

## **Model of Banking and Fintech Collaboration in Indonesia: Present and Future Challenges**

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**ABSTRACT** : Along with the current digital era where the banking industry and the influence of financial technology are rapidly growing, banking collaboration with FinTech and its current and future challenges have attracted the attention of banking practitioners, FinTech industry players, and academics. Analysis of the present and future challenges of collaboration models of banks and FinTech, especially in Indonesia, is a problem that needs to describe in this research. The purpose of this descriptive study emphasizes descriptive analysis related to the challenges of developing bank and fintech collaboration models in the present and future in Indonesia. The research methodology uses a descriptive method with a qualitative approach. This study uses perception analysis to determine the appropriate collaboration model for current and future conditions based on triggers of current trend-watching. The perception survey data had collected from 100 respondents representing the banking, FinTech sectors, and academics. Data on the development of collaboration models had obtained from literature studies and field surveys of 10 banks that have utilized FinTech. The results of this study reveal the need for detailed and complete policies, laws, and regulations related to collaboration which are still the main challenges in banking and Fintech collaboration in Indonesia. In Addition, the Channeling model is still relevant to be used today as a collaboration model. Other results state that for future challenges bank and FinTech collaboration model will lead to the development of the Open Banking APIs Concept and Super App model owned by banks due to Fintech collaboration. The results of this descriptive study will expect to contribute significantly to government policy and considerations in developing a suitable banking and FinTech collaboration model for the present and future in Indonesia.

**KEYWORDS** – banking, collaboration, challenges, fintech, model

### **I. INTRODUCTION**

The banking industry is one industry that is currently required to be responsive in carrying out digital transformations that have an impact on banking performance(Kurniawan et al., 2021). On the other hand, the FinTech industry in Indonesia shows the potential for rapid growth(Iman, 2018). The Financial Services Authority in Indonesia has anticipated the negative impact of the emergence of FinTech in terms of financing and banking(Legowo et al., 2021). According to a source from Bisnis Indonesia, which stated that increasing the contribution of bank financing through FinTech, the OJK noted that until July 2021, the portion of banking funding to fintech reached 17.09% of outstanding loans by domestic lenders. That is an increase when compared to January 2021 (15%). this portion has increased by 2.09% within six months(Budiyanti, 2021). According to the findings of IDC's 2016 study on digitalization in banking addressing how banks around the world perceived the emergence of fintech(OJK, 2021), as many as 23.4 percent consider Fintech as a "Possible Threat" and become a competitor of the Bank. Several opinions from practitioners and researchers have previously stated that FinTech is disrupting financial services and the banking sector(Oshodin & Karanasios, 2017;Dermine, 2017; Prawirasasra, 2018). Thus, the disruption or collaboration of the Financial Industry is a source of attention and focus for the Indonesian banking and financial services sector. However, a study from Subanidja et al.(2020) revealed that FinTech is not a disruption but has the potential to collaborate in the financing and banking sectors. Based on information from the Kontan.co.id website, several Indonesian banks have collaborated with Fintech companies(Kontan.co.id, 2021). It stated that 34.2 percent of banks rate Fintech as a sector where they can interact or collaborate.

Seeing the rapid development of FinTech in Indonesia, Bank Indonesia made regulations for the application of Financial Technology, namely Bank Indonesia Regulation Number 19/12/PBI/2017 concerning the Implementation of Financial Technology (in Article 2) to encourage financial technology innovation in the financial sector. Bank Indonesia and the Financial Services Authority in Indonesia (OJK) have anticipated the negative impact of the emergence of FinTech in the financial industry through policies and regulations. Bank Indonesia, as the Central Bank of Indonesia, has developed a blueprint for the Indonesia Payment System (IPS)

in the current Digital Era (Bank Indonesia, 2019). The Financial Services Authority has also set a target in its master plan, how FinTech cooperates with the financial and banking industry (OJK, 2021). However, it turns out that until now, both Bank Indonesia and the Financial Services Authority (OJK) still do not have detailed regulations and laws regarding banking and FinTech collaboration. Research by Frederica et al. (2021) concludes that there is a need for regulations and laws from the government to regulate banking and fintech collaboration in several types of fintech services.

