

Original Article

The Impact of Open Banking on Financial Market Dynamics and Consumer Welfare in Indonesia: A Systematic Literature Review

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Abstract: *This study is a Systematic Literature Review (SLR) concerning the impact of Open Banking (OB) in Indonesia. OB promotes financial inclusion and competition via APIs with Third-Party Providers (TPPs). The SLR finds that OB acts as a catalyst for increased Venture Capital (VC) investments in the FinTech sector, which drives market dynamism and financial inclusion in emerging markets. Successful OB implementation in Indonesia necessitates the establishment of high-quality API standards. Crucial post-adoption factors are User-Centric Design (usability) and addressing security concerns, specifically the emotion of fear. The SLR methodology employs Thematic Synthesis and Structural Topic Modelling (STM) for customer satisfaction analysis.*

Keywords: *Open Banking, Indonesia, Financial Inclusion, Fintech Entry, Customer Satisfaction.*

I. INTRODUCTION

Open Banking (OB) has already had a tremendous influence on the financial sector with regard to expanding financial inclusion as well as increasing competitiveness between incumbents and newcomers. This measure, designed to provide consumers with greater control of their financial information, runs mainly through the use of APIs that enable the secure sharing of data with Third-Party Providers (TPPs) and other financial firms.

In the European Union (EU), PSD2 compels banks to share their customers' data with other third-party providers (TPPs), promoting a more transparent and competitive playing field. This practice substantially changes consumers' behavior, where they consciously balance social influence and performance expectations against privacy risks in adopting AIS (Rosati et al., 2022). It is meant to allow a single view of the customer's fiscal status from multiple organizations, saving a person who has accounts at several banks and nonbank institutions time on money management.

Furthermore, Open Banking enhances FinTech firms' capabilities to innovate in financial services, as well as further allows inclusive FinTech to improve bank efficiency. For instance, in China, inclusive FinTech models have enhanced banking indicator scores like lending rates and composition of liabilities – specifically for institutions that target mass or underserved populations (Liu et al., 2024). But these advances require an increased focus on risk management to mitigate the emerging financial risks.

FinTech and traditional banking services: operational dynamics through the lens of Open Banking. The interplay of FinTech with legacy banking services represents a source for both challenges and opportunities, as evidenced in the UK, where Open Banking has already been conducted to develop new regulatory standards alongside changes in industry architecture. This process may require multistakeholder participation to address the complexities of data sharing, interoperability, and regulatory compliance (Dinçkol et al., 2023).

Despite these developments, Open Banking is confronted by a number of challenges, most notably around data privacy and security, and preserving consumer trust. Fintech adoption, which includes internet and mobile banking, has been revealed to have a direct impact on financial performance in areas like Jordan, but also raises the importance of massive public awareness programs concerning fintech development within Islamic finance (Alghadi, 2024). Open Banking re-shapes financial services by facilitating emerging business models and driving industry competitive dynamics. No obstante, debido a la naturaleza de discusión del concepto Open Banking su correcta puesta en práctica implica la necesidad de balancear la innovación con la regulación y protección al consumidor (Coche et al., 2024). It's important to achieve this balance so that the advantages of Open Banking are available for everyone involved.



Open Banking is a landmark regulatory development intended to enable customers to prescribe ‘who else can access their financial and related data’. In Open Banking, a bank customer is able to give their financial transaction data to a TPP or another bank through a typical API offered by the bank. APIs are standardized machine-readable instructions to enable users of data (e.g., FinTech companies) to access and interact with a provider’s customer database.

Open Banking is already a global phenomenon, fuelling innovation and attracting venture capital investment into the FinTech market. Around 80 countries have introduced Open Banking regimes designed to drive competition and enable innovation by allowing third parties to access consumer financial data. Sharing of data is vital as it increases the probability of innovation in different financial applications.

