

ENHANCING THE COMPETITIVENESS OF INDONESIA'S FINANCIAL SERVICES SECTOR IN THE DIGITAL ERA THROUGH OPEN BANKING: LESSONS LEARNED FROM THE UK'S EXPERIENCE

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Abstract

In 2021, Bank Indonesia launched the National Open API Payment Standard (SNAP) to facilitate interoperable data-access for Indonesia's digital payments sector. This article examines the lessons learned from the UK's experience in open payments to improve the regulatory and institutional framework of Indonesia's open banking regime. This article employs a comparative legal analysis of the UK's open banking regime and concludes that Indonesia's open banking regime could be improved by expanding the delivery of the Open API standards enabling interoperable data access for the entire financial services sector through an outcomes-based approach. Such expansion could be facilitated by encouraging collaboration between banks and fintechs and by creating an Open Banking App Store to increase user adoption, enhance product visibility, and widen access to digital financial services for Micro, Small, and Medium Enterprises (MSMEs).

Keywords: *open banking; digital economy; fintech; financial inclusion; data access.*

I. INTRODUCTION

As a result of what has come to be termed the Fourth Industrial Revolution¹ and the COVID-19 pandemic,² economies across the globe are currently experiencing an unprecedented wave of digitalisation. The digital revolution has had profound implications for financial regulation, as it has dramatically transformed markets behaviour. One particularly salient example relates to how digitalisation has changed the way consumers conduct their finances. For instance, due to the months-long lockdown that occurred in Indonesia during

¹ "The Fourth Industrial Revolution: what it means, how to respond," Word Economic Forum 14 January 2016, accessed 22 April 2022, <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

² Varun Grover and Rajiv Sabherwal, "Making sense of the confusing mix of digitalization, pandemics and economics," *International journal of information management* 55 (2020).

the pandemic, Indonesia's Central Bank ('BI') reported an increase of 39.85% (year-over-year) in the value of electronic money transactions by the second quarter of 2022, as well as an increase of 38.45% (year-over-year) in the value of digital banking transactions during the same period.³

To capitalise on the rapid growth of Indonesia's digital banking sector, the Indonesian government introduced a new regulatory framework in 2021 forming the foundation of Open Banking in Indonesia. On the auspicious occasion of Indonesia's 76th year of independence, in 2021, BI announced the launch of an important standard to facilitate Open Banking in Indonesia: The National Open API Payment Standard ('SNAP').⁴ In essence, SNAP is a standardised application programming interface ('API') developed by BI to facilitate inter-application connectivity for payment transaction processing in Indonesia. The introduction of SNAP was a landmark achievement for the implementation of Open Banking in Indonesia, because prior to the establishment of SNAP there were no standardised data-sharing protocol between banks and fintechs, which greatly hindered interoperable data sharing across the financial industry.⁵ As a result, the creation of a national Open API standard is expected "*to create integration, interconnectivity and interoperability among API operators, thus driving payment system efficiency.*"⁶

Following the introduction of SNAP, several scholars published their ideas in scholarly journals related to the development of open banking in Indonesia. For instance, Amalia and others in their article entitled *Legal Issues of Personal Data Protection and Consumer Protection in Open API Payments* identified the need to further strengthen regulations related to personal data and consumer protection to ensure that the consumer's rights are sufficiently protected when they are conducting transactions through the Open API payments system.⁷ Further, on the issue of data privacy, Bajrektarevic and others, in their article entitled *Consumer Explicit Consent Under Indonesian Banking Regulations* compared

³ "BI 7-Day Reverse Repo Rate Held At 3.50%: Synergy Maintaining Stability and Strengthening Recovery," Bank Indonesia, 21 July 2022, accessed 28 July 2022, [https://www.bi.go.id/en/publikasi/ruang-media/news-release/Pages/sp_2419522.aspx#:~:text=The%20BI%20Board%20of%20Governors,LF\)%20rates%20at%204.25%25](https://www.bi.go.id/en/publikasi/ruang-media/news-release/Pages/sp_2419522.aspx#:~:text=The%20BI%20Board%20of%20Governors,LF)%20rates%20at%204.25%25).

⁴ "Bank Indonesia Launches National Open API Payment Standard and Sandbox Trials of QRIS and Thai QR Payment Interconnectivity," 19 August 2021, accessed 30 October 2022, https://www.bi.go.id/en/publikasi/ruang-media/news-release/Pages/sp_2321121.aspx.

⁵ Billiam Billiam, Lastuti Abubakar, and Tri Handayani, "The Urgency of Open Application Programming Interface Standardization in the Implementation of Open Banking to Customer Data Protection for the Advancement of Indonesian Banking," *PADJADJARAN Jurnal Ilmu Hukum (Journal of Law)* 9, no. 1 (2022).

⁶ *Ibid*

⁷ See Camila Amalia et al., "Legal Issues of Personal Data Protection and Consumer Protection in Open API Payments," *Journal of Central Banking Law and Institutions* 1, no. 2 (2022).

the notion of 'explicit consent' in Indonesia's SNAP regulations with Europe's Payment Services Directive of 2017 ('PSD2'), and found that there were gaps in Indonesia's SNAP regulations related to data portability, re-confirmation of consent, and sensitive data protection.⁸ Meanwhile, Hassany and Pambekti in their article entitled *Review on the Application of Open Banking in Sharia Banking: A SWOT Analysis* found that the Islamic Banking sector can use several strategies to enhance the implementation of open banking, including by strengthening the cooperation between Sharia Banks with fintech and e-commerce platforms, and by improving their technology and security systems to ensure compliance with the standards set by regulators.⁹

While these articles have made important contributions to the body of literature on open banking, there has yet to be any article that has provided clear guidance for improving the overall regulatory and institutional framework of Indonesia's Open Banking regime. This issue is critical because the efficacy of any country's Open Banking regime depends on the effective design of its regulations and the institutional mechanisms that serve to implement and enforce those regulations in the market.¹⁰ In other words, without an effective regulatory and institutional framework, the Open Banking regime will not be able to fully realise its benefits for consumers, for the financial services industry, and for the society as a whole. This issue is especially relevant for a developing country such as Indonesia which has just embarked on its journey to establishing its Open Banking system, and which has not yet had the years of experience that some of the more mature jurisdictions have had. That is why it is important for younger jurisdictions such as Indonesia to learn from the experiences and the lessons of more advanced jurisdictions such as the UK, EU, or the US.

To bridge this gap, this article analyses the lessons learned by the UK's experience with Open Banking to improve the regulatory and institutional framework of Indonesia's Open Banking Regime. The primary finding of this article is that Indonesia's Open Banking regime could be improved by expanding the delivery of the Open API standards to enable interoperable data access for the entire financial services sector through an outcomes-based approach. Furthermore, such expansion is achievable by facilitating collaboration between banks and fintechs through the appointment of a centralised coordinator to establish a forum to facilitate dialogue, as well as

⁸ See Anis H. Bajrektarevic et al., "Costumer Explicit Consent Under Indonesian Open Banking Regulations," *Jambura Law Review* 4, no. 2 (2022).

