Niqosiya: Journal of Economics and Business Research
P-ISSN: 2798-6373, E-ISSN: 2807-7660
Vol. 5 No. 2, July-December 2025
https://ejournal.iainponorogo.ac.id/index.php/niqosiya

Digital Transformation in Islamic Banking Services as a Support for Green Banking Practices

Miftahur Rahman1[*], Ririn Makrifah[2]
[1]Institut Agama Islam An-Nawawi Purworejo, Indonesia, miftah131@gmail.com
[2]Institut Agama Islam An-Nawawi Purworejo, Indonesia

Article Info	Abstract
Article history: Received October 29, 2025 Revised November 26, 2025 Accepted December 8, 2025 Available online December 9, 2025 *Corresponding author email: miftah131@gmail.com **Keywords:** Digital Transformation, Islamic Banking, Green Banking, Sustainability, Financial Technology	Digital transformation has become a key factor in improving the efficiency and quality of Islamic banking services, while supporting green banking practices that are oriented towards environmental sustainability. This research aims to analyze the role of digitalization in Islamic banking services in supporting the implementation of green banking. The method used in this study is a qualitative approach with a literature study and secondary data analysis from various reliable sources. The results of the study show that digitalization in Islamic banking, such as the use of mobile banking, paperless transactions, and the implementation of artificial intelligence in risk analysis, contributes significantly to reducing natural resource consumption and increasing operational efficiency. In addition, sharia-based financial technology innovations also encourage transparency and public trust in environmentally friendly banking products. The study concludes that digital transformation not only increases the competitiveness of Islamic banking in the industrial era 4.0, but also strengthens the commitment to the principles of sustainability and Islamic business ethics.
DOI: 10.21154/niqosiya.v5i2.5335 Page: 444-452	

INTRODUCTION

Banks are the heart of a country's economy. Because without banking, economic activities will become paralyzed. When the banking world progresses, it will also have an impact on national and global economic growth. Banking is the center of economic transactions. In other words, the bank institution mediates the community whose unit surplus is transferred to the unit deficit. The rapid development of information and communication technology has brought many changes and shifts so that it can be used as an effective means and medium to expand market access that has not been touched by Islamic banking (Hasanudin dkk., 2023).

During this period, which is a period when transaction services in banking are not only carried out by visiting the head office or branch offices, banks have issued services in the form of digital. Urgent transformation in the banking world is in the form of digitizing services. Digitalization is not just about moving manual transactions to automation. Banking digitalization has a broader meaning, especially to meet the needs of the banking business concept, providing the latest services to strengthen customer transaction behavior (Dz, 2018a).

In the world of banking, the development of information technology has made companies change their business strategies by placing technology as the main element in the process of product and service innovation. Like electronic transaction services (e-banking) through ATMs, phone banking, and internet banking, for example, they are new forms of bank services that turn manual transaction services into technology-based transaction services (Ansori, 2018).

Referring to POJK LPD, digital-based banking services are the development of electronic banking services. Some examples of electronic banking services that are already owned by Islamic banks include Automated Teller Machines (ATMs) and Cash Deposit Machines (CDMs), phone banking, Short Message Services (SMS) banking, Electronic Data Capture (EDC), internet banking, and mobile banking. These types of electronic banking services are a distribution network of bank services to their customers. These services produce both physical and non-physical services. These non-physical services are better known as digital services. Thus, electronic banking services can be analogized as a room, and digital banking services are the content of that room (Aripin et al., 2022a).

Digital banking transformation is an important issue in today's banking industry. This has changed the way people do business and transact. Customers prefer the smoothness and convenience of products and services to get information about products and services efficiently through smartphones. Commercial banks recognize the value of the digital revolution and no longer include traditional branch operations. Digital banking is a new product for some customers, and as a new product, it is certainly not easy to accept by customers. All banking activities can be completed with a single app on your smartphone. Therefore, trust is one of the factors to consider in choosing banking services (Shabri et al., 2022a).

