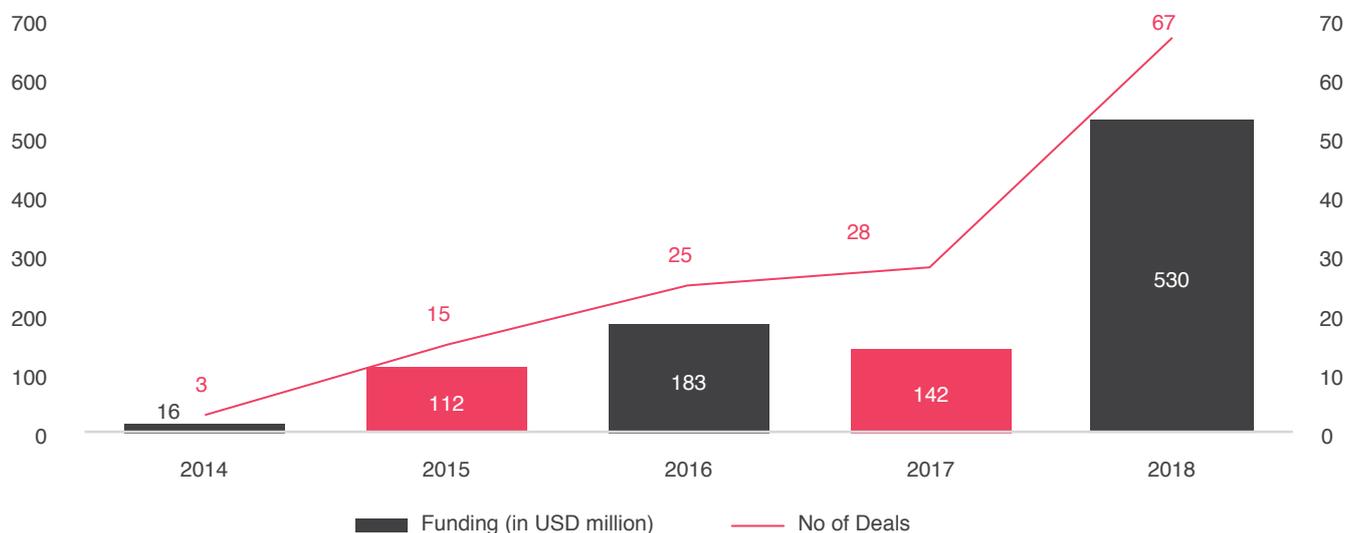
<sup>26</sup> <https://www.paymentsjournal.com/will-commercial-banks-be-swept-away-by-future-technologies/>

<sup>27</sup> CIBIL, BCG google digital lending survey and PwC analysis

<sup>28</sup> CIBIL Survey

<sup>29</sup> Source: CB Insights

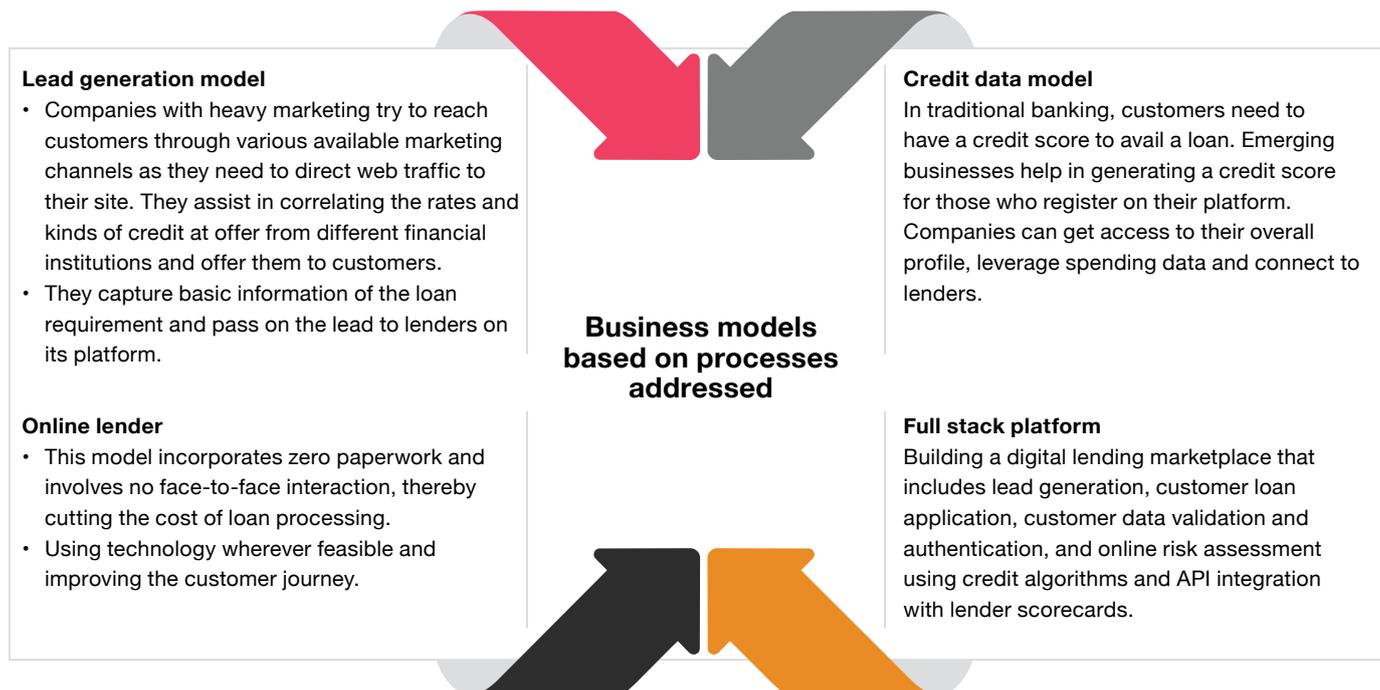
**Figure 2.3: Funding trend in India until 2018**