The challenge is how to innovate banks in choosing the appropriate collaboration model with fintech and can successfully implement collaboration with the latest financial technology standards (Fermay et al., 2018). To collaborate with banks, FinTech companies need to emphasize the benefits of financial technology for banking. According to the study from Fermay et al. (2018), the collaborative model between Fintech and the Bank is to have four collaboration models: The Channeling Model, The Vendor Model, The Incubator model, and the Acquisition Model. Each collaboration model has its framework and characteristics in implementing it. It will be a challenge in Indonesia to choose the right bank and FinTech collaboration model now and in the future. A study conducted by Nurzianti (2021) stated that the Indonesian Financial Technology Association (AFI) that as many as 63.9 percent of FinTech industry players had collaborated with banks and had connected through the Application Programming Interface (API). Application Programming Interface (API) is a set of application programming interface functions that allow developers to access software features and data (Benmoussa, 2019). Bank of Indonesia (BI) continues to strive so that banking and FinTech collaboration can be accelerated (Nurzianti, 2021). Namun, beberapa bank dimasa mendatang telah memulai untuk mengembangkan Super Apps. According to Baquero (2021), Super apps are accelerating digital adoption in developing markets with marketplaces that offer a wide range of products and services and mobile payments (QR codes). This Super application combines many functions in a single application that serves as a platform for many services. Traditional financial institutions do this one step further in their business of serving customers. WeChat and Alipay offer a range of banking, savings and investment products to customers. Their financial products are originated and underwritten by traditional financial institutions. Still, the entire customer interaction is through the super apps (Baquero, 2021). This Super App model is one of the successful technology acceptance models in integrating eight theories of technology adoption (Respati & Mahyuni, 2022).

The Present conditions and the triggers of change based on trend-watching are considerations in challenging collaboration between the banking and Fintech industry in the future. According to Misuraca et al. (Misuraca et al., 2010) then for the analysis of the triggers of change based on observations of trends for the future of the banking and fintech industries is divided based on three analyzes: (1) Societal Trends, This trend analysis study is divided into six categories: Social, Technical, Economic, Ecological, Public, and Values. (2) Policy Trends, this trends is useful to understand the policy context in which specific trends in ICT tools for governance and policy modelling take place and to detect divergences and synergies between ICT trends and current developments within the public sector, (3) Research Trends, this trend is based on a meta-analysis of research in the last three years and aims to identify research trends in the future banking and FinTech and their collaboration. Through current trends-watching, you will get an idea of how the bank and FinTech collaboration model will be in the future.

The future challenges for this collaboration model are based on regulations and laws and laws that are not yet clear and detailed from the government (Frederica et al., 2021), so Banks and FinTechs as business organizations remain independent as they are today. However, based on a survey of interviewed bank executives, 91.3% said they are willing to collaborate with fintech. Likewise, from the fintech side, 75.3% of founders said they were ready to collaborate with banks. In its implementation, there are still few banks collaborating with FinTech. Collaboration models have been applied by several banks in Indonesia today (Fermay et al., 2018). However, in the future, the application of the Open Banking APIs concept (Omarini, 2018; Benmoussa, 2019) and the development of Super Apps (Baquero, 2021) and Neobank (Hopkinson et al., 2019) will be a challenge for the banking sector in utilizing Fintech or creating collaboration models with FinTech.

The choice of collaboration model and how bank and FinTech collaboration is triggered by observing current and future trends is a challenge to discuss in this study. Collaboration between bank and fintech provides benefits for each party. First, both bank and fintech have competitive advantages, so collaboration between bank and fintech is an appropriate strategy to encourage financial inclusion. Second, this collaboration is a very effective strategy for banks to transform into digital banks because digital services are the competitive advantages of fintech (Budiyanti, 2021). Banking in Indonesia must formulate an innovative strategy to answer challenges, especially related to the existence of financial technology in collaborative banking service innovation (Lestari & Rahmanto, 2021).

