

The Urgency of Open Application Programming Interface Standardization in the Implementation of Open Banking to Customer Data Protection for the Advancement of Indonesian Banking

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Abstract

Open banking with Application Programming Interface technology (open API) is an initiative that aims to streamline the payment system in Indonesia. Open API allows banks to integrate their systems with fintech and e-commerce by disclosing customer transaction data. This study aims to reveal the urgency of open API standardization in the Indonesian implementation of open banking. The study employed a normative juridical approach to secondary data. The data includes primary, secondary, and tertiary legal materials. It also used a qualitative normative data analysis method. It concludes that before the establishment of the National Standard for Open API Payment (SNAP), the process of sharing data among banks and fintech and/or e-commerce was unstandardized. It was only based on agreement among parties. Indonesian banks have different-various standards of the open API that could affect customer data protection. According to the Regulation of the Financial Service Authority Number 12/POJK.03/2018, the relationship between banks and fintech and/or e-commerce in the administration of digital banking services that is based solely on agreements among parties is not strong enough. OJK indeed presents as a supervisory agency. However, the parties will eventually return to an agreement among themselves. In contrast to the Regulation of the Financial Service Authority, the Regulation of Members of the Board of Governors, which is the legal basis for SNAP, provides standards that both service providers and service users must comply with. However, the implementation of SNAP-based open APIs still needs the readiness of personal data protection regulations.

Keywords: customer data protection, open API, SNAP.

A. Introduction

This study covers the banking industry's digital transformation. In the era of the 4.0 industrial revolution, almost every aspect of life has undergone a process of digitalization, including the economic and financial sectors. People are increasingly demanding prompt, cost-effective, and safe economic and financial services.

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Consequently, banks turn to digital solutions.¹ The digitalization of the banking sector is reflected in the proliferation of electronic banking (e-banking), which allows customers to conduct transactions in their own devices. For instance, there are applications like internet banking or mobile banking. It has been proven that banks that offer internet banking services perform better than banks that do not offer such services.² On the other hand, the digitalization of the economic and financial sectors also triggers competition among service-providers to gain consumer. The establishment of financial technology (fintech) and electric commerce (e-commerce), which offers customers with more convenient transactions, mark the era of competition.

Initially, fintech and e-commerce were intended to make the banking sector obsolete since the services were easier to use and more flexible than the similar provided by banks. Consequently, people were more attracted to fintech, and e-commerce services compared to banks. However, banks are currently pushing to collaborate with fintech and e-commerce. The collaboration between fintech providers and banks has been running. Fintech is often an extension of banks to occupy the microcredit market. For instance, some fintech providers offers banking products. Collaboration of banks and the providers of fintech and e-commerce is based on the recognition that partnership is the principal norm with all things related to technology.³ If banks are reluctant to innovate, customers usually will choose to switch to fintech and e-commerce, which will leave behind the economy of the banks themselves.⁴ This collaboration is referred to as interlink.

Interlink is surely an innovation that can provide benefits for both parties. However, if the collaboration is not regulated, it will be counterproductive for the macro-economic stability and the sustainability of the national economy in the long-term. Payment system arises as a major challenge for regulators in the digital era. They are at the core to determine the process of monetary circulation among economic agents. Furthermore, payment systems also determine the efficiency of transactions, for both services and objects.⁵ A streamlined payment system and a well-functioning monetary system form the foundations of economic development, societal welfare, and fiscal stability.⁶ This is consistent with the idea of Manning

¹ Bank Indonesia, *Blueprint Sistem Pembayaran Indonesia 2025*, Bank Indonesia: Menavigasi Sistem Pembayaran Nasional di Era Digital, (Jakarta: Bank Indonesia, 2019), 16.

² Farah Margaretha, "Dampak *Electronic Banking* terhadap Kinerja Perbankan Indonesia", *Jurnal Keuangan dan Perbankan* 19, No. 3 (September 2015): 522.

³ Brett King, *Bank 4.0: Perbankan di Mana Saja dan Kapan Saja, Tidak Perlu di Bank*, (Jakarta: Mahaka Publishing, 2020), 258.

⁴ Brett King, 343.

⁵ Bank Indonesia, 16.

⁶ Stefan Ingves, "Money and Payments – Where are We Heading?" (speech presented at Sveriges Riksbank, Stockholm School of Economics, Swedia, June 4, 2018), https://www.riksbank.se/globalassets/media/tal/engelska/ingves/2018/tal_ingves_180604_eng.pdf, 5.

and Russo that monetary regulation and fiscal stability are founded in the functions of the central bank within the payment systems themselves.⁷

For these reasons, the Bank Indonesia, Indonesian central bank, enacted the Blueprint for 2025 Indonesian Payment System (the BSPI 2025 –*Blueprint Sistem Pembayaran Indonesia 2025*). It is in accordance with its functions to regulate and safeguard the payment systems in Indonesia based on Article 8 of the Law Number 23 of 1999 as amended by the Law Number 3 of 2004 on the Amendment to the Law Number 23 of 1999 on Bank Indonesia⁸. It is also a part of Bank Indonesia's power to regulate, allows it to make rules banking business operations to promote healthy banking and make banks fulfilling community needs.⁹ The BSPI 2025 is fully oriented towards efforts to develop a healthy ecosystem, which will guide economic development and digital finance in Indonesia.¹⁰ The BSPI 2025 contains five visions that will be realized through five initiatives. Vision 2 of the BSPI 2025 aims to facilitate the banking sector into the digital era through end to end by implementing open banking.¹¹ Vision 3 guarantees interlink between banks and fintech to avoid the risks stemming from shadow-banking by regulating digital technology, business cooperation, and corporate ownership are implemented through the open banking initiative.¹² In addition to the BSPI 2025, the open banking initiative is also consistent with the Roadmap of Indonesian Banking Development (*Roadmap Pengembangan Perbankan Indonesia*) 2020-2025 from the Financial Services Authority (OJK –*Otoritas Jasa Keuangan*). The roadmap pushes for collaboration between banks and fintech and e-commerce.¹³

The Basel Committee on Banking Supervision (BCBS), a committee within the Bank for International Settlements (BIS), has the function to establish standards on banking regulation. The BCBS define open banking as “*the sharing and leveraging of customer-permissioned data by banks with third party developers and firms to build applications and services, including for example those that provide real-time payments, greater financial transparency options for account holders, marketing and cross-selling opportunities*”.¹⁴ Open banking was first introduced in the European Union's Directive 2015/2366 of the European Parliament and of the Council of 25 November 2015 on Payment Services in the Internal Market,

⁷ Mark Manning and Daniela Russo, “Payments and Monetary and Financial Stability” (paper presented at The European Central Bank-Bank of England Conference, Frankfurt, November 12-13, 2007), <https://www.ecb.europa.eu/pub/pdf/other/paymentsmonetaryfinancialstability200801en.pdf>, 6.

⁸ Article 8 of the Law Number 23 of 1999 on Bank Indonesia as amended by the Law Number 3 of 2004 on Amendments to the Law Number 23 of 1999 on Bank Indonesia.

⁹ Hermansyah, *Hukum Perbankan Nasional Indonesia*, (Jakarta: Prenadamedia Group, 2014), 176.

¹⁰ Bank Indonesia, 21.

¹¹ Bank Indonesia, 23.

¹² Bank Indonesia, 27.

¹³ Otoritas Jasa Keuangan, *Roadmap Pengembangan Perbankan Indonesia 2020-2025*, (Jakarta: Otoritas Jasa Keuangan, 2020), 104.

¹⁴ Basel Committee on Banking Supervision, “Report on Open Banking and Application Programming Interfaces”, (Bank for International Settlements, Basel, 2019), <https://www.bis.org/bcbs/publ/d486.pdf>, 4.

Amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and Repealing Directive 2007/64/EC, also referred to as Payment Service Directive 2 (PSD2). PSD2 regulates electronic payment services. It aims to (1) make payments in the EU more integrated and streamlined; (2) provide a level playing field for Payment Service Providers (PSP), including new PSP; (3) ensure the safety of payments in the EU; (4) protect consumers; and (5) encourage lower fees for transactions. To achieve the aims, PSD2 requires banks to disclose data with third parties, which are fintech and e-commerce.¹⁵

Following the EU, the United Kingdom enacted the Open Banking Standard initiative under the scope of the Competition & Markets Authority (CMA) and the Financial Conduct Authority (FCA). In addition to the stricter timeframes provided by the Open Banking Standards, there are two main differences between the PSD2 and the Open Banking Standard. First, PSD2 does not mandate the development of a public API standard. Second, PSD2 only opens access to data about consumer-transactions for certain institutions, whereas the Open Banking Standard has the potential to provide access for a wider scope of third parties through its whitelist.¹⁶

Essentially, open banking was developed to ensure a level playing field between banks, fintech and e-commerce, while still encouraging innovation and competition.¹⁷ The components of open banking demonstrate that data sharing has enormous potential, not only to secure data transfers and convenience, but also to fulfill the demands of transparency, traceability, and accountability for a better anti-financial crime system. Data sharing between banks can create a holistic picture of a person's finances and transactions. Changes in daily transactions or remittances can be used to predict if a client is engaging in criminal behavior and intervene before it occurs. This can provide critical decision-makers with sufficient information to detect and prevent the entry or exit of illicit capital and funds from the financial system.¹⁸

Open banking is also developed to reduce the practice of data sharing from banks to fintech and e-commerce through screen-scraping and reverse-engineering technologies.¹⁹ Screen scraping is a data-mining method where customers input their data, such as username and password, to access the internet banking website.²⁰ Reverse-engineering flips the source code from a mobile banking application to access data that is being shared between the application and the

¹⁵ Margaret Doyle, Rahul Sharma and Christopher Ross, "How to Flourish in An Uncertain Future – Open Banking and PSD2" (Deloitte, London, January 7 2022), <https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/financial-services/cz-open-banking-and-psd2.pdf>, 7.

¹⁶ Margaret Doyle, Rahul Sharma and Christopher Ross, 9.

¹⁷ Bank Indonesia, 24.

¹⁸ Suman Podder, "Leveraging the Provisions of Open Banking to Fight Financial Crimes", *Law, Governance and Technology Series* 47, (Januari 2022): 42.

¹⁹ Basel Committee on Banking Supervision, 9.

²⁰ Basel Committee on Banking Supervision.

bank's server. Then, the code will be reverse-engineered to directly exploit communications between the application and the bank's server.²¹ Screen scraping and reverse engineering methods make the use of fintech and e-commerce unsafe for customers since it allows the fintech and e-commerce to access sensitive data of the customer's account details.²² The gathering data technology allows the fintech and e-commerce to conduct transactions without the knowledge of the customer, or even change the credentials of the customer.²³

Currently, banks prefer open banking using its authorization procedure with token through Application Programming Interface (API). It enables the bank to control the type and level of data to be shared. Open banking is based on API technology. It is referred to as open API. Banks have determined that API is the safest method to interact with fintech in Business to Business (B2B) strategy.²⁴ API is able to widen functionality and facilitate integration through the software of the fintech and e-commerce.²⁵ Furthermore, API allows software to be developed further without having to start over from the beginning because the developer does not have to rewrite code for common functions. It leads to increased productivity as developers can devote more time and effort to customize software functionality.²⁶ Currently, most fintech and e-commerce use API technology, compared to screen scraping and reverse engineering, because the API technology is more efficient and does not require the fintech and e-commerce to adjust and redesign its technology in accordance with each bank.²⁷

One of the major challenges of API technology is the development stage and the integration of the API. It is costly and takes a significant amount of time for the banks.²⁸ It occurs when only two parties, the bank and the fintech, conduct the development and integration of the API in a B2B strategy. The costs of API's development and integration on a large-scale can be rather challenging for smaller banks with limited necessary resources. Furthermore, additional costs may occur when banks upgrade their systems and infrastructure because of the higher availability expectations of API.²⁹ Various API standards that are adopted within different jurisdictions also pose challenges to the adoption of the technology in open banking.