Financial institutions must be able to support the creation of SDGs (Sustainable

Development Goals) or sustainable development. Sustainable development is development to meet the needs of the present by considering the living needs of future generations. This means that the banking industry must be able to balance economic conditions with the environment. Sustainable development and environmental preservation have been recognized globally which is a necessity for all parties to protect our earth from the damage created by human activities. The strategy that can be taken by Islamic banking in overcoming environmental problems is to implement a green banking strategy (Yusuf & Fasa, 2023).

Reflecting on the deterioration of environmental quality, the government expects banking institutions not only to focus solely on achieving profits (profit oriented), but also to apply the principles of empowerment and sustainability by sitting on an equal line between the earth (planet), profit (profit), and people (people) or known as the 3P principle as an effort to realize sustainable finance and sustainable economic development (sustainable finance) (Diaz et al., 2023).

In the development of fintech, mobile banking, and other technologies have provided great opportunities have been provided for Islamic banking to support green banking practices. On the other hand, awareness of the importance of the environment is increasing, with demands to minimize negative impacts on the environment. Practices that support environmental sustainability, or what is known as "green banking," are becoming increasingly important.

RESEARCH METHOD

The type of research that will be carried out in this study is Library research. Library Research is a type of research that uses library sources to obtain research data without conducting research in the field. Library research uses data collection techniques by reviewing books, literature, records, and reports related to the problem to be solved (Zed, 2008).

In presenting the author's research results on digital transformation in Islamic banking services as a support for green banking practices, the author uses a type of research that is descriptive analytical, which is a method that functions to describe or provide an overview of an object being researched through data or samples that have been collected as it is without analyzing to draw conclusions that apply to the general public (Dr, 2008).

RESULT AND DISCUSSION

In the banking sector, technological advancements in data innovation have made organizations change their business procedures by placing innovation as a key component in product development as well as administration. Computer-based changes are very important and are one of the procedures in an effort to increase the seriousness of banking. The monetary administration authority issued guidelines aimed at encouraging the financial industry to be more efficient, serious, and ready to contribute to the economy of the community. The issuance of this regulation emphasizes the importance of accelerating digital transformation, which can be an incentive for banks to encourage product innovation in the banking sector to achieve greater economies of scale and guide the development of the banking industry, especially the institutional aspect (Shabri et al., 2022b).

According to Emriana Parapat et al, computerized changes in the Islamic banking data framework are significant advances that cannot be avoided in the rapidly growing financial world. With the current developments, Islamic financial institutions face a variety of difficulties, including increasingly fierce competition, rapid technological changes, and demands to follow strict Sharia standards in every part of the business. In light of these developments, Islamic banking must make computerized and smart changes to ensure a sustainable financial future (Parapat et al., 2024).

Rifki Ismail, Secretary General of the Islamic Financial Services Board (IFSB), said that 77% of Islamic Investors indicate that the interaction of digital transformation changes in their financial framework is progressing, and only 3% want to start digitalization. Islamic banking in general will undergo major changes due to disruption from new competitors and competition from other Islamic banks. Islamic banking has made adjustments to adapt to the current situation due to competition and disruption. This is also supported by indicators of increasing value and customer satisfaction, both of which are significant motivations for the digital transformation of Islamic banking (Admin, 2022).

Table 1. Journal of Digital Transformation Development Study

No.	Writer	Journal Title / Year	Findings
1.	Husni Shabri, Nur Azlina, Muhammad Said	Transformasi Digital Industri Perbankan Syariah Indonesia (2020)	The findings of this study are the acceleration of changes in the computerization of Islamic banking driven by the coronavirus pandemic, the impact of computerized changes on the improvement of Islamic account management with an increase in the number of customers and assets, and the development of digital Islamic banking. In addition, another finding is the development of digital-based banks in Indonesia, including advanced Islamic banks such as Bank Aladin, triggered by the coronavirus pandemic and the expansion of internet access. Banks can rely on the OJK to provide guidance and direction related to digital services.
2.	Lastuti Abubakar, Tri Handayani	Penguatan Regulasi: Upaya Percepatan Transformasi Digital Perbankan di Era Ekonomi Digital (2022)	The findings of the progress of further changes in this study are the strengthening of guidelines in the fields of information, innovation, risk executives, joint efforts, and institutional demands are expected to make banks more productive, imaginative, and comprehensive.

No.	Writer	Journal Title / Year	Findings
3.	Emriana Parapat dkk.,	Transformasi Digital dalam Sistem Informasi Perbankan Syari'ah: Masa Depan Keuangan yang Berkelanjutan (2024)	The progress of Islamic banking towards a sustainable financial future is greatly aided by the digital transformation of its information system. Islamic banking has succeeded in creating sustainable financial products, expanding access to inclusive finance, and improving operational efficiency through digitalization.

Digital transformation is a must for the Islamic banking sector in facing the ever-evolving market dynamics. Digital transformation is also the key to the development of Islamic banking services in the current modern era. In this case, Islamic bank services must adapt to ongoing technological changes to meet the needs of customers effectively and efficiently. Digital transformation in Islamic banking services is not only changing the way banks operate, but also affecting the way people interact with Islamic financial services. With the adoption of the right technology and careful implementation strategies, Islamic banks can improve efficiency, improve accessibility, and expand the scope of their services while still adhering to sharia principles.

According to Nasir Tajul Aripin et al. (2022), banking services have evolved into digital-based banking services as a result of the introduction of information technology into the banking sector. This service is focused on meeting customer needs by utilizing digital technology through the provision of devices or applications that are part of the bank's distribution channel. Digital banking services limit direct interaction between customers and banks because they can be accessed at any time and from any location. As a result, the bank's operations can be completed effectively, and customer service can continue (Aripin et al., 2022b).

Islamic banking financial services must be digitally transformed. Anticipation is survival as a legacy. Business organizations have the option of participating in the change or simply watching it happen. If the decision is made to become an agent of change, the implications will include having to adjust to a new way of thinking, new roles and responsibilities in a new job, as well as new competitors and information.

Considering that the majority of Indonesia's population is Muslim, there are still very few Indonesians who use Islamic banking services, especially Bank Syariah Indonesia. According to Hery Gunardi, President Director of PT Bank Syariah Indonesia Tbk, or better known as BSI, as of November 2020, out of 180 million Indonesians who are Muslims, only 30.27 million customers are with Islamic banks. However, after Bank Syariah Mandiri, Bank BNI Syariah, and Bank BRI Syariah merged to become Bank Syariah Indonesia, which posted a 54.04% increase in profit, the expansion of Islamic banking also yielded encouraging results

(Herwi Saputri et al.., 2024).

Abdus Salam Dz said that online banking is a core technology service provided by Islamic banks. Online banking has become the norm, along with the expansion of Islamic banking through Islamic service units (office channeling) in branch offices. The products offered by Islamic banks can benefit from online banking. Microfinance and other support tools for small and medium-sized enterprises can be facilitated by technological innovations in rural areas. Banking companies have been competing with each other to offer branch-free banking to residents in these areas (Dz, 2018b).

Digital transformation in Islamic bank services includes the development of digital innovations such as mobile banking applications, internet banking, and other digital platforms. It allows customers to easily and conveniently access banking services through their own devices anytime and anywhere. The more innovative or varied the product, the more a financial institution will develop. Green innovation is innovation that includes changes in processes, techniques, technologies, systems, practices, products, and services whose purpose is to prevent or minimize environmental damage (Yusuf & Fasa, 2023b).

Green Banking Practices in Sharia Bank Services

Green banking in Islamic banking services is the implementation of banking practices that aim to promote environmental and social sustainability in accordance with Sharia principles. In an Islamic bank committed to the principles of sustainability and fairness, green banking practices have become an integral part of its operations. One of the most striking initiatives is the decision of banks to allocate most of their financial resources to support environmentally friendly and sustainable projects.

The bank finances renewable energy development projects, including wind and solar power facilities, in cooperation with domestic and foreign partners. This effort is being made to reduce greenhouse gas emissions and dependence on fossil fuels, which have a bad impact on the environment. In addition, the bank also offers sharia financing products that are supported by environmental aspects, such as financing for the development of organic agriculture, green businesses, and sustainable infrastructure development. This financing not only helps improve the economic welfare of the community but also supports efforts to preserve the environment and nature.

