

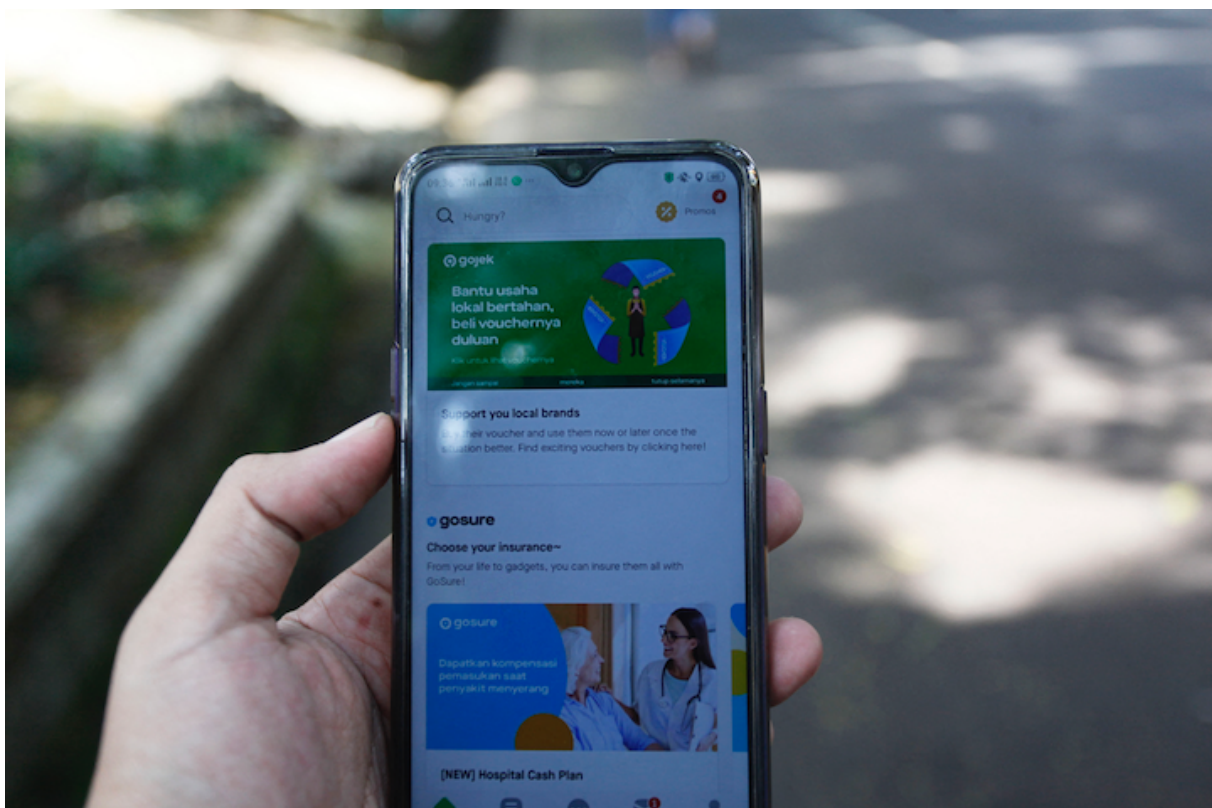
PERSPECTIVE

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The Digital Transformation of Indonesia's Banking Sector: Current Trends and Future Prospects

*Manggi Habir and Siwage Dharma Negara**



Facebook Inc's messaging platform WhatsApp and PayPal Holdings Inc have invested in payment, food delivery, and ride-hailing app operator Gojek. According to a regulatory filing, Facebook now owns a 2.4 percent stake in Gojek's GoPay fintech arm, while PayPal owns 0.6 percent of GoPay as at 9 June 2020. Photo Illustration taken by Adriana Adie/NurPhoto via AFP.