Many jurisdictions that are planning to implement open banking frameworks have data privacy laws in place. The data privacy laws have contributed to the

²¹ Basel Committee on Banking Supervision.

²² Basel Committee on Banking Supervision.

²³ Basel Committee on Banking Supervision.

²⁴ Basel Committee on Banking Supervision.

²⁵ Mohammed Benmoussa, "API "Application Programming Interface" Banking: A Promising Future for Financial Institutions (International Experience)", *La Revue des Sciences Commerciales* 18, No. 2 (Desember 2019): 33.

²⁶ Shu Wing Chan et al., "Web-Based Experimental Economics Software: How Do They Compare to Desirable Features?", *Journal of Behavioral and Experimental Finance* 23, No. C (September 2019): 138-160.

²⁷ Basel Committee on Banking Supervision, 9.

²⁸ Basel Committee on Banking Supervision.

²⁹ Basel Committee on Banking Supervision, 18.

establishment of the jurisdiction's open banking framework. Variety of data privacy laws among jurisdictions, on the other hand, have ramifications for the development of various open banking frameworks. For example, the EU's General Data Protection (GDPR) is notable for its primary principle that consumers own and control their data. Other jurisdictions' data privacy laws are based on the principle that firms, including banks, own the data. In some jurisdictions, permission from the bank is required before data is shared by a third party with a fourth party. However, almost all jurisdictions prohibit third parties from reselling or using data for purposes other than the customer's initial consent. They generally require third parties to obtain additional customer consent before reselling the data.³⁰

In practice, open API has been widely adopted in the relationships between banks with fintech and e-commerce in Indonesia. Many large banks in Indonesia have provided an open API service that may be accessed by fintech and e-commerce that has cooperated with the banks. However, one issue that arises is that the standards for integrating the open API technology was only based on the agreement concluded between the parties, and there were no similar standards. It means that there are various standards of the integration of open API. Hence, the data shared through open API by a bank may be different from the data shared by another. This will undoubtedly have an impact on customer data security. Banks has the potential to share customer data that should not be shared with fintech/e-commerce companies. In addition, Bank Indonesia was unable to guarantee safety and protection in the integration of open API due to the lack of universal standards.

In the context of open banking, there are two perspectives to treat customer data: as an economic input and asset that must be safeguarded. Consequently, it is impossible to separate open banking from data protection and privacy policy because the protection of data is exposed to various risks.³¹ In response to such conditions, the Bank Indonesia has enacted the Regulation of Bank Indonesia Number 23/11/PBI/2021 on National Standards of Payments Systems and the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface. They cover customer data protection. The formulation of the Regulation of Bank Indonesia aims to encourage integration, interconnection, interoperability, safety, and infrastructure of payment systems. In addition, the national standards of payment systems will increase market practice of payment systems to be healthy, efficient, and fair.³² On the other hand, the regulation also aims to achieve one of the visions of Indonesia's payment systems to support the digitalization of the banking sector as the primary institution in the digital financial

³⁰ Basel Committee on Banking Supervision, 15.

³¹ Bianca Cavalli Almeida, "Impacts of the General Data Protection Law on Brazilian Financial Institutions", *Revista de Direito Economico e Socioambiental* 12, No. 2 (September 2021): 299.

³² Article 2 Paragraph (1) of Bank Indonesia Regulation Number 23/11/PBI/2021 on Payment System National Standard.

economy through the optimization of digital technology like API.³³ It is also the realization of the Bank Indonesia's functions to regulate and safeguard the payment systems in Indonesia based on Article 8 of the Law on Bank Indonesia.³⁴

The National Standard for Open API Payment (SNAP –*Standar Nasional Open API Pembayaran*) ensure interconnection, interoperability, and efficiency of the implementation of open API for payment services. The SNAP will provide standards of data and technical specifications, technical and safety, as well as a governance guide, to ensure that the open API implementation is consistent in all banks. Eventually it is expected that it will protect customer data. The SNAP aims to achieve the open banking initiative and to implement visions two and three of the BSPI 2025.

This study addresses the urgency of open application programming interface standardization in the implementation of open banking to customer data protection in Indonesia. The results of this study may hopefully be used as recommendations for parties who are involved in the development of SNAP, specifically for data and safety standards.

The method of the study is the normative juridical method with secondary data type. It consisted of primary, secondary, and tertiary legal materials.³⁵ It also uses the normative qualitative data analysis method.

Only a handful of scientific works covers open application programming interface standardization in Indonesia. Muqorobin et al. conducted a study that discusses the effect of open API-based open banking on the existence of banking. It concludes that Indonesia can implement the open API by assessing states that have implemented it like the United Kingdom.³⁶

B. The Urgency of Open Application Programming Interface Standardization Based on the Regulation of Members of the Board of Governors Number 23/15/PADG/2021

1. The National Standard for Open API Payment

Bank Indonesia has enacted SNAP through the Regulation of Bank Indonesia Number 23/11/PBI/2021 on National Standards of Payments Systems and the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface on August 2021. Article 14 Paragraph (1) Letter d of the Regulation of Bank Indonesia Number 23/11/PBI/2021 states that Bank Indonesia

³³ Elucidation of the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

³⁴ Article 8 of the Law Number 23 of 1999 on Bank Indonesia as amended by the Law Number 3 of 2004 on Amendments to the Law Number 23 of 1999 on Bank Indonesia.

³⁵ Soemitro and Ronny Hanitijo, *Metodologi Penelitian Hukum dan Jurimetri*, (Jakarta: Ghalia Indonesia, 1983), 52.

³⁶ Masculine Muhammad Muqorobin et al., "Pengaruh *Open Banking* berbasis *Open API* terhadap Eksistensi Perbankan", *Jurnal Universitas Muhammadiyah Semarang* 11, No. 2 (September 2021): 82.

establishes policies and regulations of application of the National Standard consisting of the extent of transaction processing.³⁷ Transaction processing is a payment transaction processing activity based on the National Standard.³⁸ The Open Application Programming Interface Payment, as defined by Article 1 Number 2 of the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 is an open API to which access to connectivity is granted based on a cooperation agreement between service providers and service users in the processing of payment transactions.³⁹

The SNAP aims to (1) create a healthy, competitive, and innovative payment system industry; (2) encourage integration, interconnection, interoperability, security, and reliability of payment system infrastructure; and/or (3) improve market practice that healthy, efficient, and reasonable in the implementation of the payment system.⁴⁰ According to Article 3 Paragraph (1) of the Regulation, the scope of SNAP consists of (1) interconnection and interoperability; (2) information system security standards; (3) governance; and (4) risk management in the Open API Payment.⁴¹ Article 3 Paragraph (2) of the Regulation also states that the SNAP encompasses three aspects: (1) technical specification; (2) operational specification; and (3) operational guidance.⁴² Furthermore, Article 3 Paragraph (3) of the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 mentioned that the three specifications are contained within several documents: (1) technical and safety standards; (2) data standards and technical specification; and (3) governance guide.⁴³

a. Technical and Safety Standards

The technical and safety standards covers (1) API architecture type; (2) data format; (3) character encoding; (4) http method component; (5) Header-Access Token (B2B and B2B2C) format structure component; (6) Header-Transaction (B2B and B2B2C) format structure component; (7) server authorization and authentication method component; (8) client authentication method component; (9) encryption standard component; (10) secured channel communication

³⁷ Article 14 Paragraph (1) Letter d of Bank Indonesia Regulation Number 23/11/PBI/2021 on Payment System National Standard.

³⁸ Elucidation of Article 14 Paragraph (1) Letter d of Bank Indonesia Regulation Number 23/11/PBI/2021 on Payment System National Standard.

³⁹ Article 1 Number 2 of Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

⁴⁰ Article 2 Paragraph (1) of Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

⁴¹ Article 3 Paragraph (1) of Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

⁴² Article 3 Paragraph (2) of Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

⁴³ Article 3 Paragraph (3) of Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

component; (11) uniform resources identifier (URI) Path standardized component; (12) principles of Business Continuity Plan (BCP); and (13) other safety standards, such as availability of written policy on information systems; certificate of compliance and/or safety standards and obstacles to information systems; Fraud Detection System (FDS); routine audits; and other safety aspects, which include the implementation of a whitelisted IP on the device/asset to conduct the SNAP-based Open API Payment, other supported devices, and the use of a firewall.⁴⁴

b. Data Standards and Technical Specification

The technical and safety standards and the data standards include communication protocol, API architecture type, data format and structure, authentication method, authorization method, encryption method, and requirements for API management. On the other hand, technical specification covers description of schemes and services, use case diagram, sequence diagram, data request structure, data response structure, response code, and examples of request and response.⁴⁵ The technical and safety standards, the data standards, and the technical specification is integrated into the API based on the categories of registration, balance inquiry, transaction history information, and credit and debit transfers.⁴⁶

First, API Registration is required to enables customers associating their data with payment transaction services or gain access to proprietary data. The transaction data in this category may vary based on need, such as debit card data, credit card data, or account balance data.⁴⁷ Second, API Balance Inquiry is required for customers, non-Payment Service Provider service users (non-PSP service users), PSP Account Issuance Services (PSP Ains), and PSP Payment Initiation and/or Acquiring Services (PSP PIAS) to access information on the current balance of the account in real-time, following services provided by PSP Account Information Services (PSP AIS). The transaction data in this category is balance inquiry.⁴⁸ Third, API Transaction History is required so that customers, non-PJP service users, or PJP PIAS can access transaction history information from their accounts in real-time following the services provided by PJP AIS. Transaction history information contains credit transaction data, debit transaction data, account balances data, etc.⁴⁹ Fourth, the Credit Transfer API is used to carry out book-entry of funds from one account to another, both in the same PJP AIS or in a different PJP AIS initiated by

⁴⁴ Bank Indonesia “Standar Teknis dan Keamanan, Versi 1.0.1” (Bank Indonesia, Jakarta, 2021), <https://apidevportal.bi.go.id/snap/docs/standar-teknis-keamanan>, 9-24.

⁴⁵ Elucidation of Article 3 Paragraph (3) of Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

⁴⁶ Article 3 Paragraph (4) of Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface.

⁴⁷ Bank Indonesia, “Standar Data dan Spesifikasi Teknis, Versi 1.0.1”, 1.

⁴⁸ Bank Indonesia, “Standar Data dan Spesifikasi Teknis, Versi 1.0.1”, 76.

⁴⁹ Bank Indonesia, “Standar Data dan Spesifikasi Teknis, Versi 1.0.1”, 86.

the sending party (debt party). Following the name of the category, transaction data in the credit transfer category is credit transfer data.⁵⁰ Fifth, the Debit Transfer API is used to transfer funds from one account to another, both in the same PJP AIS or in a different PJP AIS initiated by the beneficiary party (credited party). Following the name of the category, transaction data in the debit transfer category is debit transfer data.⁵¹ Therefore, the transaction data referred to in SNAP at least include (1) debit card data; (2) credit card data; (3) account data; (4) balance inquiry; (5) transaction history; (6) credit transfer data; and (7) debit transfer data.