⁹ See Egha Ezar Junaeka Putra Hassany and Galuh Tri Pambekti, "Review on the Application of Open Banking in Sharian Banking: An SWOT Analysis," *Jurnal Ekonomi dan Keuangan Syariah* 5, no. 1 (2022).

¹⁰ See Ron Babin and Donna Smith, "Open Banking and Regulation: Please Advice the Government," *Journal of Information Technology Teaching Cases* 12, no. 2 (2022).

by creating an Open Banking App Store to increase user adoption, enhance product visibility, and widen access to digital financial services for micro, small, and medium enterprises (“MSMEs”).

In terms of methodology, this article employs a comparative legal analysis because such comparative studies prove especially useful for identifying the best practices of more experienced jurisdictions and tailoring those practices to improve the legal framework of the home jurisdiction.¹¹ To be sure, it is true that Indonesia and the UK has two distinct legal systems; the former having a civil law system and the latter having a common law system. However, the UK was specifically chosen as the comparator for this comparative legal analysis, due to the similarities in the approaches chosen by Indonesia and the UK in implementing their Open Banking regimes. In this regard, both Indonesia and the UK have adopted a “*government-driven*” approach where regulators take charge of the development, implementation, and enforcement of the Open Banking regime.¹² This can be contrasted with other jurisdictions, including the US, for instance, who instead has adopted a “*market-driven*” approach, where it is the industry players who initiate, develop, and implement its Open Banking system.¹³ Therefore, the parallel approaches in Indonesia’s and the UK’s Open Banking regimes mean that such comparison are likely to yield more relevant insights, rather than a comparison between jurisdictions with different approaches, even where their general legal systems differ.

As such, following this introduction, this article is divided into five further sections as follows: First, this article provides an overview of the developing of the Open Banking system in general to contextualise the issues that the subsequent analyses seeks to address; Second, it examines the regulatory framework currently in place in Indonesia to facilitate Open Banking; Third, it looks at the regulatory framework and institutional structure of the UK’s Open Banking regime to understand how the UK has become one of the world’s leading Open Banking jurisdictions; Fourth, it identifies the insights and the lessons learned from the UK’s experiences to formulate policy recommendations to further increase the effectiveness of Indonesia’s Open Banking Regime; Finally, in the concluding remarks, summarises the way forward for Open Banking in Indonesia.

¹¹ See Mathias Reimann and Reinhard Zimmermann, *The Oxford handbook of comparative law*, Second ed., Comparative law, (Oxford: Oxford University Press, 2019).

¹² Andres Wolberg-Stok, “Open Banking Ecosystem and Infrastructure: Banking on Openness,” in *Open Banking*, ed. Linda Jeng (Oxford University Press, 2022), 20-24.

¹³ U.S. Department of Treasury, *A Financial System That Creates Economic Opportunities: Nonbank Financials, Fintech, and Innovation* (2018), <https://home.treasury.gov/sites/default/files/2018-08/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financials-Fintech-and-Innovation.pdf>, 198.

II. AN OVERVIEW OF THE DEVELOPMENT OF THE OPEN BANKING SYSTEM

The recent proliferation and growth of digital payments in Indonesia can be seen as an indication of the growing importance of fintech in Indonesia's economy, especially in this digital era. The term 'fintech' itself can be understood in two ways. As an *activity*, fintech refers to "*technology-enabled innovation that transforms financial services;*" while as an *entity*, fintech refers to "*a non-bank institution that uses advanced technologies to perform traditional banking activities.*"¹⁴ Fintech start-ups provide a wide array of services, and the range of services that they offer will likely continue to evolve due to the dynamic nature of technology. Currently, there are a number of fintech services that have been recognised by Indonesia's Financial Services Authority ('OJK') which include¹⁵ digital payment services,¹⁶ e-money,¹⁷ and peer-to-peer ('P2P') lending.¹⁸

The distinguishing features that make these fintech services so valuable to consumers, especially when compared to conventional banks, is their "*increased convenience for users, increased efficiencies, [and] lower costs.*"¹⁹ Fintechs can deliver these advantages because they are able to leverage highly advanced technologies such as artificial intelligence,²⁰ blockchain,²¹ big data,²² and machine learning,²³ to provide financial services that banks traditionally offer, but "*in a more innovative and customer-centric fashion.*"²⁴ As a result, some have referred to the fintechs' disruption of the financial services industry as the "*unbundling of a bank,*" s illustrated in the widely-replicated figure below:

¹⁴ See OECD, *Fintechs and the Financial Side of Global Value Chains* (2017), [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/STD/DAF\(2017\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/STD/DAF(2017)1&docLanguage=En).

¹⁵ See OJK, *Digital Finance Innovation Road Map and Action Plan 2020-2024* (2020).

¹⁶ "[S]ervices that use technology to facilitate payment transactions by transferring money, and clearing or settling balances digitally, without the use of physical money"

¹⁷ "Monetary value that is stored electronically as a receipt of funds and is used for payment transactions"

¹⁸ "[A] form of direct lending whereby investors make loans to individuals or businesses without the direct participation of a commercial lending institution using a digital platform that takes a percentage of the loan or a fee for its services"

¹⁹ Wolberg-Stok, "Open Banking Ecosystem and Infrastructure: Banking on Openness.", 13

²⁰ "[I]nformation technology (IT) systems that perform functions requiring human capabilities, such as asking questions, discovering and testing hypotheses, and making decisions automatically based on advanced analytics operating on extensive data sets"

²¹ "[A] type of distributed ledger that uses independent computers (referred to as nodes) to record, share, and synchronise transactions in their respective electronic ledgers (instead of keeping data centralised as in a traditional ledger)"

²² "[T]he massive volume of data that is generated by the increasing use of digital tools and information systems"

²³ "[A] method of designing problem-solving rules that improve automatically through experience through the use of machine learning algorithms that give computers the ability to learn without specifying all the knowledge a computer would need to perform a desired task"

²⁴ "Forming a Cohesive Fintech Agenda for the G20," G-20 Insights, 10 December 2020, accessed 30 October 2022, https://www.g20-insights.org/policy_briefs/forming-a-cohesive-fintech-agenda-for-the-g20-3/.

To address this informational asymmetry, numerous advanced economies have started to adopt a ground-breaking data-access regime called ‘Open Banking.’²⁹ Essentially, Open Banking refers to “*the sharing of customer data by banks with other parties with the permission of customers.*”³⁰ In countries with established Open Banking regimes, consumers are able to request their banks share their financial data with a specified third-party (usually a fintech), and the banks are obliged to allow these third-parties access to the relevant data held by the bank. Open Banking has transformed the financial services industry in many developed economies because “*by breaking open the data silos of traditional banks, open banking regimes allow fintechs and other innovators to access customer data, including transaction data, and use these data to develop new products and services that are better suited to the needs of consumers.*”³¹ It is then expected that the Open Banking movement can accelerate the digitalisation of the financial industry towards a true electronic market,³² and will over time evolve to a system of ‘Open Finance,’³³ where all financial service providers have interoperable access to data, so that no ‘walled gardens’ exist and data becomes democratised.