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EXECUTIVE SUMMARY

- The pandemic has especially accelerated digital adoption in the financial sector. Competition is intense in the bottom end of the market, with the entry of fintechs and conventional banks going digital by acquiring smaller banks and converting them to digital banks.
- The speed of this change has left digital financial players struggling with data integrity and access issues. This encouraged an initial reliance on servicing the business ecosystem of affiliates in a more controlled market environment in order to buy time for developing and fine-tuning their digital systems.
- By becoming major funders of fintechs, banks deepen their partnerships with those with a similar market focus. Well-funded fintechs also try to secure a more stable and predictable funding base by taking a stake in banks, thus blurring the distinction between the two.
- With rising digital financial transactions, risks associated with digital and online transactions increase, and regulators are tightening set-up and operating requirements as well as customer protection regulations. This is expected to streamline the sector since it provides an advantage to those with deep funding and a stronger market position.
- Even with a weak recovery and even if investors become more selective and stress profitability over growth and market position, the outlook for this sector remains positive. The ultimate beneficiary, though, will be the consumer as they gain more options and more affordable financial service offerings.

INTRODUCTION

The ongoing digital transformation of Indonesia's financial sector since the early 2010s has further accelerated during the 2019-2022 pandemic. Social mobility restrictions (PPKM) during the pandemic forced most people to shift their daily activities online, including accessing financial services. Rising e-commerce transactions also led to increased use of e-payments, and fintech lenders were kept busy filling in the micro and small medium enterprises (MSMEs) loan demand gap.

This essay examines the digital transformation of Indonesia's banking landscape.

INDONESIA'S BANKING LANDSCAPE

Much has been written about the provision of financial services to the vast unbanked segment at the bottom of the income pyramid in Indonesia. About 80% of Indonesia's 275 million population are unbanked and underbanked.¹ Yet, smartphone penetration in Indonesia is relatively high at 80% of the population.² To make financial services affordable to low-income customers or small micro enterprises, transaction costs need to be brought down. This is where issues of data, technology and scale become critical. The battle for providing services to this vast bottom-end of the market is altering Indonesia's banking landscape.

Indonesia's Financial Services Authority (OJK) categorises the banking segment into conventional and Syariah banks. This essay excludes the latter, which account for just 7.6% of total banking assets.³ Within conventional banks, there is a subset of a few more digitally-focused banks (henceforth digital banks). Both conventional and digital banks carry the same banking license. The difference between the two is getting blurred as conventional banks rapidly catch up and adopt a lot of the digital technology and online channels that digital banks have been using for some time. One difference between conventional and digital banks is that digital banks do not have physical branch networks and their services are operated entirely online. Conventional banks, on the other hand, continue to provide services through physical branches, albeit they have also begun launching online services as well.

In recent years, a new type of financial institution called fintech lenders has begun to provide loan services as well. Unlike banks, fintech lenders operate exclusively as an online platform that matches borrowers with funders directly, and collect a brokerage fee. The risk of non-repayment is absorbed by funders directly and not by the fintech lender. In contrast, a bank depositor is taking a bank risk, while the borrower risk is borne by the bank. Reflecting the higher risk, the return on funds for fintech funders is much higher than the return on bank deposits.

The operating costs of fintech lenders, given their use of technology and absence of branches, are much lower than those for commercial banks and this allows them strategically to service the unbanked sector at the bottom of the income pyramid. The beneficiaries are often lower-income individuals as well as small micro-enterprises involved in commercial activities, such as food stall operators and vegetable traders at traditional food markets.

Table 1: Financial Market Segments

Customer type	Loan or Borrower Market			Deposit or Funder Market		
	Conventional bank	Digital bank	Fintech lender	Conventional bank	Digital bank	Fintech lender
Bank*	X			X		X
Large corporation	X			X	X	X
Mid-size corporation (commercial)	X	X		X	X	
SME	X	X	X	X	X	
Micro business		X	X			
Upper-middle income individual	X	X		X	X	X
Lower income individual		X	X			

Note: Note*: Large banks occasionally give overnight short-term loans to mid-to-small-sized banks (interbank borrowers market)

Source: Authors

Conventional banks have traditionally focused on large corporate and commercial (mid-sized corporate) segments (Table 1). Automation and the lowering of transaction costs have prompted these banks to offer consumer banking services to upper-middle income individuals and the SME sector.

Soon after the fintech lenders grew to provide services to the bottom unbanked sector (micro and SME segment), newer digital banks began to emerge. These digital banks are trying to replicate the success of the fintechs, but with a more stable funding base, as they could take on deposits. Like the fintechs, digital banks operate without a physical branch network and need fewer employees by using information technology and centralised operations.⁴

Table 1 shows an overlap of the conventional, digital and fintech markets. Conventional and digital banks compete at the mid-to-lower end of the commercial (mid-sized corporation) segment. Meanwhile, at the lower end of the financial market table, all three lending services are starting to compete, with conventional banks. The latter only recently entering the upper micro business segment. It is the newer digital banks and fintech lenders that are competing head-to-head in this relatively unbanked new segment.

The earliest players in the bottom-end micro-lending field have been conventional banks. Bank Danamon, followed by BTPN and later Mandiri, launched their respective micro-loan programme for this segment in 2004-2015.⁵ However, these human-intensive programmes were not delivered digitally and operated through conventional branch networks. They were costly to operate since they relied on frequent customer visits by bank officers to market loans and to collect loan repayment from small traders. However, the high profit margins from these micro-loans were sufficient to ensure profits.

However, this trend ended when the government introduced the People's Productive Loan (KUR) programme in November 2007,⁶ which currently carries a subsidised interest rate of six to seven percent. Eventually, the commercial banks' micro loan programmes became

unsustainable and were discontinued. One exception is BTPN Syariah, a subsidiary of BTPN, which follows the Grameen Bank model by providing micro-loans to groups of women entrepreneurs in remote villages. The remoteness of this market segment enabled BTPN Syariah to continue making high-margin micro-loans operated manually through their branch networks.

THE RISE OF FINTECH LENDERS

As the conventional banks exited the micro-loan segment, the fintech companies began entering the bottom-end micro-lending segment around 2010. Unlike conventional banks, fintech lenders have no branches, use technology in their operations and channel their services entirely online. This allows them to provide financial services to the unbanked bottom segment of the income pyramid and scale up at low costs.

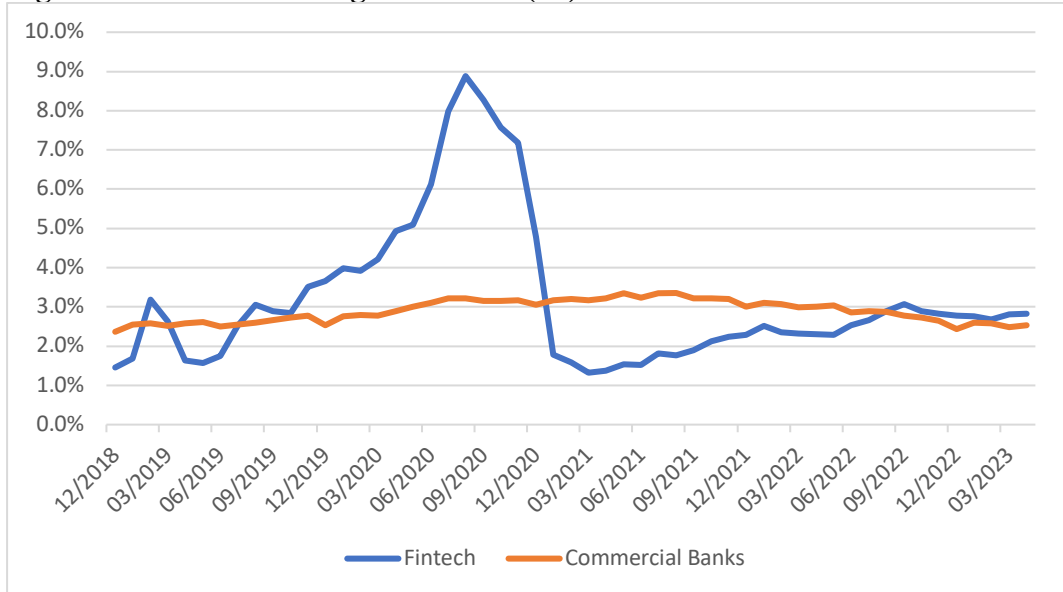
In 2011, only a handful of OJK-registered fintech lenders existed. However, by 2022 there were over a hundred of them registered, with an even larger number of unregistered or illegal fintechs providing online lending services. In the SME space, fintech lenders compete with commercial banks, but in the unbanked lower Micro segment they face relatively less competition (Table 1).