Moreover, Open Banking policies have had a significant impact on one outcome, namely a rise in venture capital investments in FinTech ventures. The investments have been supported by access to consumer financial transaction data, which has enabled the creation and optimization of novel, innovative financial products. Indeed, corporate venture capital investments are made with the ambition to achieve the following strategic goals: to enhance their core businesses, to take advantage of ecosystems, and to discover new markets and technologies. CVC investments are a factor in open innovation since they help organizations obtain external knowledge, which makes the introduction of new technologies easier. Additionally, VC is noted for being able to stimulate open innovation activities at the firm level via increased monetary resources, absorptive potential, and executive incentives. VC’s impact on innovation performance is the strongest when venture capitalists have extensive industry expertise and investment is undertaken collectively. VC investments have contributed to innovation by providing an incentive for knowledge spillover between start-ups and existing firms in technologically related sectors *CVC is also regarded as an important factor influencing open innovation and hence innovation. It may also include that VC investments for innovation are possible, as the portal can facilitate knowledge transfer. Additionally, there is also government venture capital in China. For example, Chinese venture capital guidance funds have contributed to urban innovation by accumulating innovative talent and capital. Research has shown that despite fostering the overall innovation of corporations, they do not have a significant positive effect on the quality of innovation. Thus, corporations need to build a suitable innovation equilibrium between the quality and the quantity of innovation.

In sum, a combination of Open Banking and the related VC investments has breathed innovation into the financial services sector and beyond, driven by two critical elements: easy access to financial data and strategic investment. These are significant advances for decision makers and companies that want to capitalise on the advantages of digitisation and strengthen their competitive position within an ever-changing global market.

Open Banking presents significant transformative potential for Indonesia’s financial landscape, with several key implications. First, Open Banking has the potential to promote financial inclusion by improving penetration of financial services among unbanked population with the help of fintech solutions designed for underprivileged groups hence extending their coverage within financial system (Iman et al., 2023). Secondly, Open Banking facilitates more consumer choice and competition by enabling consumers to utilise various financial offerings, which encourages traditional banks to innovate and enhance their services (Liu et al., 2024). Third, the ability to use consumer data effectively enables banks and fintechs to provide tailored and data-driven services that will engage customers better (aha, 2023); although this requires a strong framework for privacy and protection of data. 4) Open Banking success will depend on robust regulatory frameworks to manage cyber security risks and promote equitable competition across the financial ecosystem (Rosati et al., 2022). Looking at the region, Australia and Singapore in Asia-Pacific have progressive Open Banking frameworks to encourage innovation, while Indonesia is still playing catch up. Parallel in the case of BRICS countries, UPI is a successful collaboration between banks and fintech in India while Open Banking varies according to local regulations and technological readiness across other members (Daiy et al., 2021) For traditional banks operating in Indonesia, Open Banking animates both challenges and opportunities, as they are pressured by market from agile fintech players especially for payment and lending services (Sebayang et al., 2023). In order to be competitive, these banks need to transform digitally through user-friendly platforms and use of data analytics as well as becoming customer-driven (Liu et al., 2024; Younis et al., 2021). In the end, Open Banking can transform Indonesia’s banking industry but requires strategic adjustment on the part of incumbent banks in order to still be relevant in a hypercompetitive and tech savvy world.

This gap is evident because Open Banking in Indonesia has not been widely studied, especially to trace experiences after user adoption and examine what drives users to satisfaction. An important knowledge gap in the literature is how users continue to perceive and adjust to Open Banking apps after adoption. Organizational support, ease of use, technology, and functionality also represent some users’ level of satisfaction (Iman et al., 2023). Concerns about privacy and trust continue to hinder its uptake as a result of fears over data sharing (Chan et al., 2022). Initial trust and perceived risk are important dimensions affecting consumers’ readiness to use Open Banking, with studies revealing that financial literacy can decrease initial trust as skepticism is created (Chan et al., 2022).