The seven transaction data fall into the category of depositor information that must be kept confidential by the bank according to Article 40 of The Law Number 7 of 1992 as amended by The Law Number 10 of 1998 on Amendments to The Law Number 7 of 1992 on Banking.⁵² Article 1 Number 28 of the Law on Banking states that bank secrecy is anything related to information regarding depositors and their deposits.⁵³ The scope of bank secrecy includes deposits, demand deposits, savings, certificates of deposit, other forms, or funds entrusted under a *mudharabah* contract or other contract according to sharia principles. The bank secrecy theory is divided into two theories, namely the absolute and the relative bank secrecy theories. The absolute bank secrecy theory states that banks have an obligation to keep secrets or information about their customers that are known for their business activities under any circumstances, either ordinary or extraordinary. The relative bank secrecy theory states that banks are allowed to disclose the secrets of their customers if it is for an urgent interest, for example for the state or legal interests.

Indonesia adheres to the relative theory of bank secrecy. It can be seen from the Law on Banking, which excludes bank secrecy for (1) taxation (Article 41); (2) settlement of bank's claims that have been submitted to the Agency for State Debt and Auction Affair/State Debt Affair Committee (Article 41A); (3) trial in criminal cases (Article 42); (4) civil cases between banks and their customers (Article 43); (5) exchange of information between banks (Article 44); (6) a written request for approval or authorization from the depositing customer (Article 44A paragraph [1]); and (7) requests for legal heirs from depositors who have died (Article 44A paragraph 2).

Article 44A Paragraph (1) of the Law on Banking requires banks to provide information about depositing customers to parties designated by customers upon written request, approval, or authorization by customers.⁵⁴ The SNAP requires

⁵⁰ Bank Indonesia, "Standar Data dan Spesifikasi Teknis, Versi 1.0.1". 117.

⁵¹ Bank Indonesia, "Standar Data dan Spesifikasi Teknis, Versi 1.0.1". 478.

⁵² Article 40 of the Law Number 7 of 1992 on Banking as amended by the Law Number 10 of 1998 on Amendments to the Law Number 7 of 1992 on Banking.

⁵³ Article 1 Number 28 of the Law Number 7 of 1992 on Banking as amended by the Law Number 10 of 1998 on Amendments to the Law Number 7 of 1992 on Banking.

⁵⁴ Article 44A Paragraph (1) of the Law Number 7 of 1992 on Banking as amended by the Law Number 10 of 1998 on Amendments to the Law Number 7 of 1992 on Banking.

approval from customers to enable the bank as a service provider providing the customer-permission data to fintech/e-commerce.

c. Governance Guide

The governance guide covers (1) consumer-protection; (2) data protection; (3) precautionary requirements for service providers and users; and (4) standards for the Open API Payment contract.⁵⁵

First, guides regarding consumer-protection contain the principles of consumer protection, protection of consumer data used in transactions, and Open API Payments to protect consumer rights such as data owners, handling complaints, and resolving disputes.⁵⁶ Second, guides regarding data protection contain the mechanisms and/or procedures of service providers and PSP service users to protect data, mechanisms for approval, revocation, and deletion or destruction of data, as well as mechanisms and/or procedures for handling the data breach.⁵⁷ Third, guides regarding precautionary requirements for service providers and users contain principles of good governance and prudence, monitoring of compliance with PSP service users' requirements by service providers, periodic monitoring, and preparation of Open API Payment cooperation.⁵⁸ Fourth, guides regarding standards for the Open API Payment contract contain general principles and minimum clauses that must be provided within the contract between the service provider and the PSP service user.

The general principles in drafting an Open API service contract are as follows.

1. Contract is made in the form of an agreement or general terms and principles.
2. Contract contains a minimum clause set by Bank Indonesia and may be added with other clauses deemed necessary by the service provider and/or PJP service users
3. Contract preparation process takes into account the laws and regulations, including in terms of the implementation of the Payment Open API service.
4. Contract contains things that must be done and things that are prohibited.
5. Contract use Indonesian language; and it can be supplemented with English or other foreign languages.

The Open API Payment contract must provide minimum clauses that consist of (1) the parties; (2) definition; (3) scope; (4) timeframe of cooperation, termination of cooperation, and temporary cessation; (5) use of payment with Open API, which covers registration for the Open API Payment, requirements to use the Open API Payment, and mechanism of API payment; (6) rights and obligations of the service-provider and PJP user (the SNAP's Governance Guide also covers rights and

⁵⁵ Bank Indonesia, "Pedoman Tata Kelola, Versi 1.0" (Bank Indonesia, Jakarta, 2021), https://www.bi.go.id/id/layanan/Standar/SNAP/Documents/SNAP_Pedoman_Tata_Kelola.pdf, 1-2.

⁵⁶ Bank Indonesia, "Pedoman Tata Kelola, Versi 1.0", 3-9.

⁵⁷ Bank Indonesia, "Pedoman Tata Kelola, Versi 1.0", 10-17.

⁵⁸ Bank Indonesia, "Pedoman Tata Kelola, Versi 1.0", 18-25.

obligations of each party); (7) confidentiality; (8) handling of complaints from consumers; and (9) dispute settlement.⁵⁹

The SNAP contains data governance policies, cyber security management, cyber security exercises, and cyber security reporting based on international standards. According to BIS, some banks mitigate cyber risks by using are mechanisms such as stricter access privileges, authorized end-to-end encryption, authentication mechanisms, vulnerability testing, establishing an audit trail, setting expiration times for tokens, IP whitelisting, firewalls, and monitoring cyber incidents related to APIs as part of the overall cyber incident monitoring program.⁶⁰ The mechanisms are already contained in the SNAP, especially the technical-and-safety standards and the governance guide. In many jurisdictions, supervised banks use existing risk management policies, especially when it comes to cyber security and operational risk. Some EU Committee jurisdictions require separate assessments to assess GDPR data security compliance. Banks and third parties may find it difficult to meet PSD2's open payment requirements and to comply with GDPR's personal data security requirements.⁶¹

The Bank Indonesia has initiated regulatory reform based on environmental scanning of the payment system with considering the complexity of business models and risks; regulatory practices that tends to be rigid, complex, and rule-based; and transformation settings in other states.⁶² This is a part of risk-based supervision by the Bank Indonesia's function of macroprudential supervision. The SNAP is a form of risk prevention from the Bank Indonesia. The SNAP enables to manage risks related to customer data protection.