One key feature of Fintech loans is the relatively short loan tenure, averaging around 90 days. These loans are also limited by OJK to a maximum of Rp 2 billion (US\$ 132,000) per borrower. As these do not require collateral, their interest rates are kept higher than those offered by banks.

In the early phase of its development, fintech lenders were primarily funded by individuals and non-bank institutions. However, during the pandemic, banks stepped in to become major funders of fintech lenders; this was to compensate for their inability to grow their loan portfolios. Today, while both banks and fintech lenders provide financing to SMEs, due to their higher operating costs, the former have largely avoided financing micro enterprises, a market in which lower cost digital banks and fintech lenders are active.

In the post-pandemic period, rising interest rates and the sluggish recovery have made it challenging for the fintech sector. For one thing, their high loan growth during the pandemic coupled with the rising interest rate environment are causing borrowers loan repayment problems. This has caused fintech lenders' non-performing loans (NPLs) to rise (Figure 1).⁷ In contrast, banks have managed to bring down their high NPLs, restructure their loan levels, and grow their loans portfolio again. They are also starting to compete with fintech lenders in the SME and upper micro enterprise market segment.

Figure 1: Non-Performing Loan Rate (%) for Commercial Banks and Fintechs



Source: Financial Services Authority (OJK)

Finally, fintech investors and venture capitalists have become increasingly more selective; they stress on and require positive cashflow or profitability from their fintech investees. Earlier, when interest rates were low, investor emphasis was more on scaling up and gaining market share.⁸

THE ENTRY OF TECHNOLOGY-DRIVEN DIGITAL BANKS

Aside from the advent of fintech lenders, the financial sector has also witnessed the entry of two types of digital banks.

One is the digital banks owned by conventional banks. These banks were created by conventional banks acquiring smaller banks and converting them into digital banks. Examples include Bank Raya (owned by BRI), hibank (formerly Bank Mayora, acquired by BNI), and BCA Digital (owned by BCA).

A second type of digital bank is a stand-alone digital bank owned by fintechs and/or tech companies. These include Bank Jago (where GoTo has a significant minority stake), Superbank (with Emtek, Grab and Singtel as shareholders), and Allobank (with the Chairul Tanjung group, Grab, Carro, IndoLife and Traveloka as shareholders). Investree, a well-funded fintech, has also taken a minority stake in Bank Amar. Another fintech, Akseleran, is planning to take a stake in a multi-finance company to broaden its customer base, diversify its services offered, and further strengthen its funding base.

For digital banks, the linking and servicing of their affiliated business ecosystems for MSMEs remain important strategies during the early growth phase.

With fintech lenders entering the lower-tier of the income pyramid, a few banks, including fintechs and tech companies, have taken stakes in existing small to medium-sized banks and

converted them into digital banks (see Table 2). These banks have followed the fintech lenders' model, but they have access to a more predictable and stable funding source and are able to mobilise deposits.