## 2.4 | Key industry players, business models and innovation

Over the last couple of years, more than 1,000 FinTech start-ups have been founded in India, with funding of more than USD 2.5 billion.<sup>30</sup> There are over 330 start-ups in the digital lending space in India, creating a paradigm shift from traditional credit services to digital ones. The digital lending structure follows a faster process across the value chain – from consumer engagement to onboarding, credit assessment, and collection of documents digitally with minimal paperwork and disbursement – all within a low turnaround time. Based on the value-chain process FinTech lenders address, business models can be classified as follows:

**Figure 2.4: Classification of business models based on value-chain process**



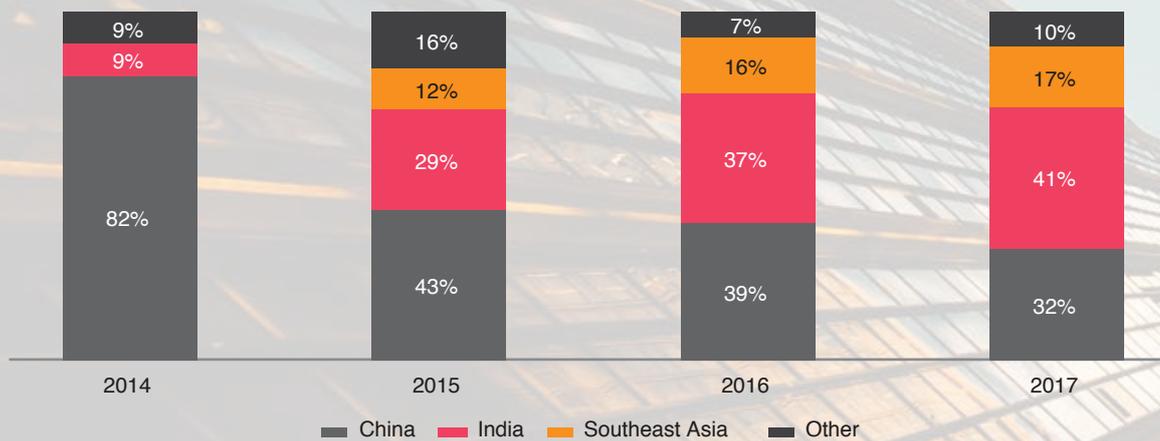
30 <https://news.crunchbase.com/news/q1-2018-fintech-startups-raise-record-amounts-deal-counts-fall/>

## 2.5

### Comparison of India's alternative lending market with those of countries having a similar socio-economic profile

- In 2017, India held the largest share of Asia's alternative lending deal count at 41%. China was second at 32%, and Southeast Asia was in the third position with 17%. China witnessed a 15% plunge in alternative lending deals between 2016 and 2017 due to stringent regulations, oversaturation and better opportunities in the digital lending space in other parts of Asia.
- Southeast Asia and India are equipped for further investments and growth in the alternative lending space; as they have a sizeable and pertinent population for digital credit facilities and the right socio-economic factors, including soaring internet penetration and committed government efforts.
- India's share of online lending of funds has steadily increased vis-à-vis that of other Asian countries, led by Gol's financial inclusion initiative – JAM.<sup>31</sup>

**Figure 2.5: Percentage share of alternative lending deals across Asia**



Source: CB Insights

31 <https://www.cbinsights.com/research/alternative-lending-china-asia-expert-intelligence/>





# 3.0

## Regulatory environment

Gol and several regulators have played a crucial role in creating a favourable environment for both FinTech and incumbent financial services lenders by launching a slew of initiatives to improve the country's digital infrastructure, and to usher in an API economy.

A few of the key initiatives taken by Gol are highlighted below.

### Promoting financial inclusion

- **Launch of the Goods and Services Tax (GST)**

The launch of GST has been instrumental in the formalisation of the country's credit-starved informal sector and has led to wider availability of digitised data, which could be harnessed by digital lenders for credit scoring of borrowers.