Several researchers have previously researched the collaboration between banking and Fintech in Indonesia. Subanidja et al. (2020) confirm in their study that Fintech is not a disruption but has the potential to moderate bank business drivers on banking performance. An empirical study by Frederica et al. (2021)

concludes that collaboration between Banks and Fintech causes banking performance to be less than optimal due to the absence of detailed regulations and laws. Legowo et al.(2022a) revealed that the economic recovery in Indonesia had driven by the digitalization of banking and its collaboration with the FinTech industry. Next, the collaboration study describes the envisioned future of collaboration in the banking and FinTech industry(Legowo et al., 2022b).

The purpose of this study is to describe the current and future challenges of collaboration between banks and fintech in Indonesia. In particular, the objectives of this research are:

- 1) Analyze to Present Challenge in Banking and FinTech Collaboration Model
- 2) Analyze to Future Challenge in Banking and FinTech Collaboration Model.

The results of this descriptive study will expect to contribute significantly to government policy and considerations in conducting banking and FinTech collaborations for the present and in the future in Indonesia

## II. MATERIALS AND METHODS

The materials and methods section (or sometimes called the methods section) is the heart of the scientific article. This section demonstrates the credibility and validity of the research work.

### 2.1 Materials of Research

Conducted a perception survey of 100 respondents, each representing the banking and FinTech sectors and academics who understand collaboration issues related to the banking and FinTech industries. Data on the development of collaborative banking and FinTech models is obtained based on literature studies and field surveys of 10 banks that collaborate or have utilized FinTech.

### 2.2 Methods of Research

The research methodology uses a descriptive method with a qualitative approach. This study requires a perception analysis that aims to determine the current and future conditions, also the triggering factors based on trend watching. The descriptive method is used to provide an overview and analysis of banking and FinTech collaboration models in the present and the future.

## III. RESULTS AND DISCUSSION

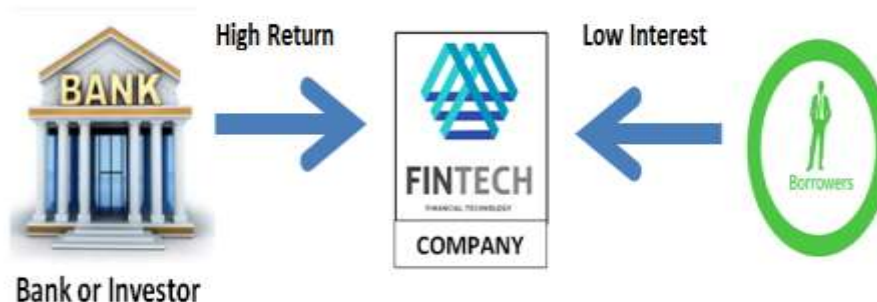
### 3.1 Present Challenge in Collaboration Model Analysis Results

These results describe analytically the collaborative banking model and FinTech in the current condition, where data is obtained based on literature studies and field surveys of 10 banks that collaborate or have utilized FinTech, in Indonesia. The present challenge is to understand how banks and fintech collaborate with FinTechs and which collaboration models suit the needs of this collaboration. The following are the results of the analysis for banking and FinTech Collaboration models:

#### Channeling Model

Model Description: a collaboration model between banks and FinTechs to channel credit, which is the most common nowadays.