Further, the regulatory models should also be made for the successful development of Open Banking in Indonesia. A reasonable regulatory framework will strike the right balance between promoting innovation and protecting consumer data privacy and security.” Rights. The current Indonesian regulation is already addressing the technical aspect; however, it still cannot cover comprehensive and specific laws that are suitable enough to rule Open Banking properly (Kharisma, 2021). An optimal framework should have strong protection for consumers, as well as clearly define data sharing and management (Kharisma, 2021). These considerations indicate that Open Banking may deliver significant benefits for consumers, but they need to be underpinned by the regulatory environment, which builds trust and security yet supports technological advances.

This SLR aims to provide an answer to the following research questions, thus comparing global and regional (especially Indonesian) outcomes:

- RQ 1 (Regulation & Innovation): How does a design of Open Banking regulation and API standardization matter for entry and investment in FinTech, which affects the innovation space that eventually shapes the industry architecture of financial markets?
- RQ 2 (Market & Inclusion): How will the adoption of Open Banking shape traditional lending practices in the financial sector, and what opportunities does it offer to improve access to finance in developing markets?
- RQ 3 (Consumer Behavior & User Experience): What are the main drivers and affective constructs for customer satisfaction (CS) with Open Banking Applications (OBA)?

II. METHODOLOGY

The systematic literature methodology follows strict guidelines (e.g., PRISMA and Kitchenham), and is aimed at replicable results and minimized bias.

A) SLR Protocol and Strategy

The protocol includes the definition of the search space, the selection of key words, criteria for inclusion and exclusion, quality measures, and thematic synthesis. The major academic databases (Scopus, Web of Science, and ScienceDirect/Elsevier) and institutional working paper repositories like NBER will be used to cover more recent empirical contributions. As global Open Banking efforts, such as PSD2 in the European Union, transition to reality, with significant momentum building up between 2018 and 2020, our period of analysis spans from the year 2018 to today (e.g., until 2025) in order to also include literature published after these initiatives were implemented.

The search strategy included the organization of keywords within three main themes as topics. The chosen keywords are expected to encapsulate the primary themes (Open Banking, Data Sharing), contextual factors (Indonesia, Emerging Markets), and the intended results (Economic and Customer) as follows.

Table 2. Keywords

Concept Group	Keywords
Open banking, data sharing	"Open Banking", "PSD2", "Open Finance", "Customer Data Access"
The contextual factor	"Indonesia", "Emerging Market", "BRICS", "Asia"
The economic impact	"Fintech Entry", "Competition", "Credit Market", "Financial Inclusion"
The consumer impact	"Customer Satisfaction", "Open Banking App" (OBA), "Privacy", "Security", "Trust"

B) Inclusion and Exclusion Criteria

The inclusion and exclusion criteria for open banking, data sharing, and fintech innovation studies were designed to ensure that only pertinent and high-quality studies were reviewed. Depending on what is given, the conditions may be.

a. Topic Relevance:

Papers that explicitly investigate open banking, data sharing in financial services, or fintech innovations. Studies concentrating on the role of FinTech in financial inclusion, poverty alleviation, or enhancing banking performance (Azmeah, 2025; Liu et al., 2024).

b. Study Type:

Empirical studies, qualitative or quantitative, such as case studies, surveys, and experiments. Model. This part provides the theoretical models that suggest hypotheses or frameworks, such as data sharing and Fintech. Literature reviews synthesizing the available research conducted about topics relevant to the addressed areas (Hopali et al., 2025; Tarawneh et al., 2015).

c. Inclusion Criteria:

The contributions to this phenomenon, particularly in developing regions or countries identified as having financial exclusion gaps, have been highlighted by studies that exhibit the effects of FinTech on financial inclusion (Hornuf et al., 2025; Sam-Abugu et al., 2025). Studies provide empirical evidence on the implications of FinTech on banks' performance, customer preferences, and service availability (Andronie et al., 2023; Tarawneh et al., 2024).

d. Exclusion Criteria:

Papers that aren't explicitly about Open Banking, data access within the financial industry, or FinTech innovation. Research without evidence, inadequate methodology, or non-peer-reviewed. Previous studies do not take into account the evolution of technology and regulation in relation to Open Banking and FinTech.