Interestingly, the inception of Open Banking in some pioneering jurisdictions were not initiated by the financial services authorities or banking regulators, but rather by their counterparts in the competition agency. Specifically, in the UK, the impetus for Open Banking originated from a market investigation conducted by the UK’s Competition and Markets Authority (‘CMA’) on the UK’s retail banking sector.³⁴ In their report, the CMA concluded that “*older and larger banks do not have to compete hard enough for customers’ business, and smaller and newer banks find it difficult to grow. This means that many people are paying more than they should and are not benefiting from new services.*”³⁵ To tackle these issues, the CMA introduced a remedies package which included a requirement for the nine

²⁹ For a discussion on the definition of Open Banking see Phil Laplante and Nir Kshetri, “Open Banking: Definition and Description,” *Computer (Long Beach, Calif.)* 54, no. 10 (2021); Mohamad Kassab and Phillip A. Laplante, “Open Banking: What It Is, Where It’s at, and Where It’s Going,” *Computer (Long Beach, Calif.)* 55, no. 1 (2022); Kassab and Laplante, “Open Banking: What It Is, Where It’s at, and Where It’s Going.”

³⁰ See Linda Jeng, “Inception to Open Banking,” in *Open Banking*, ed. Linda Jeng (Oxford University Press, 2022), 1-2.

³¹ Ariadne Plaitakis and Stefan Staschen, *Open Banking: How to Design for Financial Inclusion* (2020), https://www.cgap.org/sites/default/files/publications/2020_10_Working_Paper_Open_Banking.pdf, 1

³² Richard Dratva, “Is Open Banking Driving the Financial Industry towards a True Electronic Market?,” *Electronic markets* 30, no. 1 (2020).

³³ Francesco De Pascalis, “The Journey to Open Finance: Learning from the Open Banking Movement,” *European business law review* 33, no. 3 (2022).

³⁴ See CMA, *Retail Banking Market Investigation - Final Report* (2016), <https://assets.publishing.service.gov.uk/media/57ac9667e5274a0f6c00007a/retail-banking-market-investigation-full-final-report.pdf>.

³⁵ “CMA paves the way for Open Banking revolution,” CMA, 2016, accessed 30 October 2022, <https://www.gov.uk/government/news/cma-paves-the-way-for-open-banking-revolution>.

largest banks in the UK to work with the UK government to develop, fund and implement Open Banking standards by early 2018. The Open Banking remedy is expected to “*significantly increase competition between [sic.] banks, by [...] paving the way to the development of new business models offering innovative services to customers.*”³⁶ Ever since then, the success of the UK’s Open Banking regime has had a ‘butterfly effect’ on the rest of the globe, with several other jurisdictions including Australia, Canada and Brazil modelling their own Open Banking framework on the UK’s example.³⁷

Open Banking may also have immense potential for Indonesia, as the world’s fourth largest nation is on the precipice of becoming one of Asia’s largest digital economy due to its rising Internet penetration rate and the resulting growth of its digital consumer base.³⁸ The Indonesian government’s emphasis on developing a supportive regulatory framework has also enabled exponential growth of the country’s fintech industry, as there are currently over 270 active fintechs in Indonesia. However, if we were to look at the bigger picture, there is still much work to be done, especially since Indonesia has one of the world’s largest unbanked and underbanked populations, where “*over 18% the adult population in Indonesia is unbanked and 50% are underbanked.*”³⁹ Thus, an effective Open Banking regime could be a key driver to unlocking the full potential of Indonesia’s digital finance service markets by promoting competition,⁴⁰ fostering innovation in the financial services sector,⁴¹ increasing financial inclusion,⁴² and democratising finance for the population.⁴³

³⁶ CMA, *Retail Banking Market Investigation - Summary of Final Report* (2016), <https://assets.publishing.service.gov.uk/media/57a8c0fb40f0b608a7000002/summary-of-final-report-retail-banking-investigation.pdf>, para. 166

³⁷ Gavin Littlejohn, Ghela Boskovich, and Richard Prior, “United Kingdom: The Butterfly Effect,” in *Open Banking*, ed. Linda Jeng (Oxford University Press, 2022), 173.

³⁸ OJK, *Digital Finance Innovation Road Map and Action Plan 2020-2024*, ix.

³⁹ See Cambridge Centre for Alternative Finance (CCAF), *The 2nd Global Alternative Finance Market Benchmarking Report* (2021), <https://www.jbs.cam.ac.uk/wp-content/uploads/2021/06/ccaf-2021-06-report-2nd-global-alternative-finance-benchmarking-study-report.pdf>.

⁴⁰ See Zhiguo He, Jing Huang, and Jidong Zhou, “Open Banking: Credit Market Competition when Borrowers Own the Data,” *Journal of Financial Economics* 147, no. 2 (2023).

⁴¹ Fred Bär and Ivan Mortimer-Schutts, “Innovation in Open Banking: Lessons from the Recent Wave of Payment Institutions that Have Been Authorised to Provide Payment Initiation and Account Information Services,” *Journal of Payments Strategy & Systems* 14, no. 3 (2020).

⁴² See Plaitakis and Staschen, *Open Banking: How to Design for Financial Inclusion.*; Emma Leong and Jodi Gardner, “Open Banking in the UK and Singapore: Open Possibilities for Enhancing Financial Inclusion,” *Journal of Business Law*, no. 5 (2021).

⁴³ Martin Cooper, “How Open Banking is Democratising Finance,” *ITNow* 63, no. 3 (2021).

III. INDONESIA'S REGULATORY FRAMEWORK FOR OPEN BANKING: A FOCUS ON OPEN API PAYMENTS

As a country taking a government-driven approach, Indonesia's first steps in implementing its Open Banking regime aptly began through BI's initiative. Recognising the importance of Indonesia's rapidly growing digital economy and the importance of data as a key resource to competitiveness in the digital era, BI published the Indonesia Payment Systems Blueprint 2025 ('2025 Blueprint') in 2019, where it outlined its vision for the development of Open Banking in Indonesia.⁴⁴ To achieve this, BI stated that Indonesia's Open Banking regime will be implemented through an 'Open API' standardisation process for the payments sector (including data, technical, security, and governance standards), to facilitate the exchange of consumers' financial data and enable interlinks between banks and fintech.⁴⁵ Prior to the 2025 Blueprint, most API collaborations were based on the 'Partner APIs' model where the APIs "*are open to selected partners based on bilateral agreements*."⁴⁶ Consequently, there was limited interconnectivity among the different industry players. However, the introduction of the Open API collaboration model meant that there would be a common API standard used across the financial services industry, which will be accessible by anyone who is registered in the system. This breakthrough is expected to be one of the key drivers enabling greater interconnectivity and interoperability for data access between banks and fintechs in Indonesia.