Model Framework:



Source : Own Research, 2022

**Figure 1. Channeling Model**

Model Analysis:

Channeling model is the most suitable when a fintech company is used as a financial channel in between investor and borrowers. They will choose to invest their money in the fintech company because it has the higher return than most other investment companies. The borrowers prefer to borrow money from fintech company because it has the lower interest than other competitors

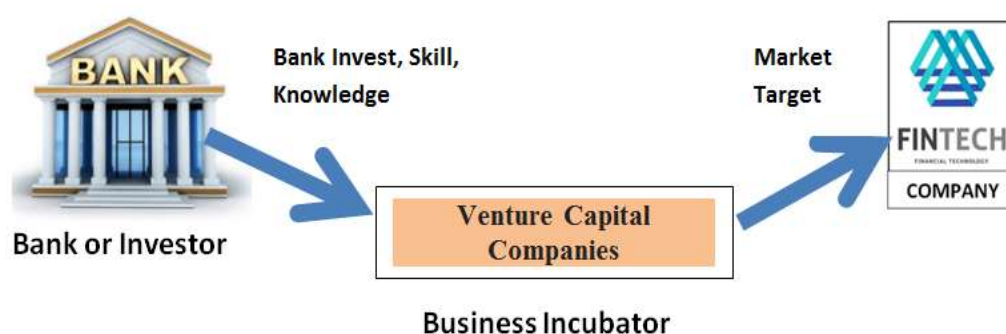
Example of Collaboration Model:

- The collaboration between Bank Danamon and Investree
- Collaboration between BNI and Grab and Gojek.
- PT Bank Central Asia Tbk (BCA) also collaborates in this way with several FinTech companies. Bank Central Asia has collaborated with several fintech, e-commerce, and digital start-ups in lending.
- PT Bank OCBC NISP Tbk targets collaboration with more than eight fintech until the end of 2021. Currently, the company has built a digital partnership with a fintech start-up company, Simplify Teknologi Indonesia (AwanTunai). Through this collaboration, the company supports AwanTunai in providing supply chain financing for MSME players. OCBC NISP has also collaborated with Akulaku, as well as the process of building collaboration with Akseleran and Modal Rakyat

Incubator Model

Model Description: a collaboration model where banks form venture capital companies that can freely invest in FinTech companies.

Model Framework:



Source : Own Research, 2022

**Figure 2. Incubator Model**

Model Analysis:

Incubator model will give both advantages for fintech and bank. How they work is bank provide the client network which has been built for decades to the collaborated fintech. As a reciprocal, fintech offer the system which will help bank to operate more efficient and effective. Before a business or entrepreneur enter the market. They will need a lot of knowledge, skill, and understanding to start with. With a lack of experience, a newly established business can cause it to fast collapsing

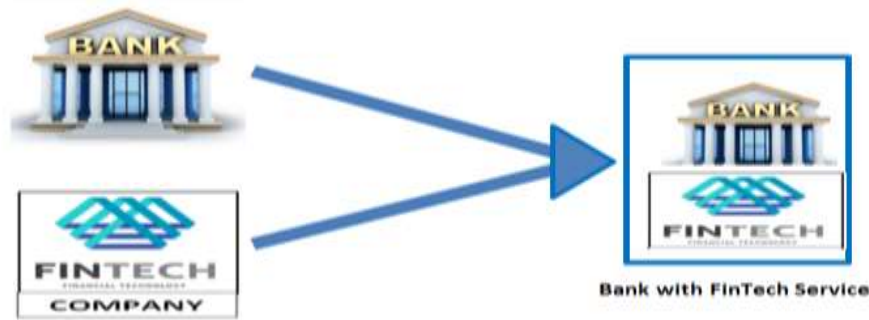
Example of Collaboration Model:

- Bank Mandiri made a fintech start-up to do this model. Bank Mandiri collaborating with Telkom Indonesia to build business incubator named Indigo Incubator. Bank Mandiri had given a program that provides the participants with a technical skill and the knowledge of business management, the ability to make strategy and to know their opportunity in the market.
- Bank OCBC NISP collaborates with fintech through an investment mechanism. Through OCBC NISP Ventura (ONV), the company targets to invest in five start-ups this year. In the first quarter of 2021, this venture capital has explored funding a start-up for a financial service provider, GajiGes.