2. Comparison between Regulation on Transaction Data Before and After the SNAP

Before the SNAP was established, the process of data-sharing between banks with fintech and/or e-commerce was only based on the agreement between parties; and the practice was not standardized. Previously, there was the Regulation of the Financial Services Authority Number 12/POJK.03/2018 on the Administration of Digital Banking Services by Commercial Banks. It regulated transaction data in the administration of digital banking services. Article 6 of the Regulation states that banks have an obligation to apply the principle of controlling customer data and transaction security from electronic banking services to every electronic system used by banks.⁶³ Article 9 of the Regulation states that banks, which plan to provide digital banking services, must establish a unit to oversee the digital banking

⁵⁹ Bank Indonesia, "Pedoman Tata Kelola, Versi 1.0", 26-36.

⁶⁰ Basel Committee on Banking Supervision. 18.

⁶¹ Basel Committee on Banking Supervision.

⁶² Elucidation of Bank Indonesia Regulation Number 23/11/PBI/2021 on Payment System National Standard.

⁶³ Article 6 of the Regulation of the Financial Services Authority Number 12/POJK.03/2018 on the Administration of Digital Banking Services by Commercial Banks.

services. One of the mandates of the unit is to monitor data of financial transactions from the digital banking services.⁶⁴ In addition, the explanation to Article 9 paragraph d of the Regulation provides that monitoring of data about financial transactions from the digital banking service consist of (1) transaction amount; (2) type of transaction; (3) frequency of transaction; and (4) obstacle which occur during the transaction.⁶⁵

Furthermore, Article 16 of the Regulation of the Financial Services Authority Number 12/POJK.03/2018 provides that in the establishment of digital banking services based on cooperation agreements between bank and its partner, the bank must enact (1) a policy and procedure regarding the determination of the bank's partner; and (2) a written cooperation agreement with the bank's partner in Indonesian language.⁶⁶ The cooperation agreement must contain clauses of (1) rights and obligations; (2) scope of services and products; (3) timeframe of cooperation and time-extension mechanism; (4) requirements and procedures for amendments to the cooperation agreement; (5) sanctions and the sanctioning mechanism; (6) conditions and procedures for termination of the cooperation agreement; and (7) dispute-settlement procedures.⁶⁷

On the other hand, after the establishment of the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 as the legal basis for SNAP, the process of data sharing between banks with fintech and e-commerce has become more standardized and will not vary. Based on five categories, the transaction data that may be shared by a bank in its cooperation with fintech and/or e-commerce are (1) debit card data; (2) credit card data; (3) account data; (4) balance inquiry; (5) transaction history containing details about credit transaction data, debit transaction data, account balance data and other data; (6) credit transfer; and (7) debit transfer.

Furthermore, the governance guide determines the clauses that must be provided within the contract on Open API Payment Services. The clauses are (1) the parties; (2) definition; (3) scope; (4) timeframe of cooperation, termination of cooperation, and temporary cessation; (5) use of payment with Open API, which covers registration for the Open API Payment, requirements to use the Open API Payment, and mechanism of API payment; (6) rights and obligations of the service-provider and PJP user (the SNAP's Governance Guide also covers rights and

⁶⁴ Article 9 of the Regulation of the Financial Services Authority Number 12/POJK.03/2018 on the Administration of Digital Banking Services by Commercial Banks.

⁶⁵ Elucidation of Article 9 Paragraph d of the Regulation of the Financial Services Authority Number 12/POJK.03/2018 on the Administration of Digital Banking Services by Commercial Banks.

⁶⁶ Article 16 Paragraph (1) of the Regulation of the Financial Services Authority Number 12/POJK.03/2018 on the Administration of Digital Banking Services by Commercial Banks.

⁶⁷ Elucidation of Article 16 Paragraph (1) b of the Regulation of the Financial Services Authority Number 12/POJK.03/2018 on the Administration of Digital Banking Services by Commercial Banks.

obligations of each party); (7) confidentiality; (8) handling of complaints from consumers; and (9) dispute settlement.⁶⁸

The comparison between the contents of the Regulation of the Financial Services Authority Number 12/POJK.03/2018 and SNAP can be seen in the following tables.

Table 1. Comparison of Transaction Data within the Regulation of the Financial Services Authority Number 12/POJK.03/2018 and the SNAP

Transaction Data	The Regulation of the Financial Services Authority Number 12/POJK.03/2018	SNAP
Transaction amount	Yes	Yes, covered by transaction history category
Type of transaction	Yes	Yes, split into credit transfer category and debit transfer category
Frequency of transaction	Yes	Yes, covered by transaction history category
Obstacle during the transaction	Yes	No
Debit cards data (registration categories)	No	Yes
Credit cards data (registration categories)	No	Yes
Account data (registration categories)	No	Yes
Balance inquiry	No	Yes
Transaction history which contains details about credit or debit transactions, account balance and other information	No, just frequency of transaction and transaction amount	Yes
Credit transfer	No, just type of transaction	Yes
Debit transfer	No, just type of transaction	Yes

Source: The Regulation of the Financial Services Authority Number 12/POJK.03/2018 and SNAP

⁶⁸ Bank Indonesia, "Pedoman Tata Kelola, Versi 1.0", 27-36.

