

OPPORTUNITIES FOR USING DIGITAL TECHNOLOGIES IN ISLAMIC BANKS.

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ARTICLE INFO

ABSTRACT:

ARTICLE HISTORY:

Received: 23.05.2025

Revised: 24.05.2025

Accepted: 25.05.2025

KEYWORDS:

digital technologies,
fintech, Islamic banking,
digital transformation,
artificial intelligence,
blockchain, regtech,
subtech.

The article describes the implementation of Islamic banking digitalization and its challenges and opportunities. It also highlights the opportunities for developing banking activities and improving the quality of services, including the use of artificial intelligence, mobile banking, blockchain, reg tech and subtech technologies in Islamic banking.

INTRODUCTION. Digitalization is an inevitable aspect of modern businesses. Without digitalization, businesses face challenges in the current era of Industry 4.0. The Fourth Industrial Revolution and globalization have brought significant changes in various fields, one of which is technology. The rapid development of technology has an impact on lifestyle changes, addressing fundamental human needs. One of the benefits of this technology is its ability to facilitate human work in terms of energy, cost, and time (F. Rahman, 2022). Islamic economics, also known as Sharia economics, is an economic system based on Sharia principles. Sharia economics involves individual or corporate business activities, whether legal entities or not, carried out to meet commercial and non-commercial needs according to Sharia principles. This includes Islamic banks, Islamic microfinance institutions, Islamic insurance, Islamic reinsurance, Islamic mutual funds, Islamic medium-term securities, and Islamic securities, Islamic financing, Islamic pawnshops, pension funds for Islamic financial institutions, and Islamic businesses (Hardiati et al., 2021).

Digital banking has become the primary solution for providing faster, safer, and more efficient financial services. AI plays a role in various banking aspects that assist customers in financial planning. With AI implementation, banks can automate many services, improve customer satisfaction, and minimize operational risks. (Fajri et al., 2022)

revealed that digitalization, innovation and Islamic banking services have a significant impact on innovation and customer satisfaction. The Islamic banking sector is transforming due to evolving customer behavior, increasing expectations, technological advancements, and the widespread digitalization of businesses and society (Siska, 2022). Additionally, the rise of Sharia-compliant financial technology (fintech) offers new alternatives for flexible financial services, such as Sharia peer-to-peer lending platforms and halal crowdfunding. Halal blockchain is one of the technologies with great potential to enhance transparency and trust in Islamic banking. With its decentralized and immutable nature, blockchain can be used to verify the authenticity of financial transactions and reduce fraud risks. This technology also ensures that all transactions comply with Sharia principles, such as being free from *riba* (interest) and *gharar* (excessive uncertainty).

Material and methods. The integration of artificial intelligence (AI) into Islamic banking is increasingly recognized as a significant area of development and innovation. Studies conducted by Khan and Khalid (2019) and Al-Roubaie (2022) delve deeply into the ethical implications of employing AI within this context, particularly in critical areas such as customer profiling, decision-making algorithms, and risk assessment processes. These studies emphasize that the application of AI technologies in Islamic banking must be carefully aligned with the ethical principles of Islamic finance, including fairness, transparency, and social justice. Regulatory challenges continue to pose significant barriers to the digital transformation of Islamic banks. Studies by Rosman and Ismail (2018) and Zawya (2021) highlight the critical need for a robust Sharia governance framework that supports technological innovation while ensuring adherence to Sharia principles. The active role of regulators and Sharia boards in assessing and ensuring compliance of new technologies with Islamic law is indispensable. However, striking the right balance between fostering innovation and maintaining rigorous regulatory oversight remains an ongoing and complex debate within the Islamic finance sector. Finally, numerous studies underscore the significance of strategic adaptation and collaboration in navigating the challenges and opportunities presented by the digital landscape. For example, research by Ahmad and Omar (2019) and Hamid et al. (2022) emphasizes that Islamic banks must adopt a proactive stance towards digital innovation by fostering partnerships with fintech firms and investing in advanced digital infrastructure. Such collaborations can equip Islamic banks with the necessary expertise and resources to effectively compete with conventional banks while maintaining their distinct value proposition rooted in Sharia compliance.