The 2025 Blueprint also provides the policy context of its proposed Open API Standards, which will guide the implementation of the policy framework. In this regard, there are three aspects of the policy context which are noteworthy. First, it is clear that BI intends for Indonesia's Open Banking regime to implement a data-access system based on the principle of 'data reciprocity'.⁴⁷ This means that fintechs can request access to data held by banks but must also share their own data with banks if they so request. The rationale behind this principle is "*to maintain the level playing field between banks and fintech, prevent monopoly risk, and widen the opportunity for inclusiveness from the acquisition of more extensive granular data*."⁴⁸ Second, a key policy objective for Indonesia's

⁴⁴ See Bank Indonesia, *Indonesia Payment Systems Blueprint 2025 BI: Navigating the National Payment Systems in Digital Era* (2019), <https://www.bi.go.id/en/publikasi/kajian/Documents/Indonesia-Payment-Systems-Blueprint-2025.pdf>.

⁴⁵ Bank Indonesia, *Indonesia Payment Systems Blueprint 2025 BI: Navigating the National Payment Systems in Digital Era*, 3.

⁴⁶ See EBA Working Group on Electronic Alternative Payments, *Understanding the business relevance of Open APIs and Open Banking for banks: Information Paper* (2016), <https://www.abe-eba.eu/media/azure/production/1522/business-relevance-of-open-apis-and-open-banking-for-banks.pdf>.

⁴⁷ Plaitakis and Staschen, *Open Banking: How to Design for Financial Inclusion*, 20.

⁴⁸ Bank Indonesia, *Indonesia Payment Systems Blueprint 2025 BI: Navigating the National Payment Systems in Digital Era*, 23.

Open Banking regime is to increase financial inclusion by widening access to digital financial services to the over 62 million unbanked MSMEs in Indonesia. To realise this, BI notes that the development of the Open API Standards will be “*directed at standardizing the opening of payment data for use cases of MSME loan disbursement based on customer approval.*”⁴⁹ Third, while an over-arching goal of Open Banking is to promote competitiveness, it is interesting to note that BI emphasises the importance of cooperation and collaboration between banks and fintechs, rather than pure market competition. For instance, the 2025 Blueprint explains how “*Fintech is placed as a bank’s learning partner in adopting technological innovation. Meanwhile, fintech needs banks to assist its operations.*”⁵⁰

To realise its vision for Open API Standards, in 2021 BI launched Indonesia’s national standard for Open API for payment transactions, SNAP. In this regard, to foster the spirit of collaboration and to increase the rate of adoption in the industry, SNAP was developed by BI in consultation with industry associations such as the Association of Indonesian Private Commercial Banks (PERBANAS), the Indonesia Payment System Association (ASPI) and the Indonesia Fintech Association (AFTECH).⁵¹ Following the launch of SNAP, BI also issued an implementing regulation through Regulation of the Board of Governors of Bank Indonesia No. 23/15/PADG/2021 on the Implementation of the National Standards for Open Application Programming Interface in Payments (the ‘SNAP Regulation’). promulgation of the SNAP Regulation was an important milestone for implementing Open Banking in Indonesia, as it provided a regulation to operationalise the principles, objectives, and standards envisaged in the 2025 Blueprint.

Based on the SNAP Regulation, there are three main objectives of the SNAP framework:

1. To create a payments system industry that is competitive and innovative;
2. To drive integration, interconnectivity, interoperability, security, and robustness of the payments system infrastructure; and
3. To encourage healthy and efficient market practices in the payments system industry.⁵²

To achieve these objectives, SNAP will standardise four main aspects of the Open API interface: 1) interconnectivity and interoperability; 2) information system security standards; 3) good governance; and 4) risk management.⁵³

⁴⁹ *Ibid.*

⁵⁰ *Ibid.*, 26.

⁵¹ Bank Indonesia, “Bank Indonesia Launches National Open API Payment Standard and Sandbox Trials of QRIS and Thai QR Payment Interconnectivity.”

⁵² SNAP Regulation, Art. 2(1)

⁵³ *Ibid.*, Art. 3(1)

These four core aspects are further elucidated in two documents, the SNAP Technical Standards and the SNAP Governance Guidelines.⁵⁴ The SNAP Technical Standards contains the technical, security and data specifications, and covers standards relating to, among other information, “*communication protocols, types of API architecture, data structures and format, authentication, authorisation and encryption methods, API access governance requirements, as well as data structures request and data structures response.*”⁵⁵ Meanwhile, the SNAP Governance Guidelines provides guidance on the governance aspects relating to “*consumer protection, data protection, prudential requirements for service providers and service users, and contracts among users and providers of API services.*”⁵⁶

In conjunction with the SNAP Regulation, BI has also launched the ‘SNAP Developer Site,’ where the SNAP Technical Standards are published and updated.⁵⁷ The SNAP Developer Site⁵⁸ is publicly accessible to Open Payment API Service Providers (‘Service Providers’),⁵⁹ and Open Payment API Service Users (‘Service Users’),⁶⁰ who have completed the registration process.⁶¹ Once they have completed the registration process, the Service Providers and Service Users can then begin to test their Open API Payment apps through the verification process to ensure their apps comply with the SNAP Technical Standards and to certify that their apps have passed functionality tests.⁶² Service Providers and Service Users who have successfully completed the verification process will then be listed in the ‘Publication Directory,’ which is a published list of parties whose apps comply with the SNAP Technical Standards and who are deemed as trustworthy to participate in the Open API ecosystem.⁶³ Parties who are listed in the Publication Directory are then able to exchange consumer data and to execute payment transactions using the SNAP Open API framework.

To protect the consumers’ private data, the SNAP Regulation provides detailed requirements for the consent process in accessing consumer data. First

⁵⁴ *Ibid*, Art. 3(3)

⁵⁵ “Indonesia: Digital ‘stargazing’ through 2021 - Oh snap!,” Lexology, 4 September 2021, accessed 30 October 2022, <https://www.lexology.com/library/detail.aspx?g=df10a8ce-97b4-404b-be00-fd12ebff6eaf>.

⁵⁶ *Ibid*

⁵⁷ Art. 9(1)(a), SNAP Regulation

⁵⁸ “SNAP Developer Site,” Bank Indonesia, 2022, accessed 30 October 2022, <https://apidevportal.bi.go.id/snap/>.

⁵⁹ Art. 1(4), SNAP Regulation defines Service Providers as Payment Service Operator (PJP) who provide Open API Payment Services based on the SNAP framework.

⁶⁰ Art. 1(5), SNAP Regulation defines Services Users as Payment Service Operator (PJP) or any other parties who uses the Open API Payment Services based on the SNAP framework.

