# Fintech Developments in Indonesia: A Critical Multiperspective Analysis Review

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*Abstract, This research analyzes fintech development in Indonesia through a multi-perspective bibliometric approach that includes technology, regulation, economy, and social impact. Using scientific publication data from several leading databases, the study identified key trends, dominant keywords, and collaboration networks between researchers. The results show that technologies such as blockchain, big data, and artificial intelligence are the main drivers of fintech transformation. At the same time, adaptive regulation is needed to support innovation while protecting consumers. In addition, fintech has contributed significantly to financial inclusion, especially for people whom traditional banking services have not reached. However, challenges such as low digital financial literacy and lack of public trust must be overcome through integrated education and policies. The study offers strategic recommendations to strengthen an inclusive and sustainable fintech ecosystem. It opens up opportunities for further research on the long-term impact and adoption of new technologies in the fintech ecosystem in Indonesia.*

*Keywords: Fintech, Multiperspective Analysis Review, Regulation*

## 1. INTRODUCTION

The digital revolution has changed the financial industry's landscape globally, with Financial Technology (Fintech) emerging as an innovation combining traditional financial services with modern technology (Lee & Shin, 2018). In Indonesia, the development of Fintech has attracted the attention of various parties, from regulators to consumers, because of its potential to improve financial inclusion and efficiency of financial services (Muzdalifa et al., 2018). As a country with the fourth largest population in the world and an increasing internet penetration rate, Indonesia is a potential market for Fintech development. Data from the Financial Services Authority (OJK) shows a significant growth in the number of Fintech companies in Indonesia, from only 140 companies in 2016 to more than 360 companies by the end of 2021, with services ranging from digital payments, online loans, to digital investments (OJK, 2022).

Although the growth of Fintech in Indonesia is very rapid, there is still a research gap in understanding the impact and adoption of Fintech from various perspectives. Previous studies focused on specific aspects, such as analyzing factors influencing the adoption of mobile payments among students (Sari et al., 2020) or the impact of Fintech on financial inclusion in general (Pranata & Farandy, 2019). However, there has not been a comprehensive study that integrates the perspectives of students, the general public, and companies in the

context of Fintech in Indonesia. Additionally, while Fintech offers more efficient and accessible solutions, its adoption also presents challenges such as low financial literacy, concerns about data security, and the need for stronger regulation (Fenwick et al., 2017).

Previous research has revealed some critical findings. For example, Sari et al. (2020) found that the main factors influencing mobile payment adoption among Indonesian students are ease of use, perceived benefits, and social influence. Meanwhile, Pranata and Farandy (2019) identified that Fintech contributes positively to increasing financial inclusion, especially in areas underserved by traditional banking. However, Wulandari et al. (2021) show that although Fintech and conventional banks are increasingly collaborating, there are still challenges regarding regulation and market competition.

Given the dynamics and complexity of Fintech development in Indonesia, this study aims to analyze the development of Fintech through a bibliometric approach, focusing on three main perspectives: students, the general public, and companies. The bibliometric approach was chosen because of its ability to identify trends, patterns, and gaps in the scientific literature (Donthu et al., 2021). By integrating various perspectives and analyzing the development of Fintech research over the past five years, this study is expected to provide a more comprehensive understanding of the Fintech ecosystem in Indonesia, identify areas that need further attention, and provide recommendations for future policy and research development.

## 2. LITERATURE REVIEW

The development of Fintech in Indonesia has attracted the attention of many researchers, who are trying to understand the dynamics of its adoption and its impact on the financial ecosystem (Suyanto & Kurniawan, 2019; Wijaya et al., 2021). Recent studies have revealed various essential aspects of this phenomenon. For example, research on the factors influencing the adoption of mobile payments among Indonesian millennials shows that ease of use, perception of benefits, and social influence are the main determinants (Sari et al., 2020; Purwanto et al., 2021).

The impact of Fintech on financial inclusion has also been the focus of research, with findings showing increased access to financial services, especially in areas underserved by conventional banking (Pranata & Farandy, 2019; Hidajat, 2020). Furthermore, bibliometric analysis of Islamic Fintech research in Indonesia has helped identify trends and gaps in the existing literature (Nurfalah & Rusydiana, 2021; Aziz et al., 2022).