Based on table 1, three types of transaction data in the Regulation of the Financial Services Authority Number 12/POJK.03/2018 that also can be found in the SNAP are (1) nominal transactions (SNAP: in transaction history); (2) the type of transaction (SNAP: in credit transfers category and debit transfers) and (3) the frequency of transactions (SNAP: in the transaction history). The only type of transaction data in the Regulation that cannot be found in the SNAP is the obstacle in transactions.

Seven types of transaction data in the SNAP that cannot be found in the Regulation are (1) debit card data; (2) credit card data; (3) account data; (4) balance inquiry; (5) transaction history containing details of credit and debit transactions, account balances, and some other information; (6) credit transfer; and (7) debit transfer. It is because the Regulation does not contain debit card data, credit card data, and account data. Although the Regulation covers nominal transactions and transaction frequency, both are part of the transaction history in the SNAP. The Regulation also does not specifically regulate the types of transaction data under the term “transaction history”. The types of transactions in the Regulation is more general than the SNAP where the credit transfers data and debit transfers data are in different types of data. Therefore, the regulation of transaction data on the SNAP is more comprehensive and specific than the regulation of transaction data on the Regulation since it regulates transaction data on a wider scale. It is in the implementation of digital banking services by commercial banks. On the other hand, the SNAP regulates transaction data on a narrower scale, namely in the use of the Payment Open API.

Table 2. Comparison of Minimum Clauses within the Regulation of the Financial Services Authority Number 12/POJK.03/2018 and the SNAP

Minimum Clauses	The Regulation of the Financial Services Authority Number 12/POJK.03/2018	SNAP
Rights and Obligations	Yes	Yes, under the term <i>Rights and obligations of the Service-Provider and PSP User</i> . The SNAP's Governance Guide also cover rights and obligations of each party.
Scope of Services and Products	Yes	Yes, under the term <i>Scope</i> .

Timeframe of Cooperation and Time-Extension Mechanism	Yes	Yes, under the term <i>Timeframe of Cooperation, Termination of Cooperation, and Temporary Cessation</i> .
Requirements and Procedures for Amendments to the Cooperation Agreement	Yes	No
Sanctions and the Sanctioning Process	Yes	No
Conditions and Procedures for Termination of the Cooperation Agreement	Yes	No, but it is covered under clauses of <i>Timeframe of Cooperation, Termination of Cooperation, and Temporary Cessation</i>
Dispute-Settlement Procedures	Yes	Yes, under the term <i>Dispute-Settlement</i>
The Parties	No	Yes
Definition	No	Yes
Use of Payment with Open API, which covers registration for the Open API Payment, requirements to use the Open API Payment and API Payment Mechanism	No	Yes
Confidentiality	No	Yes
Handling of Complaints from Consumers	No	Yes

Source: The Regulation of the Financial Services Authority Number 12/POJK.03/2018 and the SNAP

Based on table 2, there are four minimum clauses contained in the Regulation of the Financial Services Authority Number 12/POJK.03/2018 that also can be found in the SNAP. They are (1) rights and obligations (in SNAP: *Rights and Obligations of the Service-Provider and PSP User*); (2) Scope of Services and Products (in SNAP: *Scope*); (3) Implementation Period of Cooperation and Extension Mechanisms (in SNAP: *Timeframe of Cooperation, Termination of Cooperation, and Temporary Cessation*); and (4) Procedure for Settlement of Disputes (in SNAP: *Dispute Resolution*). The Regulation contains three minimum clauses that cannot be found in the SNAP: (1) Requirements and Procedures for

Amendments to the Cooperation Agreement; (2) Sanctions and the Sanctioning Process; and (3) Conditions and Procedures for Termination of the Cooperation Agreement. Although the SNAP does not contain a specific minimum clause with the name of *Conditions and Procedures for Termination of the Cooperation Agreement*, there is regulation regarding termination of the cooperation agreement in *Timeframe of Cooperation, Termination of Cooperation, and Temporary Cessation*".

On the other hand, the SNAP contains five minimum clauses that cannot be found in the Regulation of the Financial Services Authority Number 12/POJK.03/2018. They are (1) the parties, (2) definitions, (3) use of payment with Open API, which covers registration for the Open API Payment, requirements to use the Open API payment and API payment mechanism, (4) Confidentiality, and (5) Handling of Complaints from Consumers. Therefore, the minimum clause of SNAP is more comprehensive than the Regulation of the Financial Services Authority Number 12/POJK.03/2018. The Regulation cover minimum clauses on a wider scale, namely in the contract between bank and its partner in the implementation of digital banking services by commercial banks. The SNAP regulates minimum clauses on a narrower scale, namely in the use of the Open API Payment contract between service provider and service user.

The Regulation of the Financial Services Authority Number 12/POJK.03/2018 states that the relationship between banks and fintech and/or e-commerce is not strong enough if it is based solely on agreements between parties. Indeed, the Financial Services Authority present as a supervising institution, parties will ultimately return to their agreement. In contrast to the Regulation of the Financial Services Authority Number 12/POJK.03/2018, the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface provides standards for both service providers and service users.

Regardless of the existence of the SNAP and its legal basis, the implementation of a SNAP-based open API must still be supported with the vigilance of regulations governing data protection. At the moment, Indonesian has 32 sectoral regulations.⁶⁹ Regulations governing personal data are also limited to the Law Number 11 of 2008 as amended by the Law Number 19 of 2016 on Amendments to the Law Number 11 of 2008 on Electronic Information and Transactions, the Government Regulation Number 71 of 2019 on the Establishment of Electronic Systems and Transactions (GR 71/2019), and the Regulation of the Minister of Communications and Informatics Number 20 of 2016 on Personal Data Protection in Electronic Systems (MCI Regulation 20/2016). There is an increased importance

⁶⁹ Kementerian Komunikasi dan Informatika Republik Indonesia. "Lindungi Data Pribadi, Ada Empat Unsur Penting Pengaturan RUU PDP". [www.kominfo.go.id](https://www.kominfo.go.id/content/detail/27503/lindungi-data-pribadi-ada-empat-unsur-penting-pengaturan-ruupdp/0/artikel), <https://www.kominfo.go.id/content/detail/27503/lindungi-data-pribadi-ada-empat-unsur-penting-pengaturan-ruupdp/0/artikel> (accessed on March 1, 2022).

for the House of Representative of the Republic of Indonesia to finalize and adopt the Law on the Personal Data Protection as soon as possible.