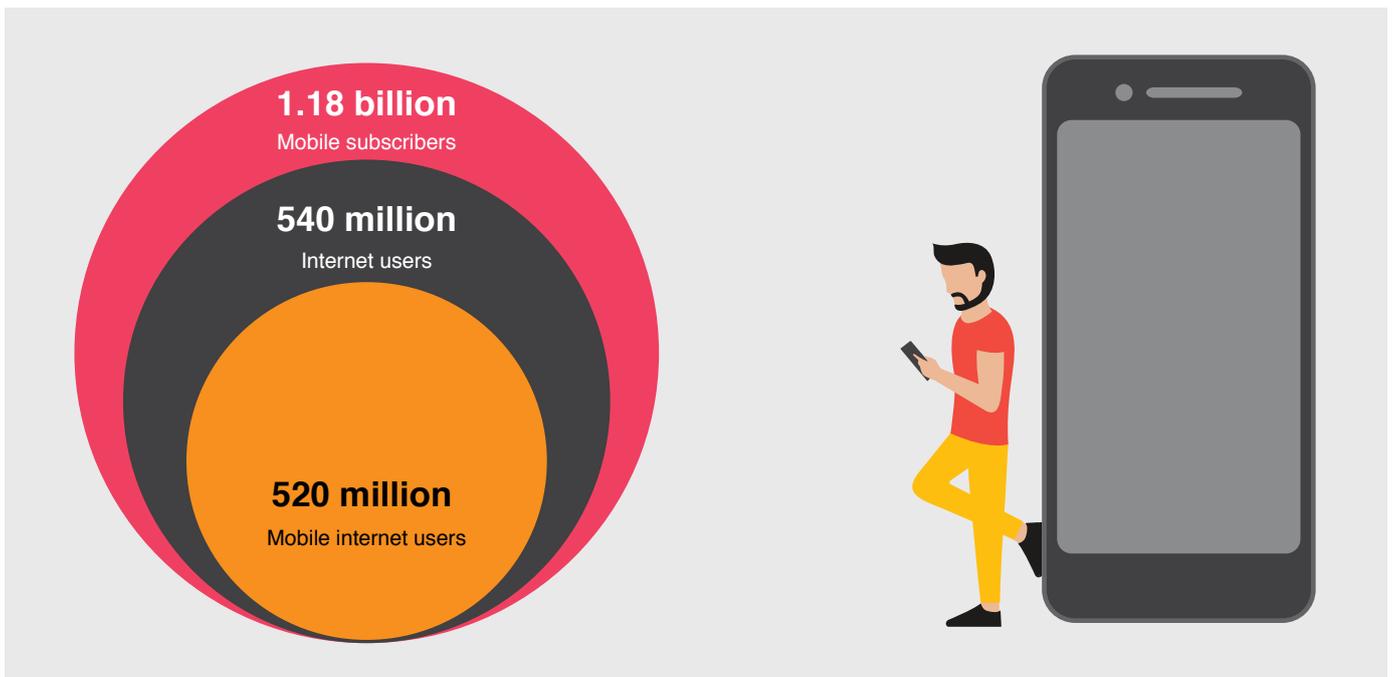
- **Digital India programme**

Gol's push to enhance digital literacy via the Digital India initiative has significantly improved the digital maturity of the Indian population, both rural and urban, leading to improved awareness and usage of FinTech lending solutions.

- **Driving internet adoption**

There has been a sharp increase in the number of people with access to and the speed of the internet (520 million mobile internet users)<sup>32</sup> across the country over the last decade, due to governmental and industry policy initiatives. Furthermore, cost-efficient internet services have led to an increase in the number of overall internet users whom digital lenders can now reach out to.

Figure 3.1: Growing number of internet users in India



Source: PwC analysis

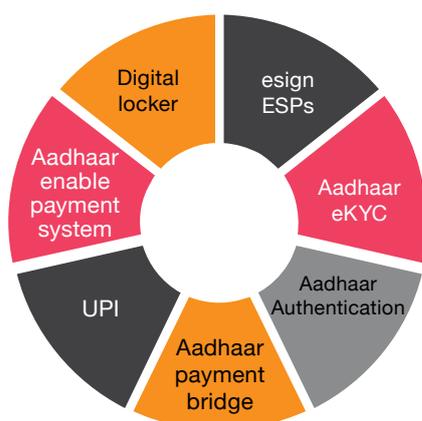
32 Press Trust of India. (2019, March 20). India's telecom subscribers' base crosses 120 crore: TRAI data. Livemint. Retrieved from <https://www.livemint.com/industry/telecom/india-s-telecom-subscribers-base-crosses-120-crore-trai-data-1553093994494.html> (last accessed on May 8, 2019)

## 3.1 | Driving innovation and competition in the lending sector

### • Startup India

The flagship scheme of GoI aims to promote domestic start-ups through regulatory and financial support and has led to an increase in the number of FinTech players in the country.<sup>33</sup>

**Figure 3.2: The IndiaStack structure of open APIs**



### • Launch of IndiaStack

By launching the plug-and-play platform IndiaStack, GoI, the Reserve Bank of India (RBI) and the National Payments

Corporation of India (NPCI) created a vendor-agnostic infrastructure with open APIs that could be utilised by diverse players, including banks, third-party players, telecom operators and FinTech lenders, to gain insights into consumers across segments and offer them innovative lending solutions.

### • Recognising P2P lenders<sup>34</sup>

The RBI recognised P2P lenders by categorising them as NBFCs, which helped in propelling the P2P segment.

### • Regulatory sandbox

The RBI has allowed the financial services industry, including banks and FinTech players, to roll out new financial products on a small scale in order testing their viability before scaling up. This has allowed FS lenders to experiment with innovative solutions at speed with regulatory backing.

In addition, GoI had set up the Steering Committee on FinTech in March 2018 to deliberate on key issues related to India's FinTech sector and provide recommendations to promote the sector's growth. The Committee submitted its report and recommendations to Union Finance Minister Nirmala Sitharaman on 2 September 2019.

## 3.2 | Third wave of India's FinTech evolution

Through the establishment of joint working groups, regulatory committees and oversight, India is currently entering the 'third wave' of FinTech growth, where players have a clearer code of conduct and regulations to adhere to, the government has a better view for licensing legal players, and investors have higher confidence in investing in the FinTech sector.