The method used in this study is a narrative review that analyzes literature related to digitalization of Islamic banks and scientific abstraction, empirical, descriptive statistics, expert assessment, grouping, dynamic analysis, SWOT analysis were conducted on the opportunities for digitalization of Islamic banks.

Results and discussion. The digitalization of Islamic banking has transformed how financial services are delivered while ensuring compliance with Sharia principles. Various

technological advancements have been integrated into Islamic banking to enhance accessibility, efficiency, and transparency. Islamic banking has significantly advanced in digital transformation through innovations like mobile applications, internet banking, distributed ledger technology, and comprehensive digital payment platforms. Islamic banking has significantly advanced in digital transformation through innovations like mobile applications, internet banking, distributed ledger technology, and comprehensive digital payment platforms. (Cherni & Amar, 2024)

1- table. Key aspects of implementing digitalization in Islamic banking.

Direction of digitalization	Impact of operations in Islamic banks
Blockchain Technology for Transparent and Secure Transactions	Islamic banks have developed mobile and internet banking platforms that allow customers to perform financial transactions in a Sharia-compliant manner. These services include online fund transfers, bill payments, investment tracking, and halal financing applications.
Islamic Fintech and Digital Payment Systems	The rise of Islamic fintech companies has played a crucial role in advancing digitalization in Islamic banking. These platforms offer innovative financial solutions, including halal investment platforms, peer-to-peer (P2P) lending, and crowdfunding. Islamic fintech companies ensure that transactions are free from riba (interest), gharar (uncertainty), and maysir (gambling)
Blockchain Technology for Transparent and Secure Transactions	Blockchain technology is being utilized in Islamic banking to enhance transparency, security, and trust in financial transactions. Smart contracts based on blockchain ensure that agreements comply with Islamic finance principles, reducing fraud and disputes. For example, Islamic banks can use blockchain for issuing sukuk (Islamic bonds), ensuring that funds are used strictly for halal purposes. Bahrain-based Shariacompliant financial institutions have started using blockchain to improve transparency in transactions and regulatory compliance
Artificial Intelligence (AI) for Customer Support and Risk Management	AI-powered chatbots and virtual assistants are being integrated into Islamic banking services to provide instant customer support and advisory services. AI can also be used to assess the creditworthiness of customers based on ethical and fair financing principles
Big Data and	Islamic banks utilize big data and analytics to better

Analytics for Personalized Islamic Financial Services	understand customer needs and offer personalized financial solutions. By analyzing transaction patterns, spending habits, and financial goals, Islamic banks can recommend suitable halal investment options and financing solutions
Digital Islamic Microfinance for Financial Inclusion	Digitalization has enabled the expansion of Islamic microfinance services to underserved communities. Mobile-based Islamic microfinance platforms provide interest-free loans to small businesses and individuals in need. These platforms ensure that financial assistance is provided ethically and fairly
E-Wallets and Contactless Payments for Halal Transaction	Islamic banks are introducing digital wallets and contactless payment solutions that comply with Sharia principles. These payment systems allow customers to make purchases and transfer money while ensuring that transactions align with Islamic financial laws.

Source: Tira Nur Fitria. Islamic Banking Digitalization: Challenges and Opportunities in the Era of Industrial Revolution 4.0. Vol. 11 No. 1 (2025): (JIEI) Jurnal Ilmiah Ekonomi Islam.

According to [Mordor Intelligence](#), Islamic finance has been on the rise in recent years, with assets managed by Shariah-compliant financial institutions surpassing \$4.2 trillion in 2022 (a 93 percent increase from 2015). [S&P Global ratings](#) forecasts growth of approximately 10 percent in 2023, and assets are expected to reach \$6 trillion by 2026.

In Uzbekistan, there is a significant demand for Islamic finance. A 2020 [UNDP](#) study showed that 56 percent of individuals and 38 percent of businesses surveyed in Uzbekistan do not take loans due to religious beliefs. However, according to the same survey it was found that more than 60 percent of individuals and businesses do not have a full understanding of how products of Islamic finance work. According to [The Banker](#), banks in Central Asia are already among the top 205 based on Islamic finance. In particular, banks in Kazakhstan (with Al Hilal Islamic Bank at 175th place and Zaman Bank at 189th place), Kyrgyzstan (Eco Islamic Bank at 191st place) and Tajikistan (Tawhidbank at 202nd place) are already fully or partially functioning organizations on the principles of Islamic finance. In Central Asia, Shariah-compliant assets are growing by [12.7 percent](#) per year. Central Asia, including Uzbekistan, faces specific challenges and opportunities in the context of Islamic finance. Tursunov (2021) highlights the need for legal revisions and suggests Uzbekistan's potential to become a hub for Islamic finance within the CIS countries. Mirzakhmedova (2023) underscores the importance of addressing legal, educational, and awareness-related concerns to advance Islamic finance. Consumer behaviour is a key determinant of the demand for Islamic banking products.

Islamic banking is the largest industry that uses sharia-complaint in the world. Islamic banking has also entered the era of digitalization in order to face the challenges of globalization. Several aspects regarding the digitalization of Islamic banking discussed in this section include views and policies from the side of policy makers, how digitalization is carried out by Islamic banks, and customers responses and SWOT anaylsis was performed.

1-figure. SWOT analysis of opportunities for digitalization of Islamic banks.

Strenght	Weakness
<ul style="list-style-type: none"> -growing market; -investment potencial; -provide easy access to services; -the service process is simple and fast; -good and guaranteed records, financial reports and transparency; -costs are reduced. 	<ul style="list-style-type: none"> -the internet network is weak in rural areas; -limited fintech services; - the lack of knowledge among many about the activities of the Sharia Council; -customer information is only through big data; - Regulatory Limitations; - Underdeveloped Infrastructure.
Opportunities	Threats
<ul style="list-style-type: none"> - attracting Foreign Investment; -enhanced Economic Resilience; -strategic Regional Development. 	<ul style="list-style-type: none"> -geopolitical Tensions; -limited Market Penetration; -Sharia Compliance Scrutiny; -cybercrime; -economic Pressures.

Source: author's development

Conclusion. This study emphasizes that the successful integration of digital technologies in Islamic banking hinges on achieving a delicate balance between innovation and Sharia compliance. Islamic banks face regulatory challenges, ethical considerations, and the evolving demands of the digital economy. To address these complexities, banks must remain committed to the core values of fairness, transparency, and mutual consent central to Sharia law. A proactive approach is required, engaging both regulators and customers to cultivate an environment that embraces technological advances while reinforcing the moral imperatives of Islamic finance. By doing so, Islamic banks can fulfill their dual role of achieving profitability and promoting societal well-being. The article analyzes the possibilities of digitalization of Islamic banks worldwide, the data aimed at the widespread use of financial technologies. It also considers the possibilities of forming and implementing Islamic finance, including Islamic banking, in Uzbekistan, using modern technologies to implement practices. Looking ahead, Islamic banks should continue to invest in digital transformation while prioritizing Sharia compliance across all aspects of their operations.

This approach will enable them to remain competitive in the rapidly evolving financial landscape while upholding the integrity and ethical standards that define Islamic finance. Furthermore, ongoing research and dialogue within the industry will be essential to address emerging challenges and dynamics. By refining strategies and offerings to meet the changing needs of customers and the broader economic environment, Islamic banks can ensure that their innovations not only comply with Sharia principles but also contribute to the betterment of society as a whole.

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