3. Benefits of the National Standard for Open API Payment for Banks, Fintech, and Customers

The effectiveness of SNAP, under the Regulation of Members of the Board of Governors Number 23/15/PADG/2021, can be seen from Posner's theory of Economic Analysis of Law. Posner states that an individual will be more inclined to comply with a certain law if the individual believes that law adherence will grant more benefits than if the individual were to disobey the law.⁷⁰ In other words, a certain regulation will be considered effective if the benefits of the law adherence will outweigh its costs. Therefore, the effectiveness of SNAP, according to the Regulation, can be determined by seeing whether the benefits accrued by banks and customers outweighs the costs of using the SNAP-based open API.

The SNAP, which regulates the transaction data that can be shared by banks with fintech and e-commerce, will assist banks in fulfilling the prudential banking principles. The application of the prudential banking principles is closely related to the bank since the bank was founded, operates, issues products, and serves the customer.⁷¹ It is because the data standards will restrict banks from freely choosing transaction of data that may be shared in their agreements with fintech and e-commerce. In addition, the SNAP will create healthy competition among banks.

For fintech and e-commerce, SNAP will ease and increase the efficiency of transactions as fintech, and e-commerce will be able to access the data of bank customers in accordance with the standards without having to further negotiate with the banks on the data to be shared. This will streamline collaborations between banks with fintech and e-commerce because both parties have already acknowledged, based on the law, types of data to be shared. It will accelerate the digitalization of the banking and financial sector.

For customers, the SNAP, which requires banks and fintech to ask for customer permission, will ensure safety. Customers will not have to worry whether the data could be shared without their permission. It will also provide opportunities for the population to open bank accounts due to the simplicity and safety of transactions provided by using the SNAP-based open API.

C. Conclusion

The Regulation of Bank Indonesia Number 23/11/PBI/2021 on National Standards of Payments Systems and the Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of

⁷⁰ Fajar Sugianto, *Economic Analysis of Law: Seri Analisis Ke-ekonomian tentang Hukum*, (Jakarta: Kencana Prenadamedia Group, 2014), 7.

⁷¹ Lastuti Abubakar and Tri Handayani, "Telaah Yuridis terhadap Implementasi Prinsip Kehati-hatian Bank dalam Aktivitas Perbankan Indonesia", *De Lega Lata Jurnal Ilmu Hukum* 2, No. 1 (Januari-Juni 2017): 80.

Payments using Open Application Programming Interface are the realization of the Bank Indonesia's functions to regulate and safeguard the payment systems in Indonesia based on Article 8 of the Law on Bank Indonesia. This is also a part of risk-based supervision by Bank Indonesia which still has function of macroprudential supervision. The SNAP covers (1) technical specification, (2) operational specification, and (3) operational guidance. They are contained within several documents: (1) technical and safety standards; (2) data standards and technical specification; and (3) governance guide.

The technical and safety standards and the data standards include communication protocol, API architecture type, data format and structure, authentication method, authorization method, encryption method, and requirements for API management. On the other hand, technical specification covers description of schemes and services, use case diagram, sequence diagram, data request structure, data response structure, response code, and examples of request and response. The governance guide covers guides for consumer-protection, data protection, precautionary requirements for service providers and users, as well as standards for the Open API Payment contract. These standards will ensure that open API implementation is consistent across banks to ensure that customer data is protected. The SNAP is integrated into the API under the categories of registration, balance inquiry, transaction history information, credit transfers, and debit transfers. Based on the categories, there are at least seven transaction data that referred to in SNAP. They are (1) debit card data; (2) credit card data; (3) account data; (4) balance inquiry; (5) transaction history; (6) credit transfer data; and (7) debit transfer data. Although the seven-transaction data fall into the category of depositor information that must be kept confidential by the bank, according to Article 40 of the Law on Banking, the bank still can provide the transaction data upon written request, approval, or authorization by customers.

Before the SNAP was established, the process of data-sharing between banks with fintech and/or e-commerce was only based on the agreement between parties; and the practice was not standardized. Previously, there was the Regulation of the Financial Services Authority Number 12/POJK.03/2018 on the Administration of Digital Banking Services by Commercial Banks. Based on the comparison, the regulation on transaction data and the minimum clauses in the open API contract required by the SNAP is more comprehensive than the regulation regarding the transaction data and the minimum clauses required by the Regulation of the Financial Services Authority Number 12/POJK.03/2018. The Regulation that the relationship between banks and fintech and/or e-commerce is solely based on agreements between parties is also insufficient. Despite the presence of the Financial Service Authority as a supervising institution, parties will ultimately return to the parties' agreement. The Regulation of Members of the Board of Governors Number 23/15/PADG/2021 on the Implementation of National Standards of Payments using Open Application Programming Interface provides

standards for both service providers and service users, in contrast to the Regulation of the Financial Services Authority Number 12/POJK.03/2018. Regardless of the existence of the SNAP and its legal basis, the implementation of a SNAP-based open API must be accompanied by strict adherence to data protection regulations.

The establishment of the SNAP is important for all parties involved in the open API, such as banks, fintech, e-commerce, and customers. For banks, the SNAP assists them to fulfil the prudential banking principle. For fintech and e-commerce, the SNAP eases transactions because fintech and e-commerce can directly access customer data without having to negotiate with bank beforehand on the customer data to be shared. For customers, the SNAP ensures safety as they will not have to worry whether the data could be shared without their permission.

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