Acquisition Model

Model Description: a collaboration model, where FinTech acquires bank shares

Model Framework:



Source : Own Research, 2022

**Figure 3. Acquisition Model**

Model Analysis:

Acquisition becomes one of the strategies that can be considered to do the collaboration between start-up fintech company and bank, this strategy will bring the advantages to two parties, start-up fintech will be helped by the bank to perform its service, the bank will take over the modal capital of start-up fintech

Example of Collaboration Model:

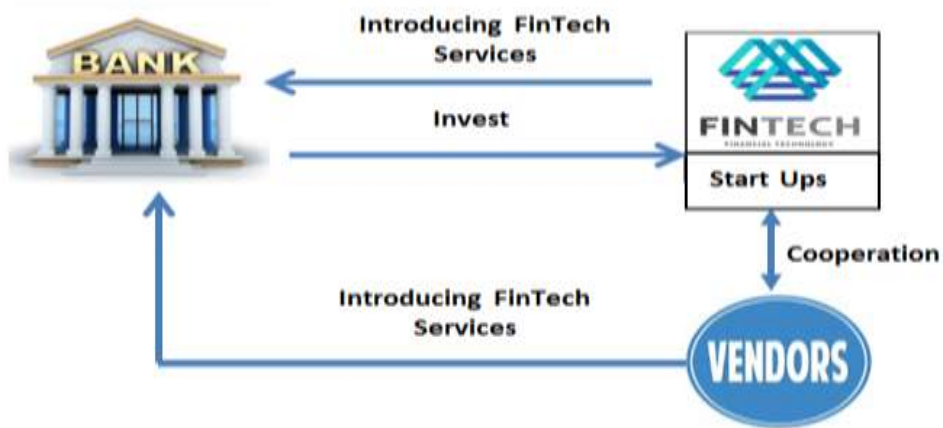
*Akulaku* is a FinTech Company that acquired shares of Bank Neo Commerce and *Kredivo*, a FinTech application platform that acquired shares of Bank Bisnis Indonesia.

Vendor Model

Model Description: a model in which banks invest in developing FinTech-like services.

Model Analysis: Vendor model requires the third party between the bank and start-up fintech, which is vendor. The vendor provides a platform for users to use as a service provider. Platforms service offers to include new distribution channels, new processing capabilities, and new origin of data to support create platforms in banking. Start-up fintech is cooperated with the vendor to create platform service providers for banks

Model Framework:



Source : Own Research, 2022

**Figure 4. Vendor Model**

Example of Collaboration Model:

Bank Rakyat Indonesia (BRI) in the development of the *Ceria* Application where the bank invests in developing services similar to FinTech. *JakPat*, 80% respondent put quite interest with the promo which offered by digital payment service provider.

Based on a survey result from 10 banks have collaborated with FinTech, as in Table 1. So, the bank and FinTech collaboration model widely used by banks is the Channeling Model the present

**Table 1. Percentage of Banks in Use Collaboration Model in the Present**

No	Type of Collaboration Model	Number of Banks using the model	Percentage of Banks in Use Collaboration Model
1	Channeling Model	4	40 %

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2	Incubator Model	2	20 %
3	Acquisition Model	2	20 %
4	Vendor Model	1	10 %
<b>Total</b>		<b>10</b>	<b>100 %</b>

Source : Own Research, 2022

This collaboration between Banks and FinTechs currently has challenges in making policies related to regulations and legislation that clearly and in detail do not yet exist from financial regulators and the Indonesian government.