	First wave	Second wave	Third wave
<b>Regulation milestones</b>	Regulations and policies aimed at improving speed of and access to the internet	Launch of IndiaStack	Set up of the FinTech Steering Committee and sandbox framework
<b>Business model milestones</b>	Entry of FinTechs, but most of them are unlicensed	Expansion of FinTech players, but restricted to providing services to primarily affluent urban classes	Increased partnerships between FinTechs and incumbents, with a focus on driving financial inclusion across the socio-economic spectrum
<b>Investment highlights</b>	Mostly self-funded start-ups	Entry of regional venture capital firms	Entry of both regional and global venture capital firms

Source: PwC analysis

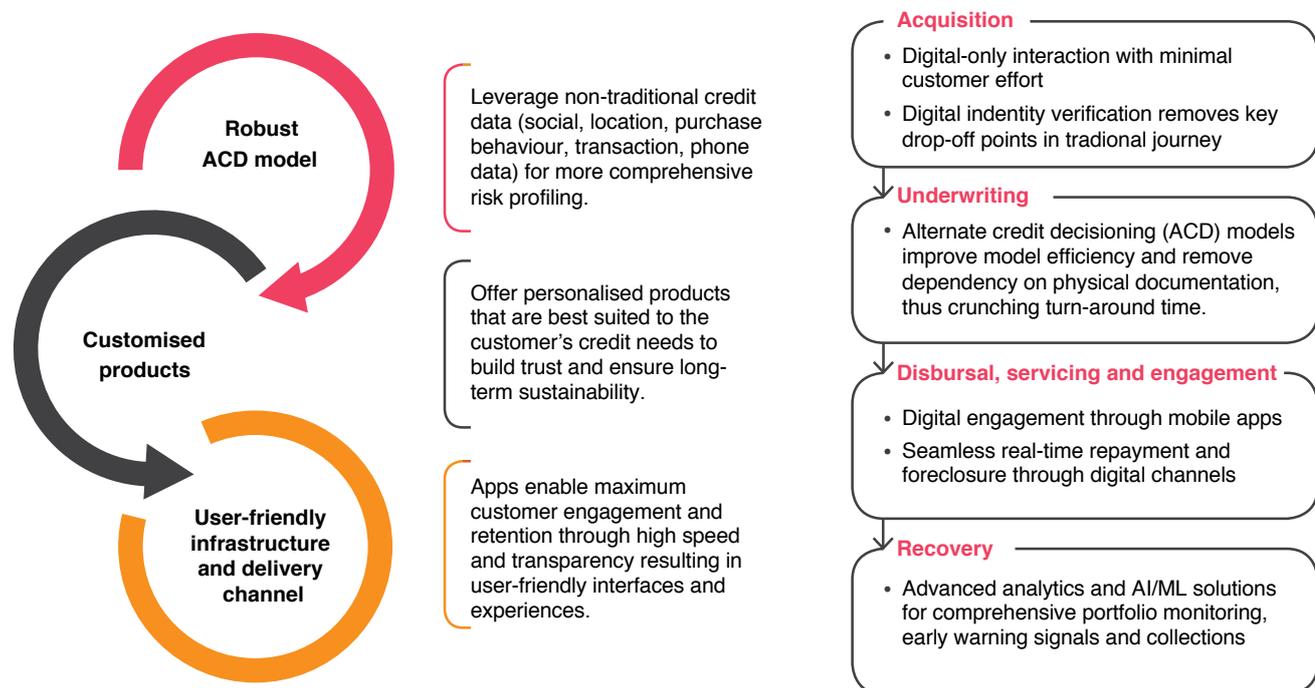
33 <https://www.statista.com/outlook/295/119/fintech/india>

34 <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11137>

### 3.3 | Evolution of the digital lending landscape in India

A new crop of technology-driven lenders is re-imagining and restructuring the traditional lending value chain in the country by targeting specific touchpoints to enhance customer experience and drive operational efficiency, by leveraging advanced technologies and offering a seamless user experience for accessing financial products and services. These lenders are eliminating the customer drop-off points from the traditional lending model, which suffers from high turnaround times, to disburse loans in seconds.