The role of Fintech in supporting MSMEs, especially during the COVID-19 pandemic, has also been explored, showing that the adoption of financial technology helps improve business resilience and maintain operations (Wijayanti & Prasetyo, 2022; Novita et al., 2023). Meanwhile, a study on the impact of regulations on the development of the Fintech industry in Indonesia emphasizes the importance of an adaptive and responsive regulatory framework to encourage innovation while protecting consumers (Suryono et al., 2023; Gunawan & Haryanto, 2022).

In a theoretical context, the Technology Acceptance Model (TAM) and its derivatives, such as the Unified Theory of Acceptance and Use of Technology (UTAUT), remain relevant in understanding Fintech adoption (Venkatesh et al., 2021; Liu et al., 2022). These theories emphasize the role of perception of usability, ease of use, and social norms in adopting new technologies. In addition, the innovation diffusion theory still provides valuable insights into the spread of Fintech innovations in various segments of Indonesian society (Rogers, 2003; Hapsari et al., 2021).

Implementing these theories in bibliometric research on Fintech in Indonesia can reveal the key factors influencing the adoption and development of Fintech from various perspectives (Wibowo et al., 2022; Santoso et al., 2023). Bibliometric analysis can explore the extent to which existing research has applied TAM or UTAUT constructs in the context of Indonesian Fintech or how the principles of innovation diffusion are reflected in Fintech adoption patterns in various community groups (Rahayu et al., 2021; Firmansyah & Putra, 2023).

This comprehensive approach allows for integrating existing findings into a coherent theoretical framework, identifying literature gaps, and determining future research direction (Yudha et al., 2022; Pramono et al., 2023). By considering the perspectives of students, the general public, and companies, this research has the potential to provide a more holistic understanding of the Fintech ecosystem in Indonesia, which in turn can inform the development of more effective policies and strategies (Susanto et al., 2022; Widyastuti et al., 2023).

## 3. METHODOLOGY

This study applies a review analysis method, integrating quantitative and qualitative approaches to review the scientific literature on Fintech in Indonesia (Donthu et al., 2021; Zupic & Čater, 2015). This method allows the identification of trends, patterns, and gaps in

scientific publications. The quantitative aspects include productivity analysis, citations, co-citation, and co-words, while the qualitative aspects include content and network analysis. The object of the research is scientific publications on Fintech in Indonesia published between 2019 and 2024, including journal articles, conference papers, book chapters, and theses and dissertations, if available. The main focus of the research includes the development of Fintech, its adoption by various groups, and its impact on financial inclusion, regulation, and innovation in Fintech services.

The research sample was taken from three primary databases: Scopus, Web of Science, and Google Scholar. Inclusion criteria include publications in English or Indonesian between 2019 and 2024, focused on Fintech in Indonesia, and falling into computer science, economics, business, or social sciences. The search strategy uses a combination of keywords such as "Fintech AND Indonesia," "Financial Technology AND Indonesia," and other variations. The sample selection process involves an initial search, filtering by title and abstract, deduplication, and full-text check. The sample size is estimated to include 200-300 publications to provide a comprehensive picture.

## 4. RESEARCH RESULT

The results of a bibliometric analysis of the development of Fintech in Indonesia from 2019 to 2024 reveal several interesting findings. The publication trend showed a substantial increase in the number of scientific papers discussing Fintech in Indonesia during the period. The topics that dominate the research include digital payment systems, online lending platforms, and regulatory aspects of Fintech, reflecting the main focus on the development and adoption of financial technology in the country.

From a student perspective, recent studies indicate a high adoption rate of mobile payment services among the student population. Factors that play a significant role in driving this adoption include the perception of ease of use, perceived benefits, and the influence of the social environment. These findings highlight the importance of intuitive interface design and marketing strategies that leverage students' social networks.

Meanwhile, from the general public's perspective, research shows that the presence of Fintech has contributed to increased financial inclusion, especially in areas previously underserved by the conventional banking system. However, significant challenges are still faced, primarily related to the digital and financial literacy level that needs to be improved and people's concerns regarding their data security.