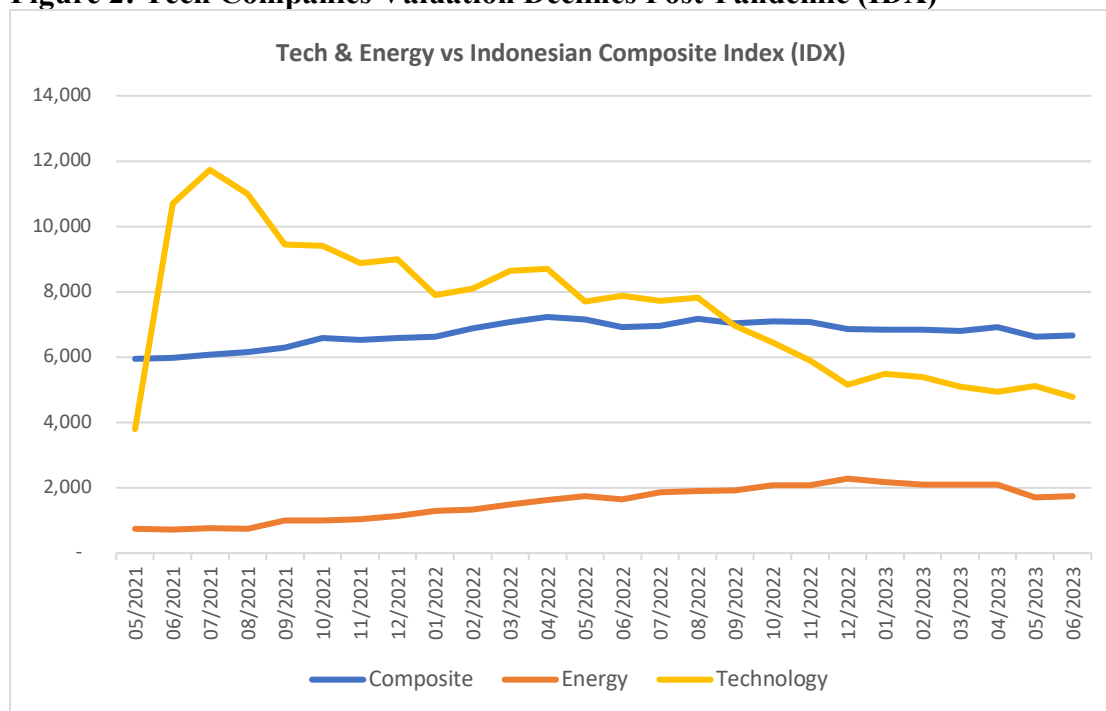
Table 2: Selected Major Digital Banks in Indonesia

Stand-alone Digital Banks			Bank-owned Digital Banks		
	Bank Name (Previously)	Owner		Bank Name (Previously)	Owner (Bank)
1	Bank Jago (Artos)	GoTo/GIC	1	Bank Raya (BRIAgro)	BRI
2	SEA Bank (BKE)	Sea Ltd - Shopee	2	HiBank (Mayora)	BNI
3	Bank Neo Commerce (Bank Yudha Bhakti)	Akulaku Silvr Indonesia/Gozco Capital/Rockcore Financial Technology	3	BCA Digital (Royal)	BCA
4	Bank Aladin Syariah (Bank Net Indonesia Syariah)	Aladin Global Ventures/Berkah Anugerah Abadi	4	Jenius	Bank BTPN
5	Allobank (Harda Internasional)	CT Group/IndoLife/Bukalapak/Grab/Carro/Traveloka	5	Livin	Bank Mandiri
6	Superbank (Fama)	Emtek/Grab/Singtel	6	D-Save	Bank Danamon

Source: Authors compilation⁹

Post-pandemic, the initial excitement and expectation over fintech lenders and digital banks have tempered. With consumers reverting to their pre-pandemic offline behaviour, e-commerce growth has slowed down and, along with it, e-payment and fintech lending activity. The rise of interest rates globally has also raised the cost of business in this segment. The market valuation of listed tech-based companies worldwide has taken a hit, including in Indonesia (Figure 2).

Figure 2: Tech Companies Valuation Declines Post-Pandemic (IDX)



Source: Indonesia Stock Exchange

THE CHALLENGE OF BUSINESS ECOSYSTEM LINKAGES

A major challenge facing digital banks and fintech lenders is the strengthening of linkages in their digital business ecosystems. Key elements in these ecosystems include: (i) sharing and accessing data, (ii) verifying and making such data consistent and usable, and (iii) feeding data to algorithms for critical business decisions.

Data is arguably the sector’s most valuable raw material. The ability to acquire, store and manage appropriate data is as important as having sophisticated algorithms that are used to choose, filter and onboard both lending and funding customers. These algorithms are used to assess the loan repayment risk of each borrower and, for those passing the filtering phase, to help set the terms and conditions of their loan, which includes calibrating loan rates according to each borrower’s risk score, all in an automated way without human intervention.

Newly established digital banks in Indonesia such as Superbank plan to provide loans to the vast number of MSMEs suppliers and distributors within its stakeholders’ (Emtek, Grab and Singtel) respective ecosystems. By focusing on affiliated ecosystems, the bank is able to better control risks and more efficiently onboard and service its customers.¹⁰

An effective end-to-end seamless system involving digitally onboarding customers, processing transactions in an automated way and ultimately providing financial services online, will take time and resources to build and fine-tune. Inappropriate data processing could lead to unusable “garbage in garbage out” results. There is also the problem of connecting and having different

systems among the group-related companies to talk with each other, and to ensure that their respective management cooperate in addressing these teething issues.

Algorithms inevitably contain biases that lead to skewed decisions. These systems take time to test, fine-tune and remedy, before they can be used in an open environment. This explains the tendency of digital banks and fintech lenders to initially operate in a more controlled network of affiliated group-related companies. This way, accessing and sharing data as well as testing algorithms becomes more manageable.

However, financial institutions relying on group-related ecosystems with a limited and narrow sectoral focus could face concentration risk issues whenever their markets suffer a downturn. Those that can link with a more diversified group of companies closely resembling an open market would have a better advantage.

THE BANK-OWNED DIGITAL BANKS

In the meantime, the large conventional banks have not been idly standing still. Some have acquired smaller banks and converted them to digital banks to complement their regular ongoing services (Table 2). Others are nurturing strategic alliances with fintechs and becoming their major funders. They may even take an ownership stake in their fintech partner if the relationship works.

Large incumbent banks are also digitising their distribution channels to similarly acquire, select and onboard customers online. Fintech lenders and digital banks have a bit of a head-start in this area, but banks, given their resources, should be able to catch up easily. Those that can acquire, select and manage their database as well as timely fine-tune their algorithms can create a reliable digital banking system. One approach is to grow organically in its current form. Alternatively, it can inorganically be acquired by large incumbent banks that do not want to start from scratch.

Recent strategic alliances and acquisitions, as well as conventional banks' digitalisation are starting to blur the boundaries between these segments.

NEWLY EMERGING DIGITAL-RELATED RISKS

The banking industry faces several familiar digital-technology-related risks that have become more prevalent in recent years.

First, the growing use of digital platforms exposes banking and financial institutions to cyber threats such as hacking and data breaches.¹¹ A cyber ransomware attack recently caused disruption of Bank Syariah Indonesia (BSI) services. The incident highlights the weakness of the bank's digital security systems.¹² As cyber-attacks become increasingly complex and sophisticated, there is an increased risk of customer data breaches, financial theft, and service disruption.

Second, improvements in digital technologies also increase incidents of identity theft, phishing scams and online frauds.¹³ The fraudsters could exploit vulnerabilities in online banking

systems, use malware to capture confidential information, or impersonate legitimate institutions to deceive customers.

Third, banks and financial institutions deal with vast amounts of personal and financial data. While data privacy regulations impose strict requirements on how customer data are collected, stored, and processed, in practice, there is weak enforcement.¹⁴

Fourth, the banking industry relies on a complex technology infrastructure, including core banking systems, payment gateways and online banking platforms.¹⁵ The industry is struggling to keep up with the latest technology. Outdated or poorly maintained systems may increase the risk of system failures, software glitches or infrastructure vulnerabilities, which can lead to service disruptions, transaction errors and financial losses.

THE REGULATORY FRAMEWORK

Rapid digital technological advancements often outpace the development of regulatory frameworks. Financial institutions face challenges in keeping up with advancements related to digital technologies, such as cryptocurrency, blockchain and digital wallets. However, regulatory bodies lag behind in understanding the emerging new risks and coming up with effective and enforceable rules. The difficulty for regulatory bodies is finding a delicate balance between a regulatory framework that is tight enough to protect consumers but at the same time, loose enough to allow innovation to flourish.

The Indonesian government has been quite supportive in providing a relatively loose regulatory environment during the initial phase of the fintech sector development. However, with the rise of digital risks, it has begun to tighten up the regulatory framework. Regulations such as the E-Money and Digital Financial Innovation roadmap as well as subsequent regulations¹⁶ are designed to facilitate innovation while ensuring consumer protection and financial stability. The government is also encouraging closer collaboration between traditional financial institutions and fintech players.

Collaboration and partnerships between traditional banks, fintech companies and other stakeholders will be critical to capitalise on the opportunities presented by digital technology. Traditional banks can leverage the innovation and agility of fintech startups, while fintech companies can benefit from the funding resources and broader customer base of established financial institutions.¹⁷

THE NEAR-TERM OUTLOOK AND FUTURE TRENDS

The near-term outlook for Indonesia's banking sector remains generally favourable. The country has seen significant advancements in digital technology adoption in recent years, and this trend should continue.

Digital technology has played a crucial role in promoting financial inclusion in Indonesia. It has enabled banks and financial institutions to reach previously underserved segments of the population,¹⁸ particularly in remote areas. Digital platforms, mobile banking and e-wallets have made financial services more accessible and convenient, allowing a larger portion of the

population to participate in the formal financial system.¹⁹ The challenge from now on is to educate and incentivise the unbanked market segment to become more financially and technology literate as well as to utilise various digital services more safely and effectively.

Indonesia has a thriving fintech ecosystem, with numerous startups and technology companies entering the financial services space and providing innovative digital financial products and services, such as peer-to-peer lending, digital payments, crowdfunding, and robo-advisory services.

Unfortunately, as digital technology becomes more prevalent, cybersecurity and risk management become critical concerns for the financial sector. Indonesian banks and financial institutions will continue to spend and invest more in cybersecurity measures, risk assessment frameworks, and incident response capabilities.

Digital technology is transforming the Indonesian banking and financial sector landscape. The distinction among banks, finance companies and fintechs is blurred by the fact that these different market segments now cooperate with each other. In some cases, where there is a strategic fit, different entities merge into a larger financial services group.

Given Indonesia's large unbanked population, rising internet penetration and increasing smartphone usage, the financial industry still has considerable room to grow. Intense competition among the three categories of financial services and the offering of new digital services, especially at the lower-end of the market, should ultimately benefit end consumers.

ENDNOTES

¹ Presentation by Tigor Siahaan, President Director of Superbank. See: <https://www.iseas.edu.sg/mec-events/digital-trends-altering-indonesias-banking-landscape/>

² Ibid.

³ <https://www.fitchratings.com/research/islamic-finance/indonesian-islamic-banks-dashboard-2023-13-2-2023>

⁴ In a centralised system, all banking operation/transaction activities have to be processed in a central location. In this system, the bank's presence has to be made through maintaining sufficient number of branches and staff members. Source: <https://thefinancialexpress.com.bd/views/reviews/centralised-versus-decentralised-banking-system-1568388353>

⁵ <https://keuangan.kontan.co.id/news/genjot-kredit-mikro-danamon-luncurkan-mobil-bank?page=all>.

⁶ <https://kur.ekon.go.id/maksud-dan-tujuan#:~:text=Program%20KUR%20secara%20resmi%20diluncurkan,UMKM%20individu%2Fperserorangan%2C%20badan%20usaha>

⁷ "Bad loans blight P2P lending business", The Star, 07 July 2023

⁸ <https://www.adb.org/sites/default/files/publication/728046/adbi-wp1281.pdf>.

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¹⁰ Presentation by Tigor Siahaan, President Director of Superbank. See: <https://www.iseas.edu.sg/mec-events/digital-trends-altering-indonesias-banking-landscape/>

¹¹ <https://www.merdeka.com/perbankan/ojk-digitalisasi-banking-tingkatkan-risiko-kebocoran-data-nasabah.html>. Accessed 29 June 2023.

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¹⁶ <https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Documents/Pages/Publikasi-Materi-Digital-Finance-Innovation-Road-Map-dan-Action-Plan-2020-2024-serta-Digital-Financial-Literacy/Digital%20Finance%20Innovation%20Road%20Map%20dan%20Action%20Plan.pdf>

¹⁷ https://www.iseas.edu.sg/wp-content/uploads/2021/07/ISEAS_Perspective_2021_100.pdf

¹⁸ Ibid.

¹⁹ https://www.iseas.edu.sg/wp-content/uploads/2022/05/TRS9_22.pdf

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