⁶¹ SNAP Regulation, Art. 9(5),

⁶² *Ibid*, Art. 10(2)

⁶³ *Ibid*, Art. 1(12)

and foremost, the SNAP Regulation explicitly states that Service Providers and Service Users must obtain consumers' consent before they can access their data when processing payment transactions and that such access must be based on the consumers' request.⁶⁴ The SNAP Regulation further elaborates that the process for obtaining the consumers' consent shall be conducted by verifying the identity and the access rights of the party who is requesting access to the data.⁶⁵ The process for obtaining the consumers' consent must be carried out every time the Service Providers and Service Users access the consumers' data.⁶⁶ Alternatively, Service Providers and Service Users can also obtain the consumers' consent one time when processing the consumers' first transaction, and such consent can be retained for a limited duration of or until the consumer revokes their consent.⁶⁷ Finally, Service Providers must halt the processing of the payment transaction and/or the data access if there is a failure in the verification of the consumer's identity or validating their access rights.⁶⁸

One interesting feature in the SNAP Regulation relating to the consumer's personal data protection is that the enforcement mechanism and the allocation of liability for breaches of personal data is mandated through a standardised contractual relationship. Specifically, the SNAP Regulation stipulates that Service Providers must enter into a contract with Service Users based on the standard-form contracts provided in the SNAP Governance Guidelines.⁶⁹ This standard contract regulates various matters including, but not limited to, "*the mechanism for accessing personal data, level of disclosure of personal data, and allocation of liability among the parties, costs, and indemnification.*"⁷⁰ It is fascinating that in other jurisdictions, such as the EU or UK, there is no need for the API providers to sign a contract with the API users to regulate the enforcement mechanism for the consumer data protection, because there are already comprehensive data protection laws in place to regulate the liabilities and penalties for non-compliance. Amalia and others in their article entitled *Legal Issues of Personal Data Protection and Consumer Protection in Open API Payments* describe the rationale behind why the SNAP Regulation utilises a contract-based enforcement mechanism as follows:⁷¹

⁶⁴ *Ibid*, Art. 15(2)

⁶⁵ *Ibid*, Art. 15(3),

⁶⁶ *Ibid*, Art. 15(4)(a)

⁶⁷ *Ibid*, Art. 15(4)(b)

⁶⁸ *Ibid*, Art. 15(5)

⁶⁹ *Ibid*, Art. 14(2)(b)

⁷⁰ Amalia et al., "Legal Issues of Personal Data Protection and Consumer Protection in Open API Payments.", 341.

⁷¹ *Ibid*.

[...] in Indonesia, without contractual obligations between PJPs (Payment Service Operators) and other non-PJP parties, PJPs will find it difficult to allocate liability for breaches of personal data protections according to the needs of the parties. Therefore, contracts between API providers and API users, including non-PJP API users or other parties who cooperate with PJP, are necessary. Such contracts are a coercive tool for non-PJP API users and parties who cooperate with PJPs to fulfil the principles of personal data protection and consumer protection.

It is important to emphasise, however, that this contractual enforcement mechanism is limited to the data protection aspect. Institutionally, the SNAP ecosystem will be initially managed by BI.⁷² However, BI has the authority to establish a Self-Regulatory Organisation ('SRO') to manage the payments system in Indonesia.⁷³ Once such SRO has been established, BI may work together with the SRO to manage the SNAP ecosystem, including coordination of the registration and verification process.⁷⁴ Indeed, Indonesia's government-driven approach is evident from the range of authority that the SNAP Regulation reserves for BI as the central bank of Indonesia in managing the SNAP ecosystem. These authorities include:

1. Regulating the policies for the management of the SNAP Developer Site;⁷⁵
2. Regulating the policies for the implementation of the verification process and providing recommendation related to the implementation of SNAP;⁷⁶
3. Regulating policies for the implementation of the evaluation and updates of SNAP;⁷⁷
4. Regulating policies for the publication of SNAP;⁷⁸ and
5. Assigning certain tasks and responsibilities to the SRO in managing SNAP, which include assigning to the SRO to perform all or a part of SNAP'S management.⁷⁹

Furthermore, the SNAP Regulation grants authority to BI to request the Service Providers, Service Users, and any other parties to submit their transaction data and any other data within their possession regarding the Open API Payments system.⁸⁰ Finally, the SNAP Regulation confers BI with

⁷² SNAP Regulation, Art. 13(1).

⁷³ *Ibid.*, Art. 1(10).

⁷⁴ *Ibid.*, Art. 13(2).

⁷⁵ *Ibid.*, Art. 7(a).

⁷⁶ *Ibid.*, Art. 7(b).

⁷⁷ *Ibid.*, Art. 7(c).

⁷⁸ *Ibid.*, Art. 7(d).

⁷⁹ *Ibid.*, Art. 7(e).

⁸⁰ *Ibid.*, Art. 29(1).

oversight and enforcement powers to ensure that the Service Providers, Service Users, and their partners comply with the regulations related to payments systems, payment service providers, and the implementation of the Open API Payments system.⁸¹ Failure to comply with these regulations may result in the imposition of administrative sanctions by BI in the form of: 1) a written warning; 2) temporary, partial or complete suspension of activities; 3) license revocation;⁸² and (4) in some cases even administrative fines.⁸³ Such wide-ranging authorities and powers demonstrate the extent to which Indonesia relies on the government-driven approach to Open Banking, with the regulator clearly in charge of the implementation as well as the enforcement of the Open API ecosystem.

IV. THE UK'S REGULATORY AND INSTITUTIONAL FRAMEWORK FOR OPEN BANKING: A COMPREHENSIVE APPROACH

Arguably, the UK currently has one of the most developed and advanced Open Banking systems in the world, as it was one of the first countries to launch an Open API framework for live access in early 2018. Consequently, the relative success of the UK's Open Banking has influenced the development of Open Banking in other jurisdictions such as Australia, Canada, Brazil, and Singapore, as they model their own regimes on the UK's system.⁸⁴ Hence, for countries such as Indonesia that have just recently started implementing Open Banking, there are valuable lessons to be learnt from examining the regulatory framework and institutional mechanisms that have allowed the UK to become one of the world's leading Open Banking jurisdictions.

Unlike many other countries, the initiative for Open Banking in the UK was not led by regulators in the financial services industry, but rather by its competition law agency, namely the CMA. The UK's regulatory journey into Open Banking began in 2014 when the CMA commenced an extensive market investigation into the British retail banking sector. The CMA possesses a unique enforcement power to conduct market investigations, which is an enforcement tool that is not commonly available to competition agencies in other countries.⁸⁵ The CMA conducts market investigations in industries exhibiting structural characteristics that could lead to unhealthy competition

⁸¹ *Ibid.*, Art. 30.

⁸² *Ibid.*, Art. 31(1).

⁸³ *Ibid.*, Art. 31(2).

⁸⁴ Littlejohn, Boskovich, and Prior, "United Kingdom: The Butterfly Effect", 173.

⁸⁵ See Richard Whish and David Bailey, *Competition law*, Tenth edition ed., Law trove, (Oxford: Oxford University Press, 2021).

and adverse effects on consumers, in order to design specific remedies to target the root causes.⁸⁶ This is different from direct enforcement of specific anticompetitive conduct, which often only addresses the consequences (such as collusion or abuse of dominant position), but not the root causes of the problem (such as oligopolistic market structures).

The CMA completed their retail banking market investigation in 2016. In their final report, the CMA found that there was a lack of competition in the retail banking market due to, among other factors, the high market concentration in the industry.⁸⁷ Specifically, the CMA found that “*the four largest banks in [the UK] account for over 70% of main PCAs and collectively have lost less than 5% market share since 2005.*”⁸⁸ At the same time, potential competitors faced high barriers to entry and expansion, resulting from the high “*capital requirements, costs of funds for lending and information asymmetries between banks.*”⁸⁹ Since the largest banks faced little competitive pressure to retain their customers, and enjoyed market power over their existing consumer base, they were able to charge higher prices, especially to customers who have been with them for longer.⁹⁰ Adrian Basso and others, in their article entitled *Recent Developments at the CMA: 2017–2018*, estimated that the supra-competitive prices charged by incumbent banks had led consumers in the UK to suffer individual losses of up to £90 per year, amounting to millions of pounds in aggregate.⁹¹ Moreover, despite such supra-competitive prices, the rate of switching was very low, only 8% of retail customers switched to a different bank between 2014–2016 (compared to more than 30% in the energy sector).⁹² Thus, it was clear that the UK’s retail banking market suffered from serious competitive issues.

In response, the CMA took decisive action by imposing a comprehensive remedies package designed to improve competition and promote innovation in the British retail banking industry. The CMA’s remedies package was aimed at achieving two core objectives, increasing customer switching rate by making it easier for customers to switch banks and decreasing the potential competitors’ barriers to entry by facilitating market access.⁹³ realising the importance of data access as one of the key drivers to achieve these goals, the CMA mandated

⁸⁶ Oscar Borgogno and Giuseppe Colangelo, “Data, Innovation and Competition in Finance: The Case of the Access to Account Rule,” *European Business Law Review* 31, no. 4 (2020), 593.

⁸⁷ CMA, *Retail Banking Market Investigation - Final Report*, para. 139.

⁸⁸ *Ibid*, para. 46.

⁸⁹ *Ibid*, para. 126.

⁹⁰ *Ibid*, para. 51.

⁹¹ Adriano Basso et al., “Recent Developments at the CMA: 2017–2018,” *Review of Industrial Organization* 53, no. 4 (2018), 629.

⁹² CMA, *Retail Banking Market Investigation - Final Report*, paras. 65–66.

⁹³ Borgogno and Colangelo, “Data, Innovation and Competition in Finance: The Case of the Access to Account Rule,” 594.

the retail banking industry to adopt an Open Banking regime as one of its core remedies. Specifically, the CMA required the nine largest banks in Great Britain and Northern Ireland ('CMA9')⁹⁴ to "*adopt and maintain common API standards through which they will share data with other providers and with third party service providers.*"⁹⁵

To implement these measures, the CMA enacted the Retail Banking Market Investigation Order (the 'RBMI Order') in 2017.⁹⁶ The RBMI Order is legally binding upon banks, as the CMA possess the authority to seek court orders, injunctions, and fines for non-compliance.⁹⁷ Through the RBMI Order, the CMA9 were obliged to establish and fund an Open Banking Implementation Entity ('OBIE') as a central standards body entrusted with coordinating the adoption of the Open API standards for the entire retail banking industry.⁹⁸ The RBMI Order also established an Implementation Trustee to oversee the OBIE's delivery of Open Banking to the market. The Implementation Trustee was responsible for, among others, establishing the appropriate governance structures, providing an implementation roadmap for delivery, gathering feedback from industry stakeholders, and facilitating market collaboration.⁹⁹

In order to streamline OBIE's costs for developing the technical capabilities to support the delivery of the Open API standards, the CMA9 created a not-for-profit company called Open Banking Limited ('OBL'). Interestingly, OBL performs a number of functions which are similar to BI's role in enabling the technical rollout of SNAP in Indonesia. For example, OBL provides a Developer Portal offering a "*sandbox environment for firms to test and learn against API standards,*"¹⁰⁰ which is functionally quite similar to BI's SNAP Developer Site. Furthermore, OBL provides a 'Directory' of regulated actors in its Trust Framework, which enables "*the bank to check the regulated permissions of the fintechs (also known as third-party providers, or TPPs) to make it easier for firms to securely connect with other regulated actors in the ecosystem.*"¹⁰¹ Likewise, in terms of function, OBL's Directory is very similar to BI's Publication Directory, as they both provide a list of trusted parties to enable secure data access under their respective Open API frameworks.

OBIE's most important achievement to date is the successful launch of its Open API standards in 2018. This was significant because, prior to the

⁹⁴ Barclays, HSBC, Lloyds, Nationwide, RBS, Santander, Allied Irish Bank, Bank of Ireland, and Danske.

⁹⁵ CMA, *Retail Banking Market Investigation - Final Report*, 441.

⁹⁶ See CMA, *The Retail Banking Market Investigation Order 2017* (2017), <https://assets.publishing.service.gov.uk/media/5893063bed915d06e1000000/retail-banking-market-investigation-order-2017.pdf>.

⁹⁷ Basso et al., "Recent Developments at the CMA: 2017–2018," 632

⁹⁸ CMA, *The Retail Banking Market Investigation Order 2017*, Art. 10

⁹⁹ *Ibid*, Schedule 1

¹⁰⁰ Littlejohn, Boskovich, and Prior, "United Kingdom: The Butterfly Effect," 191.

¹⁰¹ *Ibid*.

rollout of OBIE's Open API standards, there had been no common industry standard allowing interoperable data access among the myriad different banks and fintechs in the UK. Indeed, at the time, the UK had already transposed the EU's PSD2¹⁰² into domestic legislation¹⁰³ which obliges all Payment Service Providers ('PSP') (e.g., banks) to allow Third Party Providers ('TPP') (e.g., fintechs) to access payment accounts data with the required authorisations. However, the fundamental problems with the PSD2 framework were that it did not specify any standard interface or require banks to conform to a common industry standard, both of which are necessary for the market to connect at scale. Consequently, this problem led to major obstacles for implementation of the PSD2 regulation:¹⁰⁴

This left the market theoretically "open," but not accessible due to the thousands of costly bespoke interface builds fintechs would be required to do in order to access their customers' information locked inside the banks' tech stacks. The myriad of technical specifications, but no standards, failed to make the market interoperable and would have pushed fintechs out of the market due to the overwhelming cost of having to build literally thousands of unique interfaces in order to connect with even a fraction of the banks in the market.

