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The Impact of Artificial Intelligence (AI) Implementation on Islamic Financial Literacy and Global Economic Changes in the Banking World

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ABSTRACT

Currently, the banking sector is facing a transformation towards the digital era in response to the development of fintech and the digital technology revolution. This transformation has brought banks into the era of digital banking services that aim to spread financial inclusion and provide access to the community without time and place constraints. Advances in information and communication technology have brought changes to various industries, including the Islamic finance sector. The development of artificial intelligence (AI) is crucial in the digitalization of Islamic money and offers opportunities to increase efficiency, personalize services, and reduce risks. This study aims to analyze the impact of AI implementation on financial literacy and global economic changes in the banking world by emphasizing effectiveness, efficiency, and compliance with Sharia principles. The research method used is qualitative literature research. Data comes from various sources, including relevant research papers, journals, and books. The findings of this study indicate that the application of AI in Islamic finance can improve operational efficiency, make financial services more accessible, and enable data analysis in a way that facilitates the development of strategic plans. However, the most important thing is to ensure that AI development complies with Sharia principles, including identifying *riba*, *gharar*, and non-halal transactions. The findings of this study highlight the importance of clear regulations to support the use of AI in Islamic finance, even if it is based on Islamic law. Through careful and innovative thinking, AI can serve as a strategic tool to enhance the Islamic banking sector in Indonesia, promote financial inclusion, and foster the country's economic growth.

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INTRODUCTION

According to Indonesian, artificial intelligence is also called created intelligence, which describes the form of human intelligence that is simulated on a programmed instrument so that it can carry out activities like humans. This technology describes a computational method that creates artificial intelligence. Another interpretation states that AI is a computer method that can operationalize things done by humans. This is related to the intelligence of automated actions. AI can be interpreted as a module for preparing human intellectuals in the scientific method pattern accompanied by tools that take the form of certainty in making decisions with attitudes that are almost the same as humans through the medium of machines or computers. AI, which has grown rapidly, can be used as a medium to facilitate various business sectors, such as the financial or banking sector (Arsyad et al., 2025).

According to Banking Law Number 10 of 1998, "Banking is something related to banks, including institutions, business activities as well as methods and procedures in carrying out operational activities. The first plan of activity in the subscription is carried out offline and face-to-face. However, this matter is considered ineffective and efficient, requiring a long time, operational effectiveness, and also safety. Thus, when the industrial revolution occurred, AI contributed efficiency to activities such as those of the public in the banking sector as well as other financial institutions. Various customers' and prospective customers' financial transactions can be served effectively and efficiently. The development of information and communication technology has brought major changes in various fields, including finance. One technology that will have a big impact is artificial intelligence (AI), which is now widely applied to digital financial systems in various countries, including Indonesia. The use of AI in digital finance increases operational efficiency, speeds up data analysis, and optimizes the services provided to customers. On the other hand, as part of the financial industry based on Sharia principles, Sharia finance is also experiencing digital transformation in line with the needs of the times (Adznan, et al., 2025).

However, challenges remain when applying AI in Islamic finance, especially in ensuring compliance with strict Sharia principles. The main objective of this research is the impact of the introduction of AI on digital Islamic finance in Indonesia and to what extent this technology can be applied without these principles. Sharia is the basis of Sharia finance. Apart from that, in this discussion, we will find out about the influence of the application of Artificial

Intelligence (AI) on the growth and development of digital Islamic finance in Indonesia. Although there is a large body of literature discussing the use of AI in general digital finance, research focusing on the Islamic finance sector is still limited, especially in the Indonesian context. This raises questions regarding the effectiveness and suitability of AI technology to support the development of digital sharia finance by Islamic law (Annu & Tripathi, 2024).

This research aims to analyze the impact of implementing AI on the digital Islamic finance sector in Indonesia, with a focus on aspects of effectiveness, efficiency, and compliance with Islamic law. The study also identifies the barriers and opportunities that apply to the application of AI in the Islamic finance sector and guides industry players and regulators in optimizing the use of this technology without violating Sharia principles. This study reviews the basic concepts of AI and digital finance as well as the basic principles of Islamic finance in a theoretical study. This study also includes an overview of several models of applying AI in digital finance, as well as related studies conducted in other countries. Sharia finance theory and Maqasid Syariah principles are the basis for this research analysis to ensure whether the application of technology is by Sharia values. In the era of globalization and the Industrial Revolution 4.0, digital transformation has become the key to facing challenges and opportunities in various sectors, including the banking sector (Irfan et al., 2023).

The banking world is facing significant pressure from changes in the global economy, especially with the emergence of new dynamics triggered by factors such as interest rate fluctuations, technological developments, and increasingly stringent regulatory demands. Banking, as one of the most influential economic sectors, must be able to utilize digital transformation as a tool to increase competitiveness and anticipate changes in the global economy. Digital transformation is no longer an option but a strategic necessity that allows financial institutions to remain relevant and innovative in a dynamic business environment. The industrial era 4.0 includes profound changes in all industrial activities and human life, driven by the use of digital technology and the internet. This involves systematic production using wireless technology and big data, utilizing data more accurately through server systems, and integrating all operations automatically. The situation of the banking industry in Indonesia is experiencing significant changes, influenced not only by internal trends in the banking industry but also by developments outside the industry, such as business, politics, law, and social aspects (Rabbani et al., 2022).

The approaching digital era is changing the lifestyle of the Indonesian people, especially in the financial industry, such as banking. Realizing this, financial services institutions need to respond quickly to these changes to be ready to experience digital banking innovation. Currently, the banking sector is facing a transformation towards the digital era in response to the development of fintech and the digital technology revolution. This transformation brings banks into the era of digital banking services that aim to spread financial inclusion and provide access to the public without time and place restrictions. Many private banks and regional development banks (BPD) have begun to increase investment in technology to increase the presence of fintech companies in various regions. By advancing digital banking services, the banking sector can take advantage of digital economic opportunities, especially in the era of the Industrial Revolution 4.0 and Digital Banking 4.0 by the new guidelines, POJK12/POJK.03/2018, concerning the Implementation of Digital Banking Services. The digital era brings new fundamental features that continue to develop, forcing banks to adapt their businesses to a dynamic business environment (Sarea et al., 2021).

The process of adaptation and implementation of products and services is key in facing new banking challenges that have been directly involved in the digitalization process, showing a serious response to the upcoming changes in the market. In facing a highly competitive market, banks plan various services that are in line with the development of banking services. This is not only a market advantage but also the biggest challenge for banks in the future (Mekinjic, 2019). It is important to note that banks are not only competing with other banks but also with high-tech companies that have emerged in recent years and started introducing similar facilities. These companies have their own payment methods and customer databases, which take part of the bank's income. Therefore, banks need to focus on banking innovation and improve new strategies and business forms to adapt to new market needs. In addition to introducing new services and accommodating the market, banks need to ensure optimal service quality, with a primary focus on customer satisfaction. Satisfying existing customers and attracting new customers is a priority. It is important to accompany the process of transforming banking services with continuous services that are in line with customer needs. Every bank must always remember that they have existing and future customers. This includes not only regular banking services but also customers who are consistent in using banking services over a certain period (Rahayu et al., 2023).

Therefore, banks need to undergo the best stage in transforming their business units and promoting digital banking branches that fully utilize human resources. The process of digitalization in the banking sector not only provides benefits for banks and their customers but also brings challenges that banks need to overcome. A study called Brave New World in Global Banking found that European banks are facing a loss of almost a third of their profits. The more difficult phase of digital transformation in the future is expected to continue to squeeze bank margins due to increