Journal of Economics and Business
Vol. 3 No.2 2025, 163-170
Publisher: CV. Doki Course and Training
E-ISSN: 2988-441 P-ISSN: 2988-3156

Analysis of Opportunities and Challenges of Using Fintech in Islamic Banking in the Digital Era

Nayla Fibri Anjani[1], Eky Okta Triana[2], Ika Yuli Astuti[3], Kaka Raflika Renandar[4], Widia Alya Rifa[5], Ade Mayang Sari[6]
Universitas Islam Negeri Raden Fatah Palembang[1234], Sakarya University of Turkey[5], Universitas Islam Negeri Sultan Thaha Saifuddin Jambi[6]
Corresponding email: naylanjani042@gmail.com

ARTICLE INFO

Article History
Submission: 25-04-2024
Received: 06-07-2025
Revised : 27-11-2025
Accepted : 03-12-2025

Keywords
Islamic banking;
Financial Technology;
Opportunities and challenges;
the digital era

ABSTRACT

The rapid growth of digital technology has driven innovation in Islamic banking, with fintech playing a key role in improving efficiency, expanding financial access, and strengthening competitiveness. This literature-based study analyzes the opportunities and challenges of fintech adoption in Islamic banking. Findings indicate that fintech creates opportunities through improved service effectiveness, broader market reach, enhanced service quality, easier transactions, and strong regulatory support. However, several challenges remain, including cybercrime risks, uneven digital infrastructure, low fintech literacy among the public, and strict Sharia compliance requirements. Overall, fintech has great potential to support the development of Islamic finance if supported by the right digital strategies, stronger regulations, and increased user literacy, providing valuable insights for industry players, regulators, and academics in building an inclusive and sustainable Islamic fintech ecosystem.

Introduction

The development of digital technology in the last decade has driven major changes in the financial services industry (Khan et al., 2024). Financial Technology (Fintech) is present as an innovation that offers convenience, speed, and efficiency in various financial transactions (Srinivas et al., 2025). In Indonesia, the use of fintech is growing rapidly, particularly in digital payment services, online financing, and investment management (Poerjoto et al., 2021). This dynamic creates both competition and new collaboration opportunities for financial institutions, including Islamic banking, which is now required to adapt digitally to remain relevant and competitive (Wirani & Romadhon, 2022). Amid growing public preference for technology-based financial services, digitalization has become a strategic necessity to improve service quality, expand market reach, and support the growth of the Islamic financial industry.

However, the integration of fintech in Islamic banking is not without challenges (Hassan et al., 2022). In addition to ensuring digital security, data privacy, and technological infrastructure readiness, Islamic banks also need to maintain compliance with sharia principles (Asyiqin, 2025; Hurani et al., 2024). The presence of blockchain-based fintech, artificial intelligence, open banking, and mobile banking offers significant opportunities to create more efficient service processes tailored to user needs (Del Sarto, 2023; Ganesan

Alias et al., 2025; Ghosh & Kumar, 2025). However, every digital innovation must go through a strict sharia verification process to ensure it is free from usury, gharar, or other non-halal activities (Mohd Haridan et al., 2023; Mun'im et al., 2025; Ramli et al., 2025). This tension between demands for innovation and the obligation to maintain sharia compliance is an important issue and needs to be analyzed in depth.

Based on these dynamics, several questions arise that need to be answered. First, what opportunities can Islamic banking capitalize on through the use of fintech in the digital era? Second, what challenges are faced in implementing this technology, from a regulatory, technological, and sharia-compliant perspective? Third, what strategies are appropriate to maximize these opportunities and minimize these challenges so that fintech integration can truly enhance the competitiveness of Islamic banking?

This paper aims to analyze the opportunities offered by fintech for the development of Islamic banking services, identify key challenges arising during implementation, and provide strategic recommendations for more optimally navigating the digital era. Thus, this discussion not only provides an overview of the current state of fintech integration in the Islamic financial sector but also suggests possible future development directions.

Theoretically, this paper is expected to enrich the literature on the digitalization of Islamic finance and provide an academic basis for further research in the field of Islamic fintech. Practically, the results of this paper's analysis can provide input for the Islamic banking industry in formulating effective digital strategies, while also assisting regulators in developing policies that support innovation while maintaining Islamic principles and financial system stability. Overall, this study is expected to provide benefits in the form of increased understanding of the opportunities and challenges of fintech integration, as well as providing insights for various stakeholders in the development of Islamic finance in the digital era.

Method

This research employed a library research method with a qualitative descriptive approach. This method was chosen because the topic of opportunities and challenges in using fintech in Islamic banking can be analyzed comprehensively through a review of scientific sources without requiring primary data collection. This approach allows researchers to identify patterns, trends, and strategic issues emerging from previous findings (Rozas & Klein, 2010), then synthesize it into an analysis that is relevant to the development of the Islamic financial industry in the digital era.

This literature review research was conducted through a series of systematic stages. The first stage began with establishing the study's focus and limitations, namely analyzing the various opportunities and challenges arising from fintech implementation in the Islamic banking sector. Establishing this focus is crucial to ensure the study's scope remains focused and aligned with the research objectives.

The second stage involved searching literature from credible scientific sources, including international journals, academic books, Scopus-indexed publications, and official reports from the Financial Services Authority (OJK) and Bank Indonesia. The search used a combination of keywords such as fintech, Islamic banking, digital banking, sharia fintech, financial technology, and Islamic banking to obtain relevant and comprehensive references.

The third stage is the literature selection process. Literature selection was based on criteria such as relevance to the research topic, publication recency, and source credibility. The literature used was generally published within the last 5–10 years to ensure that the analysis of opportunities and challenges aligns with current digital technology developments. Documents that were opinion-based, lacked academic basis, or were irrelevant to the context of Islamic banking were excluded from the review.

Next, in the fourth stage, a content analysis process was conducted. This analysis aimed to identify key concepts emerging in the relevant literature, such as forms of fintech innovation, strategic opportunities for Islamic banks, regulatory risks and challenges, and Sharia compliance issues. These findings were then categorized and synthesized into a structured narrative that illustrates the relationships between variables in the context of Islamic banking digitalization.

The fifth stage is the conclusion-drawing process. In this stage, researchers summarize the results of the literature data synthesis to answer the research problem formulation, namely regarding the opportunities and challenges of fintech use in Islamic banking. Conclusions are formulated to describe the current situation and provide strategic recommendations that can be implemented by the industry, regulators, and other stakeholders.

With these steps, the literature study method in this research not only describes the development of fintech theoretically, but also provides an in-depth understanding of its implications for Islamic banking in the digital era.

Results and Discussion

1. Sharia Bank in Running its Business

Islamic general banks in carrying out their business consist of various sources, which depend on the type of business they are aiming for (El-Seoudi et al., 2012; Paturohman et al., 2018). Based on education about Islamic banks, Islamic commercial banks have a social function as baitul mal institutions, which obtain funds from zakat, infak, alms, grants, or other social funds (Memon et al., 2025; Shofawati, 2018). These funds will then be distributed to zakat management organizations for social purposes. Islamic commercial banks can also serve a social function as baitul mal banks, which obtain funds from waqf in the form of cash and distribute them to waqf managers according to the wishes of the waqf donor.

Islamic commercial banks must meet the minimum requirements regarding organizational structure and management, capitalization, ownership, expertise in Islamic banking, and business feasibility. In carrying out Islamic banking business activities, it is necessary to consider factors that are different from conventional banks, such as Islamic law and positive law, dispute resolution bodies, and different organizational structures, as well as the absence of a National Sharia Council (DSN) and a Sharia Supervisory Board (DPS). Islamic commercial banks can also carry out other business activities, such as being interest-free commercial banks and intergovernmental banks that aim to provide funds for development projects.

In carrying out its business, Islamic commercial banks must consider sharia principles, such as the principles of justice and balance ('adl wa tawazun), welfare (maslahah), universalism (alamiyah), and must not contain gharar, maysir, riba, zalim and haram objects.

2. Fintech in Banking

FinTech is an alternative modern financial service offering practical, efficient, convenient, and economical access to investments and transactions. The presence of FinTech has transformed people's financial lifestyles, as the combination of technology and service effectiveness has a significant positive impact. In the economic environment, FinTech provides various benefits that are not only felt by individuals but also drive the development of the broader economic sector.

One of the main benefits of FinTech is its contribution to the growth of the technology startup ecosystem. This development opens up new job opportunities and contributes to national economic growth. This impact continues to improve public welfare because FinTech is able to reach groups previously underserved by conventional banking. Furthermore, the ease of digital transactions has contributed to increased e-commerce activity. Another benefit is lower service fee structures, including lower interest rates on digital lending services, which further facilitates public access to financing.

The use of FinTech has also shown rapid growth. According to World Bank data, the number of users rose from 7% in 2007 to 20% in 2011, then to 36% in 2014, and reached approximately 78% in 2017. During this period, there were approximately 135–140 FinTech companies in Indonesia, with a total transaction value estimated at Rp 202.77 trillion in 2017.

However, the growth of FinTech also presents challenges, particularly regarding consumer protection. Not all service providers are capable of providing optimal service, potentially leading to losses for users. Therefore, strengthening legal and regulatory aspects is crucial to maintaining security and fairness for all parties.

As a form of supervision, the government through Bank Indonesia has implemented a Regulatory Sandbox mechanism in accordance with the mandate of Law Number 8 of 1999 concerning Consumer Protection.(Republic of Indonesia, 1999)This mechanism serves to test the reliability of business models, compliance with consumer protection, risk management, and ensure that FinTech activities are not involved in money laundering or terrorism financing. Furthermore, the implementation of FinTech is closely related to the provisions of Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE), considering that most FinTech services are application-based and have access to users' personal data. This extensive data access requires service providers to strictly implement the principles of prudence and data protection to maintain consumer security and privacy.

3. SWOT Analysis

The use of fintech in customer service within Islamic banking provides competitive capital that strengthens banks' position in the digital financial industry. Some key strengths that can be identified are as follows:

a. Improving service effectiveness and efficiency. Technology enables operational processes to be simplified and controlled, even with limited human resources. Through digitalization, the financing application process can be faster, allowing customers to immediately enjoy the promised benefits.
b. Improving service quality. Fintech helps improve the service flow, from customer data entry and financing feasibility analysis to product or card delivery. Automating this process increases accuracy and reduces the potential for human error.

c. Reducing operational costs. Digitizing services reduces operational and marketing costs. Banks can optimize resources by collaborating with fintech service providers to market their products more widely and efficiently.
d. Improved data management capabilities. Technology simplifies the storage, recording, and analysis of customer data. This capability helps banks understand customer needs, respond to complaints more quickly, and strengthen long-term relationships through more personalized service.
e. More relevant product innovation. Data obtained through digital systems enables banks to develop products and services that better align with consumer needs and preferences. This is evident in the variety of financing options with features and benefits tailored to specific lifestyles and market segments.
f. Ease of access to banking services. Fintech allows customers to conduct transactions anytime and anywhere through 24-hour services such as mobile banking, internet banking, SMS banking, and call banking. This broad access enhances customer transaction convenience.
g. Wider service reach. Through internet technology, banking services can reach people in various regions, including those previously difficult to reach by physical banking networks. This opens up greater opportunities for financial inclusion for all levels of society.

4. Weakness Analysis

Despite offering various advantages, the application of fintech in Islamic banking still has a number of weaknesses that need to be considered, namely:

a. Limited facilities and infrastructure. Utilizing fintech requires a stable and fast internet connection and reliable server support to ensure smooth transactions. However, Indonesia's digital infrastructure remains uneven, creating unequal access, particularly in areas far from urban centers.
b. Vulnerability to cybercrime. Information technology has the potential to be misused through wiretapping, hacking, data breaches, and other forms of cybercrime. These threats erode public trust in digital transactions. Therefore, the role of supervisory institutions such as the Financial Services Authority (OJK), Bank Indonesia, and the Ministry of Communication and Informatics is crucial in maintaining system security, as mandated by Law No. 21 of 2011.
c. Risks of illegal practices and regulatory challenges. Not all fintech providers are officially licensed, creating the potential for abuse of authority or unauthorized transactions that harm customers. On the other hand, stringent regulations often hinder technology companies, as their innovations are not fully accommodated within the existing legal framework. While regulators emphasize consumer protection, innovative companies see these regulations as a barrier to entry and a slowdown in innovation.
d. Low public fintech literacy. Public understanding of financial technology remains relatively low, resulting in suboptimal use of fintech and digital banking services. Therefore, more intensive educational and outreach efforts by the Financial Services Authority (OJK), Bank Indonesia, banking institutions, and fintech providers are needed to improve literacy and security in using digital financial services.

5. Opportunity Analysis

The implementation of financial technology in Islamic banking institutions opens up a number of strategic opportunities that can increase competitiveness and expand Islamic financial services. The main opportunities are as follows:

a. Public awareness of formal financial services is growing. People increasingly understand the importance of saving and borrowing through banking institutions, as they are considered safer, more reliable, and more profitable. The emergence of fintech has supported this trend by offering easy access, transparency, and efficiency, thus encouraging greater public interest in using Islamic banking services.
b. The regulator's role in creating a secure ecosystem is increasingly strengthened. The Financial Services Authority (OJK) serves as a supervisor, assessor, and protector of the financial services industry. With its authority, the OJK is able to create a conducive environment and guarantee security for the public and businesses. Integrated oversight of fintech within Islamic banking services helps minimize the risk of financial crime while strengthening public trust in the use of digital services.

Conclusion

After analyzing the strengths, weaknesses, opportunities, and threats of fintech implementation in Islamic banking, it can be concluded that the use of fintech offers significant potential for improving service quality and developing the Islamic banking business in Indonesia. However, the implementation of fintech also poses challenges for banks. The presence of numerous fintech companies has created a wider variety of financing models with lower costs and faster service. This poses a threat to the role of banking institutions.

References

Asyiqin, IZ (2025). Islamic Economic Law in the Digital Age: Navigating Global Challenges and Legal Adaptations. Iuris Media, 8(1), 95–112. https://doi.org/10.20473/mi.v8i1.61800

Del Sarto, N. (2023). Mobile payments in the FinTech era: Disrupting the banking system through blockchain applications. In Revolutionizing Financial Services and Markets Through FinTech and Blockchain (pp. 15–26). IGI Global. https://doi.org/10.4018/978-1-6684-8624-5.ch002

El-Seoudi, AWMM, Mohamad, MN, Mohd. Nor, AH, Nasohah, Z., Ahmad, S., Alias, MN, & Salleh, AD (2012). Sources of funds and invested in Malaysian Islamic Banks. Advances in Natural and Applied Sciences, 6(7), 1130–1135. https://www.scopus.com/inward/record.uri?eid=2-s2.0-84868325433&partnerID=40&md5=441061f3086a1a022969f0ac2a987933

Ganesan Alias, K. M., Veluchamy, R., Vimalnath, V., & Karthick, K. K. (2025). Revolutionizing Financial Services With AI and Blockchain Pioneering Innovations for a Digital Future. In Emerging Trends and Innovations in Financial Services: A

Futurology Perspective (pp. 159–190). IGI Global. https://doi.org/10.4018/979-8-3693-7160-2.ch010

Ghosh, O., & Kumar, B. (2025). Emerging Trends in the Future of FinTech: The Transformative Role of AI and Blockchain. In Promoting Inclusivity and Accessibility With FinTech (pp. 123–151). IGI Global. https://doi.org/10.4018/979-8-3373-1112-8.ch005

Hassan, M. K., Raza Rabbani, M., & Rashid, M. (2022). FinTech in Islamic Financial Institutions: Scope, Challenges, and Implications in Islamic Finance. In FinTech in Islamic Financial Institutions: Scope, Challenges, and Implications in Islamic Finance. Springer International Publishing. https://doi.org/10.1007/978-3-031-14941-2

Hurani, J., Abdel-Haq, M. K., & Camdzic, E. (2024). FinTech Implementation Challenges in the Palestinian Banking Sector. International Journal of Financial Studies, 12(4). https://doi.org/10.3390/ijfs12040122

Khan, A., Jafar, S.H., & Chaarani, H.E. (2024). Evolution of Fintech in the Financial Sector: Recent Trends and Future Perspectives. In The Adoption of Fintech Using Technology for Better Security, Speed, and Customer Experience in Finance (pp. 17–33). Taylor and Francis. https://doi.org/10.4324/9781032644165-2

Memon, S. B., Syed, S., & Dahri, A. S. (2025). Embedding Social Responsibility in Islamic Banking: Ethical Foundations and Modern Practices. In Islamic Finance and Corporate Governance: Synergies for Sustainable Growth (pp. 57–74). Emerald Group Publishing Ltd. https://doi.org/10.1108/978-1-83662-346-520251008

Mohd Haridan, N., Sheikh Hassan, A.F., Mohammed Shah, S., & Mustafa, H. (2023). Financial innovation in Islamic banks: evidence on the interaction between Shariah board and FinTech. Journal of Islamic Accounting and Business Research, 14(6), 911–930. https://doi.org/10.1108/JIABR-11-2022-0305

Mun'im, Z., Astuti, S.D., Riyadi, I., Khabibah, S., & Huda, N. (2025). Harmonization Between DSN-MUI Fatwas and OJK Regulations: Towards an Innovative and Inclusive Sharia-Compliant Fintech Ecosystem in Indonesia. Mazahib Journal of Islamic Legal Thought, 24(1), 182–197. https://doi.org/10.21093/mj.v24i1.10032

Paturohman, S., Suhartanto, D., & Muflih, M. (2018). The Effect of Consumer Interest on Islamic Bank Deposits: An Analysis Using Google Trends. 2018 International Conference on Information Technology Systems and Innovation, ICITSI 2018 - Proceedings, 105–109. https://doi.org/10.1109/ICITSI.2018.8695913

Poerjoto, JI, Gui, A., & Deniswara, K. (2021). Identifying Factors Affecting the Continuance Usage Intention of Digital Payment Services among Millennials in Jakarta. 2021 25th International Conference on Information Technology, IT 2021. https://doi.org/10.1109/IT51528.2021.9390125

Ramli, A.M., Abdurahman, A., Kaluku, J.A., & Karmilias, R. (2025). Harmonizing Sharia Principles and E-Commerce Regulation: Comparative Insights from Indonesia and ASEAN Member States. Jurisdictie: Jurnal Hukum Dan Syariah, 16(1), 201–234. https://doi.org/10.18860/j.v16i1.31378

Republic of Indonesia. (1999). Law of the Republic of Indonesia Number 8 of 1999 concerning Consumer Protection.

Rozas, L. W., & Klein, W. C. (2010). The value and purpose of the traditional qualitative literature review. Journal of Evidence-Based Social Work, 7(5), 387–399. https://doi.org/10.1080/15433710903344116

Shofawati, A. (2018). Corporate Social Responsibility in Islamic Banking. Case of Indonesia. In R. Oratean, C. Ogrean, & S. C. Marginean (Eds.), Springer Proceedings in Business and Economics (pp. 339–353). Springer Science and Business Media BV https://doi.org/10.1007/978-3-030-01878-8_29

Srinivas, G., Venkatesh, S., Srikanth, I. G., & Padmavathi, S. (2025). Tech Trend in Finance: Exploring the Technological Frontier of Fintech Valuation in the Digital Epoch. In GT Raju, KBH Manjunatha, C. Rangaswamy, & S. Bhanumathi (Eds.), Proceedings of 3rd IEEE International Conference on Knowledge Engineering and Communication Systems, ICKECS 2025. Institute of Electrical and Electronics Engineers Inc. https://doi.org/10.1109/ICKECS65700.2025.11035982

Wirani, Y., & Romadhon, MS (2022). The influence of familiarity and personal innovativeness on the acceptance of fintech lending services: A perspective from Indonesian borrowers. Register: Scientific Journal of Information Systems Technology, 8(1), 81–93. https://doi.org/10.26594/register.v8i1.2327