From a corporate perspective, the Fintech landscape in Indonesia is dominated by companies engaged in the payment and lending sectors. Interestingly, the trend of collaboration between Fintech companies and traditional banking institutions shows an increase, indicating a mutually beneficial synergy between technological innovation and conventional financial industry expertise.

These findings provide a comprehensive overview of the dynamics of Fintech development in Indonesia, highlight areas that have made significant progress, and identify challenges that still need to be overcome. These results can be a valuable reference for policymakers, industry players, and researchers in formulating strategies to maximize the potential of Fintech while overcoming existing obstacles in the Indonesian context.

## 5. DISCUSSION

Research on fintech in Indonesia has shown a significant increase in recent years, which aligns with the rapid development of digital technology and technology-based economic transformation. Bibliometric analysis reveals a surging publication trend since 2015, primarily focusing on digital payment systems, peer-to-peer lending, and blockchain. Keywords such as "financial innovation," "fintech regulation," and "digital literacy" dominate academic publications, reflecting broad interest in the technological, economic, and social aspects of fintech. Regarding technology, the research highlights the role of blockchain and artificial intelligence (AI) as key elements in developing fintech in Indonesia. Blockchain is considered a promising solution to improve the security and transparency of financial transactions. On the other hand, big data and AI are used for service personalization, risk analysis, and fraud detection, providing added value for fintech service providers. Although this technology has great potential, its implementation still faces challenges with limited digital infrastructure in some regions.

Regulations play an essential role in directing the development of fintech in Indonesia. The Financial Services Authority (OJK) has issued various rules to balance innovation and consumer protection. However, there is a gap between the speed of technological innovation and regulatory adaptation, which sometimes hinders the development of this industry. Several studies also point to the need for more flexible and responsive regulations to changes in market dynamics to encourage sustainable fintech growth. Fintech has had a significant positive impact on financial inclusion in Indonesia, especially among people who do not have access to traditional banking services. Microfinance and crowdfunding platforms, for example, have

helped increase access to capital for small and medium-sized enterprises (MSMEs). However, fintech adoption at the community level still faces obstacles such as low digital financial literacy and lack of trust in this new technology, especially in rural areas.

A multi-perspective approach that integrates technological innovation, regulatory support, and public literacy is needed to strengthen fintech development in Indonesia. Digital financial education programs should be expanded to increase public understanding of the benefits and uses of fintech services. In addition, closer collaboration between academia, government, and industry is needed to encourage relevant research and create adaptive policies. With these steps, fintech can develop as a significant catalyst for digital economic transformation in Indonesia.

## 6. CONCLUSIONS AND RECOMMENDATIONS

This review analysis reveals significant developments in Fintech-related research in Indonesia over the last five-year period. The findings show that implementing financial technology has positively contributed to improving financial inclusion and optimizing the efficiency of financial services in the country. However, several challenges still need to be faced and overcome, primarily related to regulatory aspects, data protection, and increasing public financial literacy. The analysis results indicate that despite the rapid progress, there is still plenty of room for further research. In particular, in-depth studies are needed to understand the long-term implications of Fintech adoption on Indonesia's financial ecosystem. In addition, the development of effective strategies to drive safe and inclusive adoption of Fintech is also an area that requires special attention from researchers and stakeholders. This conclusion highlights the importance of balancing innovation and regulation in developing the Fintech sector. A holistic approach involving collaboration between the government, industry, and academia is needed to optimize the potential of Fintech while mitigating risks that may arise. Thus, future research is expected to provide more comprehensive insights and applicable solutions to support the sustainable development of the Fintech ecosystem and benefit all levels of Indonesian society.

## 7. ADVANCED RESEARCH

This study uses a multi-perspective review analysis approach to analyze fintech developments in Indonesia, focusing on technology, regulation, economy, and social impact. Through analyzing publication data, research collaboration patterns, and dominant themes in

the literature, this research reveals the role of technologies such as blockchain and artificial intelligence as catalysts for innovation and regulatory challenges that must be adaptive to digital transformation. The study also highlights fintech's contribution to financial inclusion, especially for segments not served by traditional banking, and the importance of digital literacy education in overcoming social barriers. This research provides a foundation for innovation policies and strategies to strengthen Indonesia's inclusive and sustainable fintech ecosystem by identifying research gaps related to the long-term impact and adoption of new technologies.

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