According to Ega Belahag Yusuf et al., the basic principle of green banking is to strengthen the bank's risk management capabilities, especially in the environmental sector, as well as increase the portfolio of environmentally friendly financing, such as renewable energy, energy efficiency, environmentally friendly transportation, and so on. The implementation of green banking is an effort to change the view of national development from a greedy economy that focuses on the value of gross domestic product, so that it will cause excessive exploitation of natural resources, to a new thinking, namely the green economy, which applies the 3P principle (Yusuf & Fasa, 2023c).

From an Islamic point of view, environmentally friendly banking practices have now become commonplace. Before there was an idea of environmentally friendly finance, Islamic banks should have been at the forefront of implementing environmentally friendly banking. Regarding financing, Islamic banks are very selective, ensuring that the money distributed is on target and does not harm the environment. The screening mechanism for financing and investment of Islamic banks establishes a negative list of illegal businesses, including businesses engaged in alcoholic beverages, weapons, gambling, and those that threaten environmental sustainability (Febiola et al., 2023).

According to (Lymperopoulos et al., 2012), incorporating green banking into policy formulation can improve the bank's position and allow it to retain existing clients as well as attract new clients that will help the bank remain sustainable in the long term (Gustya et al., 2023). Referring to the concept of green banking, one of the implementations of the green economy in the financial institution sector, there are six green banking indicators that need to be considered for banks. The six indicators of green banking include carbon emissions, green rewards, green buildings, refurbishment, paperless, and green investment.

According to Vani Febiola et al. (2023), Bank Syariah Indonesia realizes that the financing provided to its customers has a direct impact on the environment and socio-economic conditions in the area where its business is run, so it actively supports green banking. Therefore, Bank Syariah Indonesia has a policy of not providing loans to customers whose operational activities hurt the environment. The following is how Bank Syariah Indonesia implements green banking; a) Online savings accounts: online bill payments, electronic report delivery, and direct deposit arrangements are all included in green banking, b) Paperless financial statements: customers can receive electronic financial statements by registering or creating an online account, which can help reduce paper use and lower the risk of identity theft, c) Direct deposits: customers can now make deposits or transfers to and from the same bank more easily without having to come directly to the bank, d) Online Bill payments, such as making payments for phone bills, credit card statements, electricity bills, and so on, e) Net banking: Customers can complete most banking-related tasks using electronic banking or the internet without having to come directly to the bank. Therefore, in this case, every customer needs to have a password and an Internet Banking ID that has been provided by the bank.

CONCLUSION

In this section, the author presents brief conclusions from the results of the research with suggestions for advanced researchers or general readers. A conclusion may cover the main points of the paper, but it does not replicate the abstract in the conclusion.

Digital transformation in the banking sector, especially Islamic banking, is an important change towards modernization and sustainability. The evolution from conventional banking to digital banking has revolutionized the way financial services are accessed and delivered. With the rise of digital platforms, Islamic banks are starting to leverage technology to improve customer experience, improve operational efficiency, and drive financial inclusion. The implementation of digital solutions not only simplifies the banking process but also contributes to environmental sustainability through practices such as paperless transactions and carbon footprint reduction.

In the context of green banking, the digitization of Islamic banking services presents a unique opportunity to integrate green practices into financial operations. By leveraging digital tools, Islamic banks can promote green initiatives such as electronic declarations, energy-efficient operations, and sustainable investments. Aligning digital transformation with green banking principles not only improves operational efficiency but also demonstrates a commitment to environmental responsibility and social impact.

Overall, digital transformation and green banking in Islamic finance signal a progressive approach towards sustainable banking practices. By harnessing the power of technology to drive innovation, Islamic banks can not only meet the evolving needs of customers but also contribute to a more environmentally conscious and socially responsible financial ecosystem. The use of various technologies has brought significant changes to the banking industry, including Islamic banking. This shows that the digital transformation in Islamic banking services has made a positive contribution to green banking practices.