These criteria are vital to select the relevant and best quality studies to be part of the review on Open Banking and FinTech, thereby culminating in a focused and complete assimilation of attributable knowledge (Aduba et al., 2023; Elouaouri & Ibouk, 2024).

C) Data Extraction Process

The data extraction is guided by the variables related to the RQs. This step ensures that every variable is systematically used in relation to RQs. The data extracted cover a variety of dimensions such as: Regulatory Design (RQ1) comparing regulator-led models (e.g., UK) with market-led models (e.g., the USA); Research Methods (All RQs) including quantitative research approaches such as econometrics and EGARCH extreme value moderation model, qualitative methods such as for example interviews, and textmining techniques such as NLP or STMs For Open Banking reviews; FinTech Impact (RQ1), looking at rise in venture capital investment/Fintech entry; Lending Impact (RQ2) on traditional bank loan volumes and comparative underwriting ability by Fintechs vs banks; Consumer Satisfaction Factors (RQ3), exploring impact of customer service, integrated account navigation, personalized UX on user satisfaction ratings.

Table 3. Data Extraction Items

Extracted Data	Relevance to RQ	Example Source
Regulatory Design	RQ 1	Regulator-led (UK) vs Market-led (US).
Research Methods	All	Quantitative (Econometrics, EGARCH), Qualitative (Interviews), NLP/STM (OBA Reviews).
FinTech Impact	RQ 1	Increase in VC investment, FinTech entry.
Lending Impact	RQ 2	Changes in traditional bank loan volumes, screening ability of FinTech vs Banks.
Consumer Satisfaction Factors	RQ 3	Effect of Customer Service, Integrated Account Navigation, and Personalized UX on ratings.

Thematic Synthesis will be used as an analytical approach, placing the extracted findings from the studies around the research questions (Regulation/Innovation, Market/Inclusion, and Consumer/UX), to build a story that particularly answers how one would expect MFSMPs to affect Indonesia.

III. RESULTS AND DISCUSSION**A) Structural Changes and Innovation (RQ 1 Findings)**

The design of open banking (OB) regulation has served to stimulate venture capital activity in the FinTech area through significantly influencing a number of product categories, including financial advice, credit, payments, and regulatory technology (RegTech). These policies have created a platform for innovation and expansion, attracting significant venture capital in FinTech firms from these regions.

Open banking initiatives support competition and innovation by allowing third-party developers to access bank data. This openness allows new financial products and services to emerge more easily and for there to be better market competition. For example, in China's experience, the development of FinTech contributed to the advancement of financial development, including the loan accessibility enhancement and deposit deepening, as well as savings promotion for financial institutions. RegTech is also a key field in FinTech, contributing to better financial development outcomes through adherence and efficiency of regulation (Muganyi et al., 2022).

In addition, the rapid development of FinTech is promoting economic growth. There is evidence in the literature that, over and above institutional factors, digital lending, which is an important instrument of FinTech, has a significant positive impact on economic development, indicating its role as a driver of market dynamism. Similarly, digital fundraising is significantly positive, and its impact on the advanced economies differs from the developing ones (Cevik, 2025).

As well as delivering economic growth, FinTech innovations such as those offered by open banking are important to improving financial inclusion. In Southeast Asia and India, FinTech has been instrumental in delivering financial services to those who were unbanked previously, and it has improved financial literacy and access to financial products via digital channels (Morgan 2022).

The bottom line is that open banking regulations have laid the foundations for an exciting era of innovation in FinTech, and have highlighted the need for regulators not to stymie this with overbearing due diligence restraints. The positive relationship between the growth of FinTech businesses and development in the economy and financial sector is a promising prospect for businesses that implement these progressive finance technologies (Anifa et al., 2022; Yudaruddin, 2023).