OBIE's Open API standards solves this fundamental problem by providing a common set of API standards that allow for seamless and interoperable data access at scale. The table below illustrates the difference in scope between the UK's RBMI Order and the EU's PSD2:

Table 1.
Comparison between RBMI Order and EU PSD2

	UK: RBMI Order	EU: PSD2
Parties	Nine of the largest UK banks (CMA9)	All firms in the EU
Products	Demand deposit accounts (personal and business accounts)	Personal payments (e.g., credit cards, debit cards); Corporate payments; other types of payments
Function	Open Data (all bank products and services)	Access to account (XS2A)
Delivery	Common Open API Standards	Regulatory Technical Standards (RTS)

Indeed, OBIE's Open API standards has had a significant and far-reaching impact across the UK's financial services industry. For instance, the OBIE

¹⁰² EU Directive on Payment Services in the Internal Market ((EU) 2015/2366) ('PSD2').

¹⁰³ UK Payment Services Regulations 2017 (SI 2017/752).

¹⁰⁴ Littlejohn, Boskovich, and Prior, "United Kingdom: The Butterfly Effect.", 191.

reported that within three years since their Open API standards went live, “*over 330 regulated providers, made up of over 230 third party service providers and more than 90 payment account service providers (PSPs), who together account for over 95% of current accounts, used the ecosystem.*”¹⁰⁵ Moreover, the implementation of OBIE’s Open API standards has also encouraged greater cooperation between banks and fintechs in offering new products and services for customers, as banks have begun to recognise Open Banking as an avenue that provides opportunities for growth, rather than as an existential threat. Most Importantly, OBIE’s Open API standards has managed to achieve CMA’s primary objective of lowering barriers to entry and increasing competition, as evidenced by the fact that the UK currently has seven ‘unicorn’ fintechs with valuations of over 1 billion dollars.¹⁰⁶

V. LESSONS LEARNED FROM THE UK’S EXPERIENCES FOR IMPROVING INDONESIA’S OPEN BANKING ECOSYSTEM

Having examined the regulatory and institutional framework of Indonesia’s and the UK’s Open Banking regime, it is possible for us to identify some of the lessons learned from this analysis. Specifically, there are four key insights that could be taken from the UK’s experience to improve the implementation of Open Banking in Indonesia. It goes without saying that these lessons are not exhaustive, in that there may be other insights which could be taken from analysing the UK’s Open Banking regime. However, these are some of the key takeaways from which to enhance the competitiveness of Indonesia’s financial services industry through increased competition and innovation.

First, it is important that Indonesia ensure that its Open API and Open Banking ecosystem is available not just for payments services, but for all banking and financial services. Under the current framework, the SNAP ecosystem is only available to facilitate interconnectivity and interoperability for data access between banks and fintechs in the payments system pipeline. Although this has significantly contributed to the growth of fintechs in Indonesia’s digital payments sector, there are dozens of other fintechs operating in sectors such as crowdfunding, financing, P2P lending, reg-tech, robo-advising, and insur-tech, that are not yet able to benefit from SNAP’s Open API data access. It could thus be argued that Indonesia has not yet fully implemented an ‘Open Banking’

¹⁰⁵ “Open banking and the emergence of open finance: overview,” Thomson Reuters, 2022, accessed 30 October 2022, [https://uk.practicallaw.thomsonreuters.com/w-025-6366?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://uk.practicallaw.thomsonreuters.com/w-025-6366?transitionType=Default&contextData=(sc.Default)&firstPage=true).

¹⁰⁶ Borgogno and Colangelo, “Data, Innovation and Competition in Finance: The Case of the Access to Account Rule,” 595.

regime, but rather an 'Open Payments' regime. This stands in contrast with the UK's fully Open Banking regime, as its Open API ecosystem facilitates data sharing not only for digital payment services, but also other consumer services such as bank account aggregators, debt advice, investment tools, mortgages, micro savings, financial safeguarding, and credit file enhancement.¹⁰⁷ Furthermore, the UK's ecosystem now supports business services such as accountancy and tax, debt management, cash identity verification and SME financial management. Hence, the most important lesson to be taken from the UK's experience in this regard, is for BI to start considering how it can expand beyond payments its Open API framework into other banking and financial services.

Second, Indonesia could consider incorporating a more outcomes-based approach rather than a prescriptive approach in expanding its Open API framework beyond the payments sector. Generally, government-driven jurisdictions such as Indonesia and UK consider two approaches for the delivery of Open Banking in their respective countries. On the one hand, governments can opt for a prescriptive approach where regulator impose very specific and detailed requirements for every facet of the ecosystem (including the technical aspects) for the industry participants to comply with. On the other hand, governments can apply an outcomes-based or high-level approach where regulators only mandate certain goals or objectives to be achieved which are general in nature, but leave the technical design choices to the industry. Indeed, each approach comes with its respective trade-offs; a prescriptive approach offers more consistency and conformity at the expense of flexibility and creativity, while an outcome-based approach allows for more flexibility in implementation but may entail greater costs and coordination.¹⁰⁸

Currently, it is clear from Indonesia's regulatory and institutional framework that it is leaning quite heavily on the prescriptive approach, as almost all regulatory, governance, and technical aspects of SNAP are centrally imposed and enforced by BI. However, if and when Indonesia eventually decides to expand its Open API framework to cover the entire banking and financial services sector, it may be worth BI's consideration to adopt a more outcomes-based approach, similar to that favoured by the UK for the delivery of its Open Banking project. The UK's outcome-based approach is evident from the approach put forward in the RBMI Order, where the CMA had set a specific goal for the CMA9 to meet, but commented little on the technical design choices, other than that the API must be standardised and must also conform

¹⁰⁷ "Open Banking App Store," Open Banking Limited, 2022, accessed 30 October 2022, <https://www.openbanking.org.uk/app-store/>.

¹⁰⁸ Black and Middleton, "Open banking and the emergence of open finance: overview."

with PSD2. In this regard, Gavin Littlejohn, Ghela Boskovich, and Richard Prior in their book chapter entitled *United Kingdom: The Butterfly Effect* provides a compelling explanation as to why the outcome-based approach proved to be determinative in ensuring the UK's success in implementing its Open Banking ecosystem:¹⁰⁹

The outcomes-based approach of the Order was of critical importance in the years ahead, where several times stakeholders did not agree on the approach, or where projects plans, or technical choices had to be revised. This approach, rather than a highly prescriptive order, has been one of the most important contributions to the success of Open Banking in the United Kingdom. Parties were encouraged to align incentives and develop standards to which all actors were subject and— most importantly— able to meet.