REFERENCES

Admin. (2022, Maret 1). Digital Transformation in Islamic Banking. Universitas Gadjah Mada. https://feb.ugm.ac.id/en/news/3541-digital-transformation-in-islamic-banking.

Ansori, A. (2018). Sistem informasi perbankan syari'ah. Banque Syar'i: Jurnal llmiah Perbankan Syariah, 4(2), 183–204.

Aripin, N. T., Fatwa, N., & Hannase, M. (2022a). Layanan Digital Bank Syariah Sebagai Faktor Pendorong Indeks Literasi Dan Inklusi Keuangan Syariah. Syarikat: Jurnal Rumpun Ekonomi Syariah, 5(1), 29–45.

Aripin, N. T., Fatwa, N., & Hannase, M. (2022b). Layanan Digital Bank Syariah Sebagai Faktor Pendorong Indeks Literasi Dan Inklusi Keuangan Syariah. Syarikat: Jurnal Rumpun Ekonomi Syariah, 5(1), 29–45.

Diaz, M. R., Putri, J. K., Kwan, H., & Gaol, H. S. L. (2023). Penerapan Pembiayaan Green Banking Atas Ide Proposal Hijau Generasi Muda di Sektor UMKM. Interdisciplinary Journal On Law, Social Sciences And Humanities, 4(1), 95–110.

Dr, P. (2008). Sugiyono, Metode Penelitian Kuantitatif Kualitatif dan R&D. CV. Alfabeta, Bandung, 25.

Dz, A. S. (2018a). Inklusi keuangan perbankan syariah berbasis digital-banking: Optimalisasi dan tantangan. Al-Amwal: Jurnal Ekonomi dan Perbankan Syari'ah, 10(1), 63–80.

Dz, A. S. (2018b). Inklusi keuangan perbankan syariah berbasis digital-banking: Optimalisasi dan tantangan. Al-Amwal: Jurnal Ekonomi dan Perbankan Syari'ah, 10(1), 63–80.

Febiola, V., Fasa, M. I., & Suharto, S. (2023). Analisis implementasi green banking pada bank umum syariah: Studi pada bank syariah indonesia. Jurnal Econetica: Jurnal Ilmu Sosial, Ekonomi, dan Bisnis, 5(1), 41–50.

Gustya, A. A., Fasa, M. I., & Suharto, S. (2023). Urgensi Penerapan Green Banking Sebagai Aspek Meningkatkan Kualitas Layanan Industri Perbankan Syariah. Jaksya: Jurnal Akuntansi Syariah, 1(1), 55–61.

Hasanudin, S., Firdaus, S., & Khoirunjannah, D. (2023). Eksistensi Perbankan Syariah Dalam Menyongsong Era Digitalisasi. Cashless: Journal of Sharia Finance and Banking, 1(1), 24– 31.

Herwi Saputri, A., Rahmawati, A., Ramadhani, F., & Rahmawati, A. (2024). Potensi Fintech Dalam Upaya Peningkatan Kinerja Perbankan Di Bank Syariah Indonesia. Jurnal Ekonomi, Manajemen Dan Akuntansi, 1192, 334–342.

Parapat, E., Pebriansya, A., Prayogo, I., & Nurbaiti, N. (2024). Transformasi Digital dalam Sistem Informasi Perbankan Syari'ah: Masa Depan Keuangan yang Berkelanjutan. Jurnal Sistem Informasi Dan Ilmu Komputer, 2(1), 49–60.

Shabri, H., Azlina, N., & Said, M. (2022). Transformasi digital industri perbankan syariah Indonesia. El-Kahfi| Journal of Islamic Economics, 3(02).

Yusuf, E. B., & Fasa, M. I. (2023). Inovasi Layanan Perbankan Syariah Berbasis Teknologi sebagai Wujud Penerapan Green Banking. Istithmar, 7(1), 34–41.

Zed, M. (2008). Metode penelitian kepustakaan. Yayasan Pustaka Obor Indonesia.