Figure 3.3: Evolution of digital lending in India



Source: PwC analysis



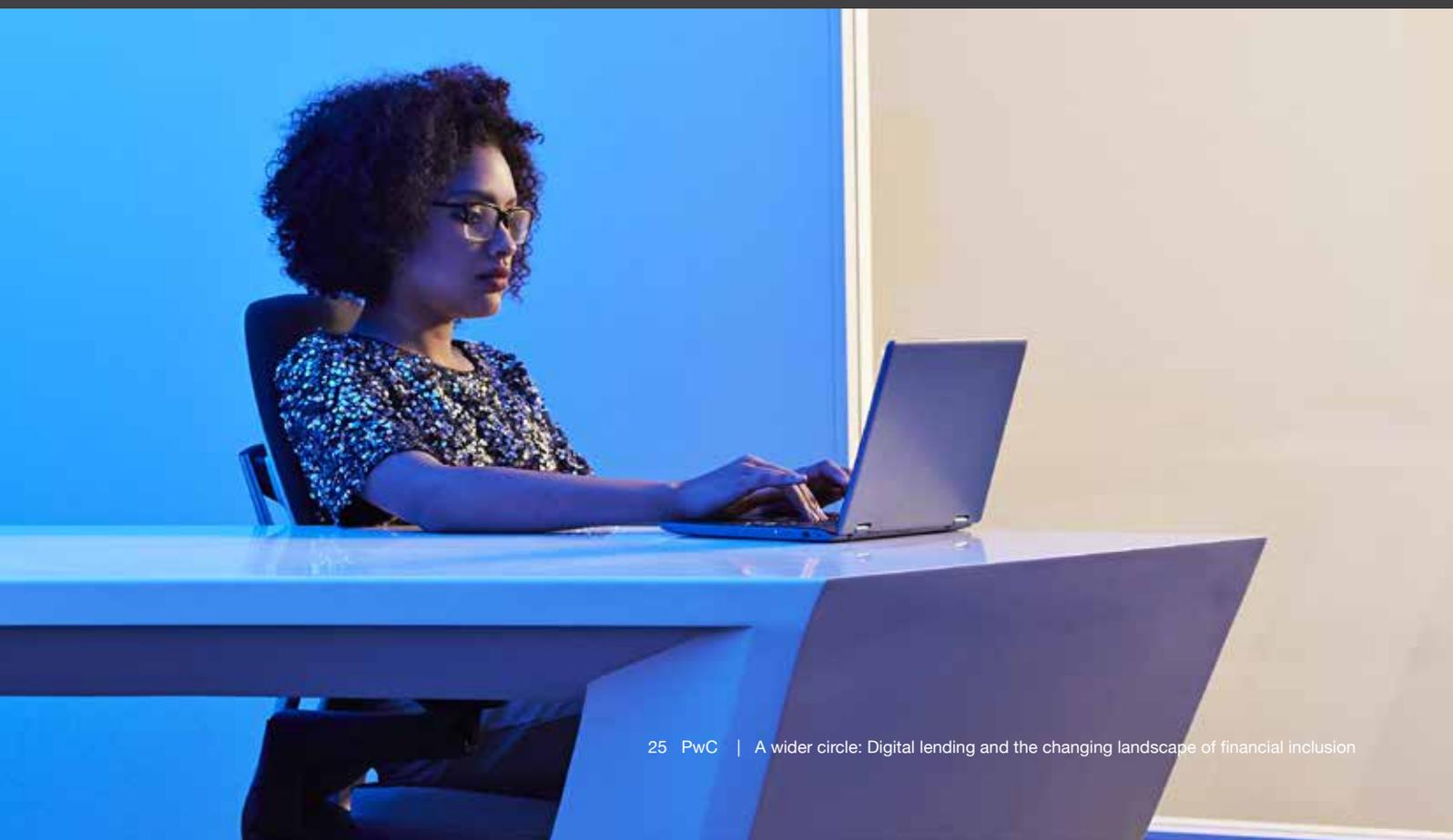
## 3.4 | Current digital lending models in India

The key digital lending models in India are captured in the table below.

Domain	Key components
<b>P2P lending</b>	Digital marketplaces that connect borrowers (both individuals and organisations) with lenders, allowing quick access to low-cost loans at affordable costs
<b>Invoice financing</b>	Short-term working capital credit to MSMEs, based on their unpaid customer invoices, to meet MSMEs' short-term liquidity requirements
<b>Crowdfunding</b>	Digital platforms that enable investees to raise external credit from a large group of investors, by allowing investees to exhibit their business cases, funding requirement and market potential
<b>Pay later loans</b>	Lenders that disburse instant, small-ticket sized loans with the 'buy now and pay later' model for meeting customers' purchases
<b>Mobile lending</b>	Lenders that offer mobile loans to customers by assessing their creditworthiness by leveraging mobile phone data such as call patterns and mobile e-money usage
<b>Digital mortgage</b>	Lenders that facilitate mortgage purchases through end-to-end digitisation of the traditional mortgage loan process, from the application stage to disbursement, through digital channels in order to reduce the high turnaround times prevalent in the existing traditional model
<b>PoS lending</b>	A partnership model with FS lenders where these players finance online shoppers' purchases by utilising both conventional data like bank statements and unconventional data like online transaction history.
<b>Supply chain financing</b>	Marketplaces that tie up with direct lending NBFCs to target merchants selling their goods and services online, by leveraging the huge amount of merchant data residing on these channels.

**Figure 3.4: Digital lending use cases illustrations for India**

 <p>Digital lending use cases</p>	<ul style="list-style-type: none"> <li>▪ <b>Loan recharge</b></li> </ul>	<p>A leading FinTech organisation provides the first ever recharge loan service based on the credit limit a user receives depending on the usage of their app. After repaying the whole loan amount, user gets incentives. It gives the option to pay utility bills later. They have a high consumer focus catering to people in tier-two and tier-three markets who have relatively limited access to the internet, and lower financial power.</p>
	<ul style="list-style-type: none"> <li>▪ <b>Bank and FinTech partnership</b></li> </ul>	<p>With 5 years of contribution towards achieving financial inclusion, one of the digital lending start-ups has created revolution in this space. What helped them achieve this is transparency in process, customization, and apply anywhere- anytime model. They plan to partner with startups in e-commerce, food delivery and mobility etc., to reach the masses they will tie up with kirana store owners, small mom and pop stores etc., which will help strengthen the process of financial inclusion.</p>
	<ul style="list-style-type: none"> <li>▪ <b>For the agri-sector</b></li> </ul>	<p>An agri-tech start-up aims to be a one-stop solution for farmers in distress. It helps farmers to improve productivity by offering loan at minimal rates and also connects them to local retailers to procure agri inputs. Its operational at select villages but plans to expand further. Partnerships with NBFC will be an added advantage.</p>
	<ul style="list-style-type: none"> <li>▪ <b>Invoice discounting marketplace</b></li> </ul>	<p>One of India's first invoice discounting marketplace aims to provide short-term loans to SMEs but their model is such that they discount unpaid invoices raised against MNCs to a network of financiers. Acquisitions are made to enhance their technological capability.</p>
	<ul style="list-style-type: none"> <li>▪ <b>Repay loan daily</b></li> </ul>	<p>A leading NBFC and a pioneer in SME lending offers an option to repay a loan daily. The company offers unsecured loans to merchants using their propriety technology platform. Their USP is minimum documentation and doorstep service.</p>





# 4.0

## Technologies levelling the lending playing field

### 4.1 | AI and ML's role in next-generation lending

As per PwC's 'Artificial intelligence in India – hype or reality Impact of artificial intelligence across industries and user groups' report, leading industry figures cited ML, automated data analysis and robotics technologies as the top three AI-enabled solutions which have the greatest impact on the FS sector.<sup>35</sup> We highlight the two high-impact areas where AI and ML technologies are reshaping the way FS lenders operate.