### Future Challenges of Collaboration Analysis Results

The Challenge of future of collaboration between banking and the FinTech Industry, this study looks at trends triggered by changes based on observations of present trends. The result of the Analysis for Envisioning the future collaboration of banking and the Fintech Industry, influenced by the triggers of change based on trends watching (Legowo et al., 2022b) is as follows:

**Table 2. Analysis of the Future Collaboration Banking and FinTech**

Banking and FinTech Collaboration in Present	Trigger of change based on trend watching	Banking and FinTech Collaboration in the Future
<ul style="list-style-type: none"> <li>▪ Banks forcefully compete for the best available workers. Bankings try to use and implement the various digital technologies update.</li> <li>▪ Banking and FinTech Industri in the digital economy ecosystem</li> <li>▪ Development towards digital economy in Financial Sectors</li> <li>▪ Global warming and Climate change issues.</li> <li>▪ Leak of Public policy related financial access and business transaction for publics</li> <li>▪ Leaks for understand for value in financial sectors</li> </ul>	Societal Trends	<ul style="list-style-type: none"> <li>▪ The best millennial workers with a good financial and digital literacy. Future use of digital technology for financial services, such as BlockChain, BigTech, Robots, AI, RegTech.</li> <li>▪ Digital economy in Industri 4.0 and towards society 5.0</li> <li>▪ Digital economy stability in financial ecosystem</li> <li>▪ Paperless Reports and Cashless transactions.</li> <li>▪ A detailed and complete public policy regarding financial access and business transactions for the public</li> <li>▪ Increase business values from the application of an innovative business model</li> </ul>
Limited to policies, laws, and regulations related to financial technology that implemented in financial services	Policy Trends	Detailed and complete support for policies, laws, and regulations related to banking and FinTech collaboration from BI and OJK, as a Indonesia Government representative
<ul style="list-style-type: none"> <li>▪ Financial Technology Research,</li> <li>▪ Banking Technology Research,</li> <li>▪ Banking and FinTech Industry Research</li> <li>▪ Colaboration Banking and FinTech Industry Resarch</li> </ul>	Research Trends	<ul style="list-style-type: none"> <li>▪ Financial and Banking Technology Research towards industry 4.0 and society 5.0</li> <li>▪ Research Future Technology in banking and FinTech related Block Chain adoption, BigTech, Robots, AI, RegTech</li> <li>▪ Future Human Resource Development in Banking and FinTech Collaborative Research</li> </ul>

Source : Own Research, 2022

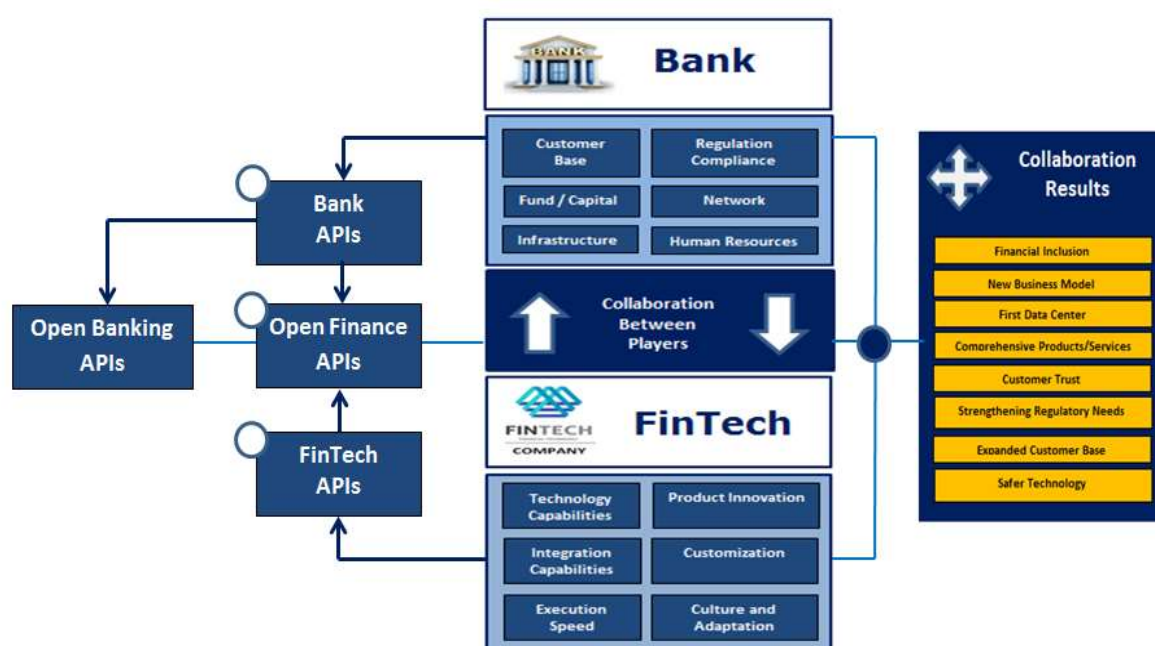
These results reveal that the future of collaboration between the FinTech and banking industries has many insights from the societal trend. However, further attention will focus on policy trends where the need for detailed and complete support for policies, laws, and regulations related to banking and FinTech collaboration from BI and OJK. In addition, the research trends will lead to future problems for banks and the FinTech industry.