These observations point to the interrelated links between open banking, FinTech investments, and dynamics among markets - and global advancement of financial services (Anifa et al., 2022; Cevik, 2025; Muganyi et al., 2022).

In the UK, there is an Open Banking project to help standardize some of the technology in banks — and it uses API aggregators. In the U.K., the Open Banking Implementation Entity (OBIE) established standards to homogenize how banks share data with one another. However, these APIs are difficult and distinct, creating headaches for developers and those interested. API aggregators (or API converters) are a way to address these issues. They are intermediaries that help smooth over the various different APIs offered by banks, many of whom have their own unique rules and standards. Aggregators offer a single interface so that developers can use one set of tools and learn to work with multiple APIs. API aggregators give banks freedom and flexibility in maintaining their systems, yet also ensure that they remain within regulatory bounds. Their contribution is crucial since standardisation is an evolutionary process that has evolved over time with feedback from industry stakeholders and regulators. In a nutshell, API aggregators are vital in the open banking ecosystem as they facilitate seamless sharing of data and integration between banks. This enhances transparency, competition, and innovation in finance by making it easier for new types of companies, such as fintech firms, to enter the market. Both the regulators and industry should be monitoring what role these aggregators play to support evolving open banking needs (Dinçkol et al., 2023).

Also, leaders of connectivity platforms have discovered that raw data was not enough to simply pass along in the beginning. As such, they've expanded the value proposition to include 'data enrichment', applying artificial intelligence (AI) and Machine Learning (ML) algorithms to clean up, normalise, and better organise financial data.

B) Credit Market Competition and Inclusion (RQ 2 Findings)

Open Banking (OB) is transforming the credit markets in emerging economies to developed countries' contexts, such as the UK, and responses are additionally offset depending on how they are implemented. In the context of low- and middle-income markets, OB, as part of inclusive FinTech, helps improve banks' performance in terms of lending rates and liability structures (e.g., rural banks serving a higher proportion of people at the bottom-of-the-pyramid population who are locked out from traditional financial systems) (Liu et al., 2024). While OB also brings benefits, like enhancing credit availability, it can also lead to challenges such as enhanced financial risks for the banking system in countries where FinTech has been rapidly growing, such as China (Chen et al., 2022).

Contrarily, the development of OB is further ahead in developed economies such as the UK, with Small and Medium-sized Enterprises (SMEs) being facilitated to build new lending relationships with nonbank organizations. FinTech has been used in these areas for credit assessment, which could lead to better lending efficacy and personalized finance advice, known as 'credit OB' and 'advice OB' (Nobanee et al., 2024). These expansions have led to a more competitive financial market, promoting availability and affordability for SME financing. But with that shift comes the adaptability of traditional banks to keep up with these non-traditional lenders now on the scene.

In addition, the proliferation of digital finance technologies, mobile phones, and the internet can have an ambivalent impact on financial stability in these economies. Although virtualization facilitates financial stability, the mainstreaming of technology could heighten probabilities for volatility, prompting judicious regulation and transition by the banking sectors to be established (Antwi & Kong, 2023).

In summary, OB makes an important contribution to credit market transformation through the potential improvements of SA and FE in both emerging and developed countries. But this change needs to be carefully managed with an eye on potential risks associated with such a fast pace of financial innovation, to guarantee balanced development and stability in the global markets.

C) Consumer Experience and Satisfaction (RQ 3 Findings)

The application of customer reviews analysis for evaluating factors (Satisfaction Determinants) influencing customers' satisfaction, with the purpose of methods like STM, is found in several fields such as hospitality, e-commerce, and banking.

For example, research such as hotel customer experience and banking services has shown how text mining, as well as sentiment analysis, can help in realizing the dominant satisfaction drivers of the large amount of internet reviews.

The relationship between hotel customer experience, satisfaction, and review. The effect of hotel customer experience on satisfaction through online reviews is assessed in a study titled "The Impact of Hotel Customer Experience on Satisfaction through Online Reviews" via text mining, which reveals that service and dining are the two most important factors influencing hotel guest satisfaction. This indicates that there are separate factors, such as service quality and food choices, that significantly contribute to customer satisfaction.

"Determining banking service attributes from online reviews" uses text mining and sentiment analysis to identify customer sentiment and service characteristics, finding out finally that both services provided by the bank and interactions with customers are the most important factors influencing satisfaction.

The cold chain logistics research adopts a topic model to identify satisfaction factors, which shows that time, quality, and service are the key dimensions affecting customer emotion and satisfaction.

These works corroborate the importance of distinct service dimensions, i.e., customer attention, ease of contact, and digital support, which have also shown an increase in the first call about OBA on STM built in ED Theory concerning customer satisfaction.

These studies also highlight the importance of various elements of service quality (service, ease of transaction, and online support), which are also found to positively influence customer satisfaction in the context of your first question about OBA customer reviews utilizing STM infused with Expectation Disconfirmation Theory.

IV. CONCLUSION

The systemic insights provide a solid basis for predictions of Open Banking in Indonesia:

Market Competition: Being one of the developing markets, we believe that Indonesia will follow the trend of BRICS, where consumer lending volumes from traditional banks are decreasing and FinTech players are growing exponentially. This shift requires Indonesian banks to pay more attention not only to complying with regulations but also to retail customers' needs.

Regulatory Focus: With the broad scope of data sharing requirements across Asia-Pacific, Indonesian regulators must focus on ensuring APIs are of high quality. Their absence, such as interfaces, may provoke unnecessary complications and congestion at extra levels in software since connectors, which might lead to a new position of AMC-Aggregator.

Customer-Oriented Design: Indonesian OBA Providers should place priority on ensuring that User-Centric Design is at the forefront to ensure the success of adoption. They should have high levels of application usability and service reliability (two of the topics that came up most frequently around the world [Topics 14 and 12]). Managers are recommended to adopt agile development methodologies based on real-time user feedback.

This model provides a solid foundation to apply existing consumer behavior theories in a new financial world. Text analytics within the context of Expectation Disconfirmation Theory (EDT) supports a critical examination of customer satisfaction by comparing the expected versus experienced values from OBA. By the same token, influences such as Integrated Account Navigation represent cases of negative disconfirmation where actual performance does not live up to customers' raised expectations.

Indonesian OBA managers must focus on the following areas:

- **Service and Interaction:** Customer service and user interaction must be improved, as these are key factors for user satisfaction.
- **Security and Trust:** Security-related concerns stemming from the emotion of fear need to be actively tackled through transparent privacy policies (e.g., doing away with Jabberwocky) and additional security measures.
- **Fending off Feedback:** Create a feedback system that supports active monitoring and solicits participation in meaningful ways, with timely and empathetic responses to issues of personal security concerns.

A caveat of the current post-adoption data is its geographic focus, because the extensive OBA customer review analysis (STM) was based heavily on U.S. data. While these results provide some interesting theoretical underpinnings, like the EDT mechanism, the expectations of Indonesian users can be different because they represent local socio-cultural differences.

The SLR results in an outcome that Open Banking is a strong disruptive force to traditional lending and a big opportunity for FinTech innovation and financial inclusiveness in Indonesia. The successful delivery of Open Banking relies on setting quality API standards to support competition and ensuring that the post-adoption customer experience (UX) is

sufficient to meet the high bar set by integrated digital services.

Comparative longitudinal cross-cultural OBA analysis: Analyze specific collected OBA data from Southeast Asia and Indonesian marketplaces to compare user experiences across the globe longitudinally. Microdata related to the Credit Market: Study empirically in Indonesia using microdata on how exactly the implementation of OB affected loan volumes as well as risk profiles among traditional banks vis-à-vis nonbank lenders, with special emphasis on SME lending. Privacy and Behavior: Research which kinds of consumer protection tools, such as nudging the confirmation operation in a different direction and so on, work best in Indonesia to see, for example, how these influences on user trust vs. their willingness to share their data.

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