#### 4.1.1 Redefining customer experience management

As FS products become increasingly commoditised, lenders have realised that providing a seamless and comfortable 'customer experience' is crucial to creating competitive differentiation. AI and ML technologies have been at the heart of this customer-centric strategy.

- Customer acquisition is a space in the lending sector that is witnessing massive innovation in terms of how lending companies are reaching out to new customer segments and bringing down overall costs. For instance, digital lenders are employing ML-based product propensity models to help them calibrate product features and customer engagement strategies to improve conversion of business leads.

- Customer onboarding is another area that is ripe for disruption with the entry of digital lenders, as these players have started fully digitising the existing processes to deliver a superior user experience.
- In addition, AI-enabled chatbots with self-learning and self-correcting capabilities have helped lenders to fine-tune customer profiles and offer personalised services resulting in the customer delight.

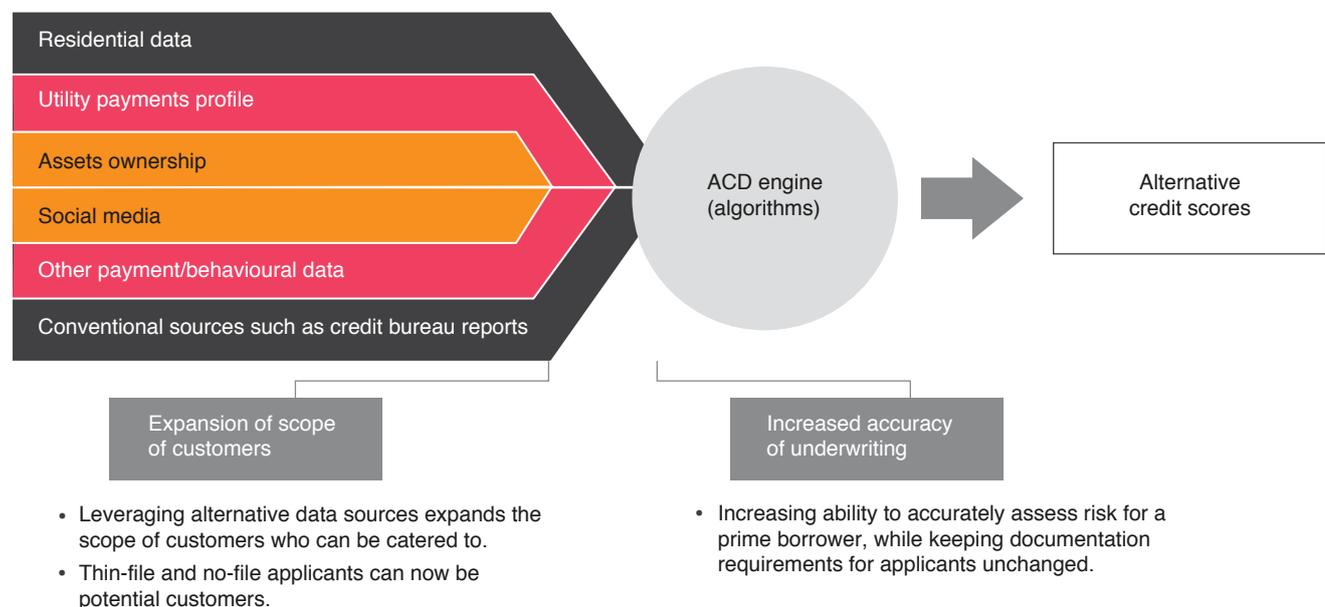
#### 4.1.2 Defining new paradigms of risk management

With the advent of AI and ML tools, lenders have access to vast amounts of digitised data that can be accessed in real time to unearth and mitigate potential lending risks. We look at the two key areas within the risk management function where usage of AI and ML tools are being implemented.

#### 4.1.3 Alternative credit assessment

Alternative credit assessment involves the leveraging of unconventional consumer information such as payment history and e-commerce purchase history, in combination with conventional credit sources such as credit bureau reports, to predict an individual's creditworthiness.

Figure 4.1: Alternative credit assessment by lenders



35 PwC. (2018). Artificial intelligence in India – hype or reality: Impact of artificial intelligence across industries and user groups. Retrieved from - <https://www.pwc.in/assets/pdfs/consulting/technology/data-and-analytics/artificial-intelligence-in-india-hype-or-reality/artificial-intelligence-in-india-hype-or-reality.pdf>

Some of the key benefits for FS lenders in using alternative data are listed below.

- **Capture new customer segments:** Alternate underwriting data may help lenders assess the creditworthiness of applicants with ‘thin’ credit files. Such data may help FinTech players expand their customer base to include demographics that are difficult to underwrite – including the unbanked, underbanked and millennials.
- **Strengthen existing underwriting processes:** Augmenting traditional underwriting data with more insights into customer behaviour in related spheres increases the validity and efficacy of credit decisions, leading to greater revenue growth for lenders and risk maintenance.
- **Prevent fraud:** Information about potential borrowers obtained through social media sites and other alternative data sources may help supplement fraud prevention efforts and flag potentially fraudulent activity during the application process – before a loan is approved or disbursed.
- **Develop a competitive edge:** The 24x7 availability of comparable loan rates, products and information on processing fees or other costs has made lending a more commoditised sector. As a result, lenders may need to increase their competitive edge in order to reach strategic goals and improve their bottom line.

