

Financial Technology: Fragmented for Financial Inclusion?



Ahmad Aziz Putra Pratama

Abstract: *This study goals to discuss how the financial inclusion progress in Indonesia could be affected by the growing fintech industry. This research comprehensively discusses the current state of the platforms in the country, including the potential benefits and challenges. Such afflictions include the hugely-concentrated deposit market, to begin with, and the discrepancies between regulators and the technological changes, while the high internet and mobile phone penetration are only one of the many advantages the country endowed. The study also aims to highlight the challenges faced in increasing financial inclusion before the fintech platforms begin to flourish and how they differ to the current condition. The novelty and relevant policy recommendations also provided in the latter parts of the discussion.*

Keywords: *Financial technology, financial inclusion, fragmented instrument, digital divide, Indonesia*
JEL Classification: *G21; G28; G41*

I. INTRODUCTION

Indonesia had the most significant account ownership increased in the region as the number increased from 20 percent in 2011 to 36 percent in 2014 and 49 percent in 2017 (World Bank, 2018). Even the population with the least amount of ownership, i.e., the most deficient 40 percent, the rural community, young adults, and those outside the labor force, have been showing significant progress in a mere six years period of financial account ownership. Financial inclusion has been one of the government's focus in recent years. Efforts have been made to help more Indonesian acquire access to financial services. The growth has been remarkable.

Recent dynamics have seen another major player entering the market financial technologies or fintech. Capitulating on the immense penetration of mobile and internet usage in Indonesia, the platform has enabled the Indonesian customers to get easier access to lending (borrowing). Companies such as Investree, Modalku, and Koinworks are only a few of the flourishing fintech-based start-ups in the country. However, the fintech companies are still only penetrating the urban and suburban population. In light of the massive and rapid changes in the originally

ill-prepared financial inclusion landscape, such advancements may bring not only benefits but also the possibility of a 'digital divide' in the financial market. As the banked and underbanked population in the urban areas are getting better access to the financial services through such platforms, the unbanked and those living in the more rural areas are arguably stagnating.

As of 2014, around 8 percent of the population aged 15 or more used debit cards for purchasing. The figure grew to 11 percent in 2017 (Demirguc-Kunt et al., 2018). A similar story observed regarding the most deficient 40 percent of the population, as the proportion of such subset making digital payments in 2014 stands at 7 percent and subsequently growing to 14 percent in 2017 percent. Noticeably, the financial inclusion indicators in Indonesia show considerable growth and penetration. However, the number might not be enough, as the country still trails to the developing countries in other regions, such as Brazil, India, and Russia.

This study aims to discuss the benefits and the potential of such entry in the Indonesian context. I cover, first, the technological and financial progress of the country. Second, I describe our classification of banking users in this study, in which I introduce our definition of 'underbanked' citizens. Then, proceed to discuss the fintechs entry into the landscape. Following the section is a comparison between Indonesia's case and the other, best-practice countries' cases. I emphasize the distinction between the Indonesian progress and the others through which I deem the former to be instead 'trapped' amid the exponential growth. I conclude the paper by bringing up the debate on whether the progress induces more inclusion or fragmentation instead.

II. THE MOBILE-CAPTURED SOCIETY

Financial technology in Indonesia, along with the other digital economy aspects such as e-commerce and sharing economy platforms, has also been supported by the penetration of internet and telecommunication devices. Noticeably, internet penetration in Indonesia showed a positive trend throughout the last decade. It started from 500,000 users in 1998 and reached 143,260,000 of internet users in 2017 (APJII, 2017), the majority of which are in the young age category, which ranges from 13-34 years old. APJII's survey in 2017 states that the penetration of the internet in an age category is quite varied. The highest amount of penetrations obtained by the 13-18 years old group (75.5%), the second was acquired by the 19-34 years old group (74.23%), the third was 35-54 years old group (44.06%), and the last was >54 years old group (15.72%). Despite the high penetration, the number or actual internet users was much lower than the amount of internet penetration.

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Based on the age category, internet users who were in 13-18 years old group only accounts for 16.68% of samples, 19-34 years old users account for 49.52% of samples, 34-54 years old users account for 29.55% of samples, and >54 years old users account for 4.24% of samples.