Third, Indonesia can encourage cooperation among industry participants by having a centralised coordinator to gather feedback and facilitate dialogue. As stipulated in the 2025 Blueprint, one of BI's main visions for Open Banking in Indonesia is to create an ecosystem where banks and fintechs cooperate and collaborate to strengthen the overall competitiveness of the financial services industry. An important lesson from the UK's experience is to nurture such cooperation is to assign an institution which will be responsible for providing a forum where the industry participants can meet regularly in order to provide feedback on the implementation of the project. Indeed, such feedback and dialogue are necessary to enable the successful implementation of the UK's outcome-based approach to Open Banking. Specifically, this role was undertaken by the Implementation Trustee, with a specific mandate by the RBMI Order to carry out the following functions:¹¹⁰

- a) consider the views of a wide range of stakeholders including Fintechs, banks/building societies, consumer and SME groups, price-comparison websites, credit reference agencies, regulators and other interested third parties;
- b) to ensure transparency of decision making via an 'open forum' for the debate and discussion of the implementation options by technically qualified participant stakeholders;

Having a centralised coordinator organise this 'open forum' for industry participants may encourage collaboration between banks and fintechs, as

¹⁰⁹ Littlejohn, Boskovich, and Prior, "United Kingdom: The Butterfly Effect.", 191.

¹¹⁰ CMA, *The Retail Banking Market Investigation Order 2017.*, Schedule 1.

it facilitates regular dialogue between the banks and the fintechs, likely to promote a more collaborative relationship between the industry participants in the future. Furthermore, this forum may also act as an instrument for risk mitigation as it allows “all parties to provide feedback into potential risks in each stage of delivery, and as a forum for designing and collectively agreeing to the mitigants that would best reduce those risks. Rather than being told what to do, all parties in the market were able to contribute, making for a more orchestrated approach that could scale.”¹¹¹ In Indonesia’s context, this role can either be undertaken by BI, who currently has also proactively gathered feedback from the industry through its consultation papers, or alternatively BI can also assign this responsibility to an SRO, given that the SNAP Regulation provides BI with the authority to establish such entity in order to assist BI in managing the SNAP ecosystem.¹¹² Whatever the means, encouraging cooperation between banks and fintechs will be a key factor that will significantly contribute to the success of Open Banking in Indonesia.

Finally, Indonesia may consider creating an Open Banking App Store in order to increase user adoption and widen access of digital financial services to MSMEs. The success of an Open Banking ecosystem is to a large extent predicated on the level of user adoption. The reason for this is simple: the more consumers actively use the Open Banking ecosystem, the more data that will be available in the ecosystem, the more innovation that can be generated from this data, which leads to better products and services, which in turn makes the ecosystem more attractive to future users. However, as with any other digital ecosystem, the largest barrier to user adoption is the information costs and friction that is often associated with effectively utilising such complex systems. In this regard, the UK’s OBIE has devised a brilliant solution to reduce such information costs and friction, by creating an Open Banking App store where users can search for the relevant registered service provider, and more importantly, to compare the offerings of the registered service provider. As quoted from OBIE’s App Store website:¹¹³

The Open Banking App Store is designed to help consumers and businesses have greater access to suitable financial products that will help them weather the COVID-19 crisis. Using Open Banking technology, consumers and small businesses can connect their bank accounts with authorised third parties safely and securely, helping them better manage their finances. Consumers and businesses can compare products and services and find the best Open Banking solutions for them.

¹¹¹ Littlejohn, Boskovich, and Prior, “United Kingdom: The Butterfly Effect.”, 191.

¹¹² SNAP Regulation, Art. 1(10).

¹¹³ Open Banking Limited, “Open Banking App Store.”

Creating such an App Store is a creative and cost-effective way for BI to achieve another key policy objectives for its Open Banking regime, to increase financial inclusion in Indonesia by widening access of digital financial services to MSMEs. By creating an Open Banking App Store, it will make it easier for consumers and MSMEs to find the right digital financial services. This in turn will also have positive effects for the banks and fintechs as it will greatly enhance the visibility of their products, which may also contribute to increased user acquisition.

VI. CONCLUDING REMARKS

Delivering a well-functioning and effective Open Banking ecosystem is a tremendous feat. When Bill Roberts, the CMA's Head of Open Banking, was asked in an interview about his thoughts on the CMA's delivery of its Open Banking regime, he gave a surprising answer, "*we are planting a forest, not boiling a kettle.*"¹¹⁴ Indeed, that same philosophy can be seen in BI's efforts in developing an Open Banking regime in Indonesia. The first seedlings were planted in 2019 through BI's 2025 Blueprint, which set out its vision, objectives, and a roadmap for Indonesia's Open Banking project. In essence, the 2025 Blueprint provided a strong foundation from which the rest of the regime has been developed. Then in 2021, those seedlings manifested into a tangible ecosystem as BI successfully launched its Open API standards through the issuance of the SNAP Regulation. The SNAP Regulation was an important milestone for the development of an Open API-based data access regime, as it provided a common API standard for the payments system sector which covered four key aspects: 1) interconnectivity and interoperability; 2) information system security standards; 3) good governance; and 4) risk management. These standards were then operationalised through the issuance of the SNAP Technical Standards and the SNAP Governance Standards. Finally, BI developed the SNAP Developer Site to ensure that the registered providers fully comply with the requirements set out in the SNAP Regulation, as well as the Publication Directory to enable secure data access among verified service providers. The fact that BI was able to implement this ecosystem in the span of just three years is commendable.

As we look to the future and the immense potential that Indonesia's digital economy possesses, we can learn from the experiences of one of the world's most successful Open Banking ecosystems to ensure that potential becomes reality. We have examined the UK's regulatory journey into Open Banking,

¹¹⁴Littlejohn, Boskovich, and Prior, "United Kingdom: The Butterfly Effect.", 191.

which started with the CMA's retail banking market investigation in 2016 up to the issuance of the RBMI Order in 2017 which led to the establishment of two key institutions, the OBIE, and the Implementation Trustee. While the delivery of the UK's Open Banking is not without its challenges, "*it remains the primary example of what good ecosystem orchestration looks like and is still relied upon to inform other Open Banking and Open Finance regimes across the globe.*"¹¹⁵ From this, there are four key lessons which can be learnt to further improve the delivery of Open Banking in Indonesia:

- 1) Expansion of the delivery of the Open API standards to enable interoperable data access for the entire banking and financial services sector;
- 2) Integration of an outcome-based approach when expanding the Open API standards beyond the payments sector;
- 3) Encouragement of collaboration between banks and fintechs by appointing a centralised coordinator to establish a forum to facilitate dialogue and to collect feedback; and
- 4) Creation of an Open Banking App Store to increase user adoption, enhance product visibility and widen access to digital financial services for MSMEs.

While there may be many more lessons which could be learned from the UK's Open Banking regime, these four key insights may help enhance the competitiveness of Indonesia's financial services sector for the benefit of the consumers, banks, fintechs, and the Indonesian people.

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¹¹⁵ *Ibid.*, 199.

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