### Model of Collaboration in Future Challenge

The future challenges for this collaboration model are based on regulations and laws and laws that are not yet clear and detailed from the government, so Banks and FinTechs as business organizations remain independent as they are today. However, based on a survey of interviewed bank executives, 91.3% said they are willing to

collaborate with fintech. Likewise, from the fintech side, 75.3% of founders said they were ready to collaborate with banks.

The role of banking in Indonesia is still crucial and cannot be replaced until 2020, and banking credit distribution is still larger than Fintech. Fintech players still have many challenges, including deep customer trust in distribution infrastructure and service coverage to cover a customer base. For bank services and FinTech companies to be connected, middleware is needed that acts as an intermediary between the system at the bank and fintech. The Open Finance concept has launched and presents derivatives of more specific mechanisms such as Open Banking and Banking as a Service (BaaS). Aspects of the Open Banking approach relate to Open Innovation literature to the extent that banks rely on an internal and external flow of ideas to develop products and services, and innovative processes (Omarini, 2018). Open banking is a financial service that uses Application Programming Interface (API) technology. A collection of operations known as an application programming interface (API) enables programmers to access the features and data of the software. An API extends functionalities and facilitates integration with third-party software. Helping clients and business partners develop new technologies is becoming increasingly important, and API banking is one such step (Benmoussa, 2019). This system allows third-party applications to be securely integrated with banking services and customer data. Figure 5 shows the bank-fintech collaboration scheme powered by API.



Source : Own Research, 2022

**Figure 5. API-Powered Bank-Fintech Collaboration Scheme**

The Indonesian Financial Services Authority observes that banks are increasingly aiming to become Super Apps in working on the potential of the digital economy. The banks have started to open their super app links with e-commerce. Like BCA link with Blibli and Tiket.com. Similarly, other banks have started to own or form a super app. All had developed with the open API developed by the bank.

Super app is a platform that provides many services packaged into one app. The term super app had introduced by Blackberry Founder Mike Lazaridis in 2010. A super app is a closed ecosystem of many applications that people will use every time because it offers an integrated and efficient experience. Super apps From sending money to someone, instant messaging, ordering food delivery, paying bills, shopping on eCommerce sites, wanting a massage, needing a mechanic, cleaning services, ordering groceries, investing, buying insurance, buying medicine, running and growing a business, streaming movies/videos, buying cinema tickets, moving/sending items, repairing appliances, even wanting to plant a tree to offset your carbon footprint, taking a loan, Buy Now Pay Later, and more, a Super App can do it all. These are all things, can find on the Gojek app (with many similar offerings on the Grab app). Sementara disini lain pengembangan neobank dimasa mendatang banyak terjadi di Indonesia. Neobanks is a new type of bank l that is completely direct-based digital, no physical branches, and 100% independently owned (Hopkinson et al., 2019).