### Challenges and risks in building alternative credit models

While ML-based alternative credit scoring models are boosting lending, in some cases, they have the potential to exclude certain customer segments inadvertently owing to model biases and poorly trained data due to lack of past credit-cycles data of borrowers.

In addition, the FS industry needs to be wary of creating black box ML models that are difficult to explain, as it would be challenging to back-test these models for validation. This assumes significance in a sensitive area like lending, where regulators are likely to step in to safeguard consumer interests. To combat this, FS lenders would need to deeply understand the evolution of ML models and correctly select their parameters across multiple credit cycles to ensure its validity.

#### 4.1.4 Improving downstream lending activities

Lenders are adopting AI and ML technologies in their downstream lending activities as well, to optimise their collections and delinquency management strategies. For instance, AI- powered collections strategies are being employed to recommend targeted action to collection agents so that recoveries can be maximised.

Additionally, digital lenders are also using AI systems to monitor borrowers’ profiles and analyse their transaction history. Accordingly, SMS and email reminders on pending payments are sent to borrowers at specific time intervals, thereby improving repayment rates.

## 4.2 | Cloud banking

Digital lenders have embraced cloud technologies for scaling up their businesses, speed and flexibility to respond to changing consumer preferences. From deploying cloud applications only for non-core areas such as human resources (HR) and customer relationship management (CRM), FS lenders have begun focusing on core areas as well. PwC’s ‘Financial Services Technology 2020 and Beyond’ report states that cloud technologies are positioned to make significant inroads into core verticals, including credit assessment and payments, by 2020.<sup>36</sup>

**Figure 4.2: Benefits of cloud banking**

Speed of innovation	Cloud has enabled rapid development and deployment of applications, thereby improving lenders’ time to market.
Improved responsiveness	Reduced data storage costs and enhanced scalability capabilities made possible by cloud have powered digital lenders to respond to customer needs rapidly.
Interoperability	Cloud has facilitated interoperability, as various systems moved to cloud can interact with each seamlessly to provide a unified customer experience.
Cybersecurity	Cloud vendors have offered advanced security features such as real-time network health monitoring to safeguard digital lenders’ systems.

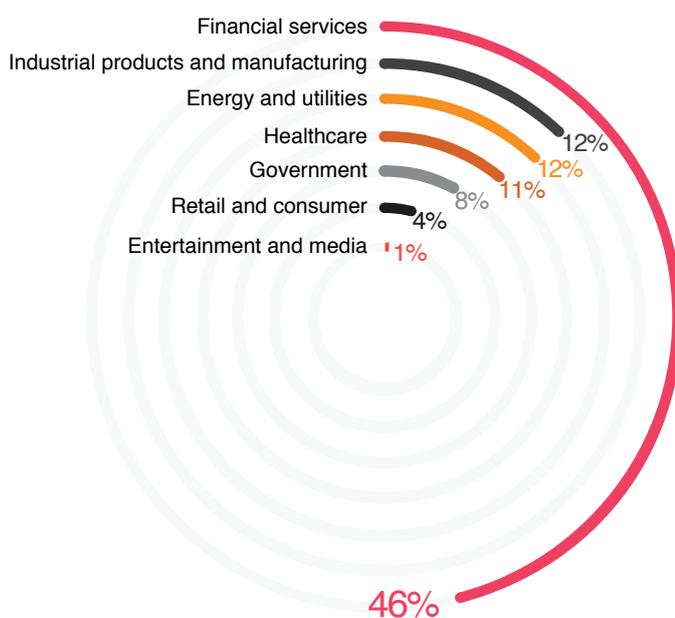
36 PwC. (2016). Financial Services Technology 2020 and Beyond. Retrieved from - <https://www.pwc.com/gx/en/financial-services/assets/pdf/technology2020-and-beyond.pdf>



## 4.3 | Unlocking the potential of blockchain

Globally, the FS industry has been at the forefront in adopting blockchain initiatives spanning multiple use cases (see Figure 4.3).<sup>37</sup> Blockchain's ability to eliminate intermediaries in data storage and drastically bring down infrastructural costs make it an ideal fit for the digital lending industry.

**Figure 4.3: Industry-wise division of blockchain development**



Blockchain-enabled digital identities hold immense potential to streamline the fragmented KYC process in the lending industry. Centralised KYC platforms powered by blockchain technology would enable customers to share multiple KYC documents that could be shared with third-party players after obtaining customer consent, reducing duplicative work on KYC information collection and cost reduction. Similar use cases in the areas of smart contract management, loan syndication and trade finance are gaining traction amongst digital lenders.

Source: PwC Global Blockchain survey 2018

<sup>37</sup> PwC. (2018). Global Blockchain Survey 2018. Retrieved from [https://www.pwc.se/sv/pdf-reports/blockchain/Blockchain-whitepaper-%20blockchain-means%20business\\_What%27s%20your%20next%20move.pdf](https://www.pwc.se/sv/pdf-reports/blockchain/Blockchain-whitepaper-%20blockchain-means%20business_What%27s%20your%20next%20move.pdf)



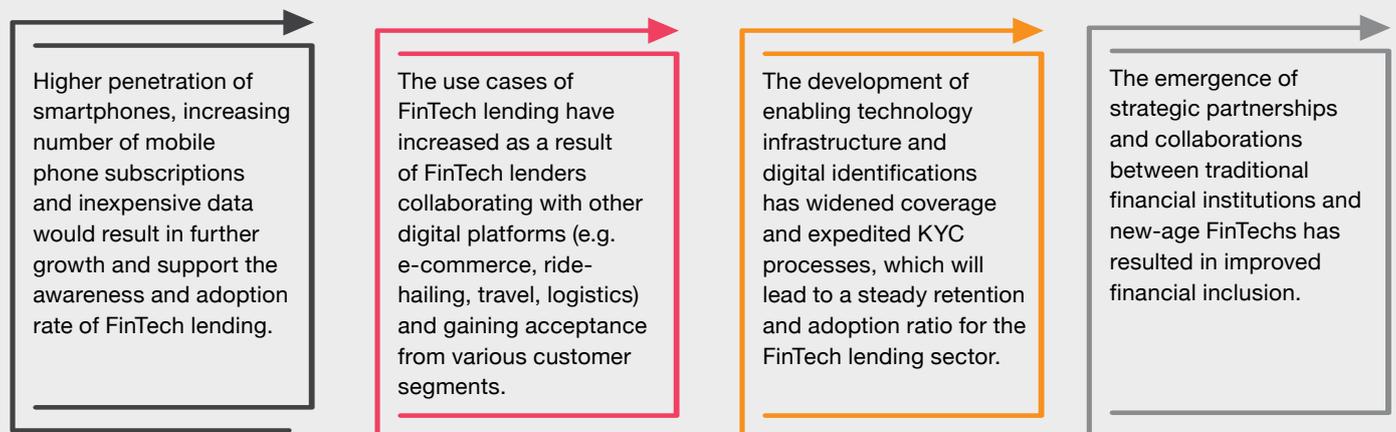
In India, new-age FinTech lenders are currently playing a pivotal role in meeting the financial needs of individuals and businesses and disrupting conventional financial services by reaching out to who have traditionally remained unserved or underserved by traditional FIs. The effects of the disruption caused by digital lending across the spectrum of consumer engagement, origination, credit assessment, underwriting, risk monitoring, compliance, governance and collection are still unfolding. A majority of FinTech start-ups are still at a nascent stage and working on quantifying alternative data, which plays a substantial role in evaluating the creditworthiness of a consumer. Until now, FinTech lending players haven't faced a full credit cycle for sizeable applications to comprehensively test and validate their alternative lending models and innovative business models.

Adopting technological innovations across the lending value chains will aid optimisation of resources and processes, reduce turnaround time for approval and disbursement of credit/loans, facilitate intuitive and automated decision-making, and ensure accessibility of credit/loans for customers at rates tailored to their socio-economic profile. This would give FinTech lenders

a tremendous advantage over traditional banking systems as they will be able to tap into a previously unexplored segment of borrowers and drive maximum possible growth. The success of digital lenders to drive financial inclusion will largely be dependent on their ability to make the best use of technology, human capital and strategic partnerships. Traditional FIs have a large base of customers and FinTech lenders have the right technological support; together, they can form a mutually beneficial relationship to amplify the processes of helping customers from all socio-economic backgrounds to secure credit/loans.

Further, government and regulatory bodies have a significant role in drafting, implementing and monitoring comprehensive policies that strengthen the overall financial ecosystem, including consumers, businesses and investors. These policy initiatives by the government could include providing incentives to FinTech lenders for amplifying the supply and affordability of credit products and services, as well as generating demand for credit by financially empowering and educating the consumer.

## Key drivers for digital financial inclusion



Though FinTech lending is expansively changing the country's credit landscape, there is a long way for the sector to go before it meets consumer expectations and needs overcomes regulatory hurdles and ultimately achieves profitability. Nonetheless, there currently exists a blueprint for financial inclusion that FinTech lenders can adopt. Initiatives taken by FinTechs, FIs and GoI will enable people and businesses to grow and invest by making credit easily available to all deserving consumers, especially those who were previously credit-isolated. FinTech lending benefits many credit-invisible small and micro businesses and individuals. For example, micro retail businesses, which do not have sufficient collateral and credit history and have either

limited or no access to formal credit facilities can now avail digital financial solutions to grow their business.

Access to formal credit also empowers individuals who have been unserved or underserved by traditional models of finance in their entrepreneurial journey, thus laying the ground for multiple government initiatives like Startup India and Make in India. It can also serve as one of the key drivers for achieving GoI's vision of India becoming a USD 5 trillion economy. An economically entitled and accredited population not only augments the bottom line of the nation but also has a deep-rooted impact on the country's socio-economic well-being.

**Figure 5.1: FinTech lending and its potential impact on market lenders**

### Key trends to watch out for FinTech lending





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Established in 1927, FICCI is the largest and oldest apex business organisation in India. Its history is closely interwoven with India's struggle for independence, its industrialisation, and its emergence as one of the most rapidly growing global economies.

A non-government, not-for-profit organisation, FICCI is the voice of India's business and industry. From influencing policy to encouraging debate, engaging with policy makers and civil society, FICCI articulates the views and concerns of industry. It serves its members from the Indian private and public corporate sectors and multinational companies, drawing its strength from diverse regional chambers of commerce and industry across states, reaching out to over 2,50,000 companies.

FICCI provides a platform for networking and consensus building within and across sectors and is the first port of call for Indian industry, policy makers and the international business community.

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