The majority of internet users who get penetrated more were in post-graduate or doctoral education, and the internet users who get penetrated less didn't have any educational degree. The penetration of the internet also revolving mostly on high-income society (93.10%), rather than the lowest income society (21.72%). However, the composition of internet usage dominated by the lower-income community (74.62%), contrasting with the high-income society internet users (1.98%). Lastly, internet penetration was higher in the urban area (72.41%) rather than the rural-urban area (49.49%) and rural area (48.25%). Most of Indonesians experienced internet penetration in 2014-2016 (37.12%) or 2011-2013 (28.61%), and the rest was in the year before 2011.

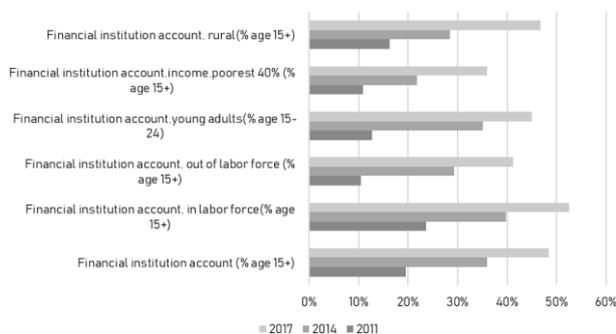


Figure 1. Brimming with progress – Ownership of financial institution account in Indonesia

Source: World Bank (2018)

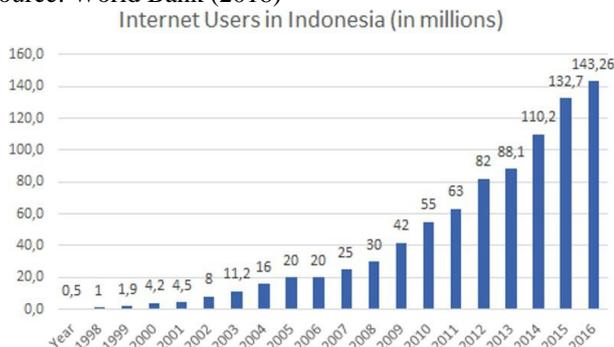


Figure 2. Internet Users in Indonesia (in millions)

Source: APJII (2017)

At any rate, Indonesian internet users are very digitally savvy. They are "netizens" with a requirement for a steady network, instant information, and developing more craving for digital content. They spend a higher than average amount of time on the Internet, primarily captivating in overwhelming online networking use and web-based businesses (e-commerce). Their social media usage is among the most elevated of any population in the world. In 2016, the revenue of the web-based business in Indonesia added up to USD6 billion, where 78 percent of current Internet clients made online buys. The firm is required to develop by around 18 percent every year in the following five years, achieving a market volume of USD16.4 billion before the finish of 2020 (based on McKinsey projection in 2016).

The telecommunication sector in Indonesia is one of the world's most crowded cellular telecoms market due to its large population, its vast archipelago, and the current

moderate cost in the technology gadgets markets. The quantities of mobile subscribers in Indonesia achieves around 278 million, while there are 11 million fixed-line endusers. Just about 85 percent of the Indonesian population possess cell phones, while 43 percent carry cell phones. Mobile operators are picking up power in the Internet Service Provider (ISP) part since a large portion of the roughly 53 million web clients in Indonesia are using their cell phones to access the internet. Further, fixed-line ISPs also aim for corporate and private clients while at the same time concentrating on upgrading their infrastructures by building fiber-optic systems of changing sizes and capacities in some most significant urban areas in Indonesia (ICLG, 2018).

Besides, Indonesia is a mobile-first nation; around 75 percent of the online buys made through cellphones. Statistic of internet usage in Indonesia is surpassing the developed countries, for example, the United States, where these media have around longer and firmly settled. Moreover, Indonesia's Internet population is expecting to be higher in the future because of the growing accessibility of the portable Internet just as the expanding accessibility of standard telephones. Indonesia is relied upon to include 50 million new Internet clients from 2015 to 2020, which might achieve a penetration rate of more than 53 percent.

Major operators for mobile subscribers in Indonesia are Telkomsel, Indosat Ooredoo, and XL Axiata; they dominate 80 percent of the telecommunication sector. The mobile industry is expected to gain 7-8 percent revenue growth in 2019 as all major operators race to expand 4G coverage in the region and capitalize on the growing demand for data (DBS, 2018). Since the first half of 2017 to the third quarter of 2018, high-speed fixed broadband household penetration in Indonesia has doubled, from 4 to 8 percent, showing the development by all significant stationary broadband players to increase their coverage regions to profit on the "growing appetite" for high-speed data among the expanding middle-income class in Indonesia. DBS Bank (2018) expects to see penetration of high-speed broadband services rising to at least 20 percent over the next three years, adding approximately 9 million new households to the high-speed broadband segment.

Further, the majority of the total Indonesia population has already had communication devices. This data obtained from a survey made by Asosiasi Penyelenggara Jasa Internet Indonesia (APJII) in 2017. Survey results showed that out of 262 million people in Indonesia, 50.08 percent have smartphone/tablets, and 25.72 percent have computers/laptops. This means, around 131,209,600 people own smartphone/tablet, and 67,386,400 people own computer/laptop in Indonesia to access the Internet, out of 143.26 million Internet users, 44.16 percent use smartphone/tablet, 4.49 percent use computer/laptop, 39.28 percent use both, and 12.07 percent use other devices. Even so, these ownerships still concentrated in urban areas, especially in Java. In urban areas, 82.6 million (31.55%) people own computer/laptop and 185.9 million (70.96%) people own smartphone/tablet. These amounts are significantly higher if compared to rural-urban and rural areas. In rural-urban areas, people who own computer/laptop and smartphone/table are only 61.3 million (23.42%) and 119 million (45.42%), respectively.



Meanwhile, there is only a slight difference in communicative device ownership between rural-urban and rural areas. Result shows that around 62.3 million (23.83%) own computer/laptop and 110 million (42.06%) own smartphone/tablet in rural areas.

Smartphones/tablets are the most common communication devices that people use. But, in all areas (urban, rural-urban, and rural), several people owning both smartphone/tablet and computer/laptop exceed 30%. Around 17.19% of Internet users own more than one computer/laptop, and 4.25% own more than one smartphone/tablet. This could be seen as a successful penetration of telecommunication devices into Indonesia as the number of ownerships in Indonesia is high, and owning more than one is perceptible. APJII (2017) found that even though the number of Internet users has been increasing compared to the year before and the number of telecommunication devices ownerships is high, the Internet usage for banking purpose is only 7.39%. This amount is low if compared to the usage for chatting (89.35%), social media (87.13%), search engine (74.84%), downloading video (70.23%), uploading a file (35.99%), and email (33.58%). Meanwhile, in the economic category, Internet usage for banking transactions only accounts for 17.04%. Also, only 928,900 out of 132.7 million (0.7%) Internet users are using their telecommunication devices for e-money purposes (APJII, 2016). Nevertheless, this percentage is bound to get higher as the potential growth of the Internet and telecommunication devices is substantial.

The ‘Underbanked’

Next, I shall discuss the financial landscape of the country. The current business landscape in the country consists of the financial services concentration heavily concentrated in multiple aspects. First, in terms of the financial services concentration, the country is still being heavily reliant on the banking sector. It reported that around 79 percent of the country’s financial services were dominated by banks, while other types of financial institutions remain insignificant (World Bank, 2010). Different types of financial institutions remain scarce, including the likes of the finance companies (5 percent), insurer (6 percent), pension funds (4 percent), securities firm (2 percent), mutual funds (2 percent), and the more traditional/rural institutions including pawnshops (2 percent).

Second, regarding the distribution of the financial institution geographically, the concentration was reported to be more substantial in the Western part of Indonesia. The previously mentioned report explained that financial institutions are more densely available in the western part of Indonesia, particularly Java, Sumatra, and Bali (World Bank, 2010). The report suggested that the Indonesian commercial banking outlet was distributed mostly in Java (52 percent), Sumatra (22 percent), Kalimantan (9 percent), Sulawesi (8 percent), Bali and Nusa Tenggara (5 percent), and Maluku as well as Papua (4 percent).

Such concentrations have put citizens, particularly in underserved areas, under specific difficulties to access financial services. As this study also focuses on the Small and Medium Enterprises (SMEs), I am also interested in observing the challenges endured by the particular subset. There have been several barriers, such as SMEs face daily related to financial services. First, the SMEs are still struggling to seek financing. Several reasonings are associated with such difficulty; the lack of collateral requirements and the high-interest rates are a few of the main

hindrance for the SMEs in accessing the financing they need. There have also been problems such as the mismatch between the loan repayment schemes with the seasonal nature of guaranteed SME’s income, such as those in the yield-based sectors, i.e., the farming and the fisheries (World Bank, 2010).