**Example of Super App Model:**

PT Bank Central Asia Tbk (BCA) is a bank in Indonesia with the largest customers, financial plan is to integrate mobile banking services, and internet banking into one application or Super App. Super App belonging to Bank BCA is shown in Figure 6 [a]. In the future, BCA customers will only need one application to be able to access all BCA services. Neobank is a digital bank product in the form of a Super App issued by PT. Bank Neo E-

commerce officially became the first digital bank of a company engaged in e-commerce and was successfully acquired by PT. Akulaku. Super App Bank Neo E-Commerce is depicted in Figure 6 [b].



Source : Own Research, 2022

[a]

[b]

**Figure 6.** BCA Super App [a] and Bank Neo E-commerce [b]

#### IV. DISCUSSION

In the present digital era, where the banking business and the influence of financial technology are rapidly growing, banking practitioners, FinTech industry players, and academics have been interested in banking collaboration with FinTech and its current and future challenges. The FinTech industry in Indonesia, after had studied is not a disruption for banks but has the potential to collaborate with banks (Subanidja et al., 2020). However, problems that arise regarding collaboration rights are the absence of detailed policies, regulations, and laws from financial regulators in Indonesia (Frederica et al., 2021). So there is a need to envision the future of collaboration banking and FinTech based on trends watching Legowo et al. (2022a). Bank and FinTech collaboration in Indonesia had expected to increase financial inclusion, which can help for recovery of the national economy (Legowo et al., 2022b).

The results of the analysis of the banking and FinTech collaboration model stated that the number of banks willing to collaborate with FinTech is still very low. There is no detailed and complete support for policies, laws, and regulations related to banking and FinTech cooperation from the Bank of Indonesia and the Financial Service Authority as representatives of the Government of Indonesia both now and in the future (Frederica et al., 2021). Several banks in Indonesia are currently implementing various collaboration models (Fermay et al., 2018). However, the results of this study state that The Channelling model is still relevant and most widely used today as a collaboration model related to lending.

In Addition, for the future challenge, the API-Powered Bank-Fintech Collaboration Scheme can be applied to the Open Banking APIs model (Benmoussa, 2019). Aspects of the Open Banking approach relate to Open Innovation literature to the extent that banks rely on an internal and external flow of ideas to develop products and services, and innovative processes (Omarini, 2018). The Model of Collaboration in Future Challenge in the future, along with the trend of watching, the collaboration model will be in the form of a Super App model (Baquero, 2013). Several banks in Indonesia have started their business in the future by implementing a form of collaboration with fintech through this Super App, such as Bank Central Asia Tbk (BCA) and Bank Neo E-commerce.

The implication of this study for Bank Indonesia is to encourage the implementation of Interlink Fintech and digital banking. The OJK must be able to become a bridge for banks to facilitate the collaboration process with the FinTech industry. Banking management needs to think about supporting strategic steps, such as governance and risk management, accelerating digital transformation by developing partnerships with third parties, in this case, the FinTech industry. For FinTech business actors, especially digital platform developers, to develop collaboration with banks to expand access to financing by channeling credit, especially to the community business sector, such as MSMEs. The limitations of this research are in explaining the issues and challenges that are less complex and comprehensive related to this collaboration between banks and fintech.



## V. CONCLUSION

In summary, the purpose of this descriptive study emphasizes descriptive analysis related to the challenges of developing bank and fintech collaboration models in the present and future in Indonesia. The existence of various collaboration models is a challenge for banks in collaboration with FinTech at present and in the future.

The present challenge is that the absence of detailed and complete policies, laws, and regulations related to collaboration is still the main challenge in banking and Fintech collaboration in Indonesia. Furthermore, the Channelling model is still relevant and most widely used today as a collaboration model related to lending.

Future challenges Bank and FinTech collaboration model will lead to the development of the Open Banking APIs Concept and Super App model owned by banks due to Fintech collaboration.

Recommendations for future research on FinTech banking collaboration is a study of the application of the Open Banking APIS and Super App concept models in the banking sector, as well as other research on the application of technology in banking in the future, such as the adoption of Block Chain, BigTech, Robots, AI, RegTech.

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