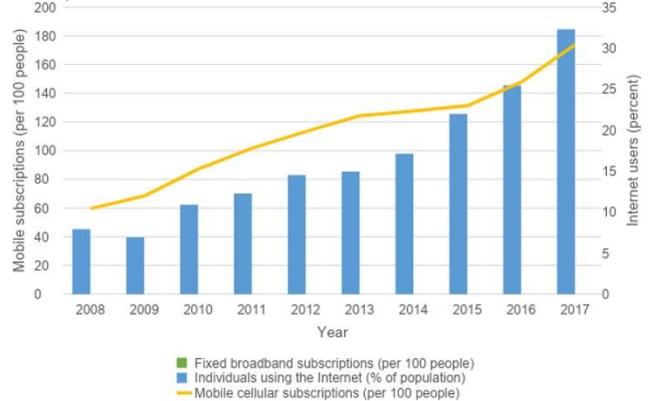


Figure 3. Capitulating the ripe market – Internet and mobile penetration in Indonesia

Source: World Bank (2018)

Further, the preferences of the SMEs are also hampering their efforts in accessing formal financing. Most of the SMEs, especially at the smaller scales, do not have official legal status (World Bank, 2010). Such off-the-book operation made it difficult not only for the SMEs in getting their loans but also for the financial institutions to adequately assess the risks related to the proposed loans

The problem worsened by the fact that a considerable proportion of the SMEs is still preferably conducting their transactions in cash, despite being exposed and using banking services. Despite the barriers, however, it is always worth noting that the SMEs are still brimming with potential for the financial industry practitioners. As reported by the Bank Indonesia Fintech Office, only 10 percent of all MSMEs are actively using e-commerce platforms. With the right encouragement, the untapped potential of the SMEs is only to be gained by the industry and society.

III. ENTER FINANCIAL TECHNOLOGY

The recent changes have seen the country experience a flourishing entry and growth of the financial technology (fintech) platforms and companies. While there has yet to be a formal definition for the fintech itself, Dorfleinter et al. (2017) define the term as the companies or representatives of companies that combine financial services with modern, innovative technologies. The fintech’s ventures in Indonesia has done in numerous forms, including the bank-based fintech, the telco-based fintech, the apps-based fintech, and the widely used fintech lending.

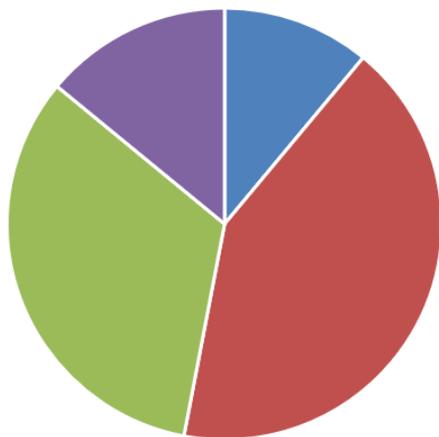
Arner et al. (2015) found that fintech refers to the use of technology to deliver financial solutions. Otoritas Jasa Keuangan (OJK) stated that citizens need alternative funding sources that are more flexible, transparent, and can reach a broader scope of the population than the traditional financial services provided by most banks, and the fintech concept can fit the bill.

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The founded establishments such as Asosiasi Fintech Indonesia (AFI) in September 2015 and Bank Indonesia Fintech Office in 2016 paved the way for a wave of flourishing fintech companies since those considered as a sign of support for the fintech companies to thrive in Indonesia.

The number of fintech profiles in Indonesia has significantly increased; OJK recorded that the number of fintech-operating companies registered at OJK improved from 32 in January 2018 to 106 in April 2019. Using data from Bank Indonesia in 2017, as can be seen from Figure 3, the payment-related companies dominate the fintech landscape with around 42% of all fintech companies in Indonesia. The next most significant sector is the lending companies, especially peer-to-peer (P2P) lending, with approximately 33%. There are only 14% of fintech companies operate in the investment and finance management field, a minority in terms of the proportion of fintech companies in Indonesia.]

The differences between the development progress of each sector are compelling. For example, in the banking industry, the amount of savings account reached 246,293,377 accounts in 2018, which was significantly bigger when compared to the number of investors in the stock market – around 829.426 SID in 2018. Due to the high number of bank service users in Indonesia, the banking industry must be able to develop their products rapidly to at least keep the satisfaction level of the bank service users, and thus retaining them as the banks' customers. OJK in 2018 stated that the banking industry has been developing its system to fasten for the ease of doing financial transactions by utilizing digital advancement (digital banking).



■ Market support ■ Payment, clearing, and settlements
■ Deposit, lending, and capital raising ■ Investment and risk management

Figure 4. Sectors of Fintech Platforms in Indonesia

Source: Indonesia Fintech Association Data (2017)

The stock market, on the other hand, started to digitalize its system relatively later than the banking industry. Furthermore, by using digital banking services, bank service users can connect their digital banking accounts with many marketplaces, while securities in the stock market are not as liquid as the funds from the banking accounts when transacted to other marketplaces. Although, with the apparent discrepancy in the number of users between the banking industry and portfolio investment sector, the digital system of the stock market in Indonesia has made it easier to open an account in the stock market, which should stimulate the desire to invest in Indonesia.

As a fusion of financial and technology services, fintech brings many benefits for consumers. Financial technology offers more product choices in fulfilling many needs, a better quality of services, and lower prices. Also, financial technology brings benefits for the financial system, such as decentralization and diversification which can dampen the effects of the financial shocks, the ability to be more efficient in operating financial service activities since it reduces time and place barriers in reaching more customers, also improvements in transparency since all financial transactions recorded on the internet and thus less asymmetric information, and eventually support financial inclusion. For the economy itself, financial technology offers benefits such as supporting monetary policy transmissions, increasing money velocity, which indicates the incremental of the business sector's productivity and eventually affects the incremental of economic growth.

In 2014, the Bank Indonesia and OJK (Otoritas Jasa Keuangan) also launched two different forms of branchless banking. The first is a bank-based, and telco-based fintech referred to as the Digital Financial Services (DFS) e-money. The DFS is registered electronic money on the mobile phones and web facilitated by agents as the third parties.

Meanwhile, the other form launched was the branchless banking platform called Laku Pandai (Smart Act branchless banking service). The latter is the provision of financial products for communities yet to be covered by conventional financial services. The two complimented the flourishing fintech growth in Indonesia. As of the second quarter of 2018, Laku Pandai agents have increased from 19,400 agents in the same period of 2015 into 740,000 agents (Nuryakin et al., 2018). Nuryakin et al., however, reported that such growth is slowing down.

The widely used fintech platform in the country is the lending-based fintech platform. The immense potential of such platforms shown to date. A total of USD56 million have invested in the country. The leading companies in the industry are the likes of Investree, Modalku, Koinworks, among others. Early estimates suggest that while the number of such companies is in the region of hundreds, the number of registered companies is only 64 in June 2018. The lender to borrower ratio of the companies are still well below one – the estimates are at 0.07 as of September 2018. The numbers can only grow in the future as more of the untapped market captured.

The involvement of the fintech companies on the SMEs is also not to be understated. As a reference, Investree, one of the leading fintech companies, has had 95 percent of all their lending given to the MSMEs. As of July 2017, around IDR241 billion was lent by the company, with a near-zero percent of non-performing loan (NPL) figures. Owing to such profitability, several banks have entered the market through specific workarounds – some invested in the venture capitals that, in turn, invested in the fintech companies. Such deliverance of loans, however, needs to be carefully still managed for the platforms to grow even further shortly.

The fintech companies are still, however, concentrated in the lending aspect. To date, renowned schemes like peer-to-peer lending, crowdfunding, among others, are focused on the credit aspect of financial services.

The legal issue is one of the main drivers, as the regulations have been pushing players away from shadow banking practices – effectively hindering any chances of fintech innovations in the saving sectors despite the tremendous animosity by banks. It is equally important to note, though, that saving is a similarly important playground for the players (Finke and Huston, 2013; Gourinchas and Parker, 2001).

In stimulating financial technology innovation, all stakeholders in Indonesia have to be cooperative with each other. Academicians and research institutions should educate people about digital economy literacy, which can end up producing a talented workforce and broaden the fintech community. Furthermore, Bank Indonesia, the government, and the authorities should provide supportive regulations to help fintech grow and protect consumers at the same time. As an example, Otoritas Jasa Keuangan (OJK) is responsible for creating a protection mechanism for financial customers. On the other hand, investors should provide capital and view fintech as a viable instrument; start-ups should improve the efficiency of existing financial services business models; and incubators, accelerators, and innovation laboratories should provide tools for big business to engage and assist young companies.

IV. INCLUSION OR FRAGMENTATION?

The technological advancements of the financial services are expected initially to help the financial inclusion of the country. More comfortable usage and access are hoped to capture the untapped potential amongst the underbanked and unbanked citizens. However, I argue that a new possible inquiry may arise from the current advancements – are we advancing too rapidly? While the progress is flourishing as I speak, the question remains whether the advancements are addressing the fundamental matters hindering the financial inclusion in the first place. That is, whether the improvements are tackling the main problems affecting the underbanked and unbanked.

Take the Laku Pandai schemes, for instance. The platform was aimed to be the bank-business model able to capture the underbanked and unbanked population's untapped saving sector. However, the Laku Pandai scheme was shown to be still not able to penetrate the rural community. The problem of the rural area population on the access to better financial services is the lack of ability of the rural population to provide the collateral required. Laku Pandai suffers from the same problem – the scheme is also yet to give the much-needed non-collateral systems for the rural community. Banks also have limitations in expanding their agents, while Laku Pandai is also sometimes deemed unprofitable for the banks. Thus, the expected impact on financial inclusion still hindered.

The e-money has also been mostly capturing urban households in terms of payment services. The rural houses are still yet to be using the e-money, due to the lack of incentives to do so as the e-money platforms have been gathering more users by making partnerships with public services, transports, and merchants located mostly in the urban areas. The regulations have also hindered the possible ventures of telco-based payment methods to penetrate the rural areas despite possessing the adequate network reach to the rural population, nor the ability of the existing players to appoint the much-needed individual agents in the rural areas.

In the lending sector, the more recently expanding fintech companies are also still having limited access to rural areas. The unbanked are still struggling to get access to the saving services, not to mention the lending services. Those needing the credits such as the farmers and the fishers are also yet to be entirely addressed by the fintech companies. There have been progressing, however, as new start-ups are trying to help give lending access to such borrowers. Based on the fact that the problems mentioned above persist despite the advancements of the financial institutions indicates the possibility of a new 'digital financial divide' in the industry.

The rapid and immense market capitalization of the platforms, however, may lead to the 'divide.' Those without access to the financial services remain without access while those with the financial access further embrace the access. The problem would be the rapid growth of the platforms – making the discrepancy unprecedented. Further studies are inevitably needed to observe the above inquiry quantitatively, but this study aims to raise public awareness of such a possibility.

V. CONCLUSION

Several potential tinkering may be done in addressing the problems as mentioned above. As I might notice in the above discussions, the MSMEs and the rural areas remain untapped, especially the underbanked and unbanked. To so, however, radical changes are needed. More support on the schemes addressing the yield-based borrowers is apparent. The cooperatives and rural banks may be improved with the financial technologies, while the 'ruralized fitness' may be needed to help the specific subset of the population get the much-needed financial services.

Exploring the opportunities in telco-based services is one of the viable options. Regulatory level changes than needed in addressing the issue. Success stories of such schemes could be spotted across the regions, i.e., the telco based services flourishing in India (PwC, 2017). While Laku Pandai, e-money, and fintechs are still struggling to penetrate the untapped rural areas, telco-based services with the existing, high-level of infrastructure may be of help.

The government must also build on the current programs. Improvements need to be made, such as better targeting, better network management, and even national ID integration in the financial services sector are the way to go forward. The need for improvement is timely, as the possibility only supported by technologies such as blockchain. The lending sector may benefit hugely from the national ID integration, for instance, as better risk assessment may still be conducted despite the same limited initial information on the potential borrowers. Better tracking of the third-party funds, for example, may also be undertaken by such integration, among other benefits.

Finally, fostering the financial technology landscape needs to be one of the focus going forward. With the existing USD56 million investment, the e-commerce sector is estimated to reach USD150 billion in 2020. Such potential needs to be nurtured carefully. Better reach to SMEs remains an essential issue for the government, and with the right push, the e-commerce and other technology-based financial platforms might hugely benefit the industries.

Ultimately, making sure the advancements lead to better inclusion is key, not the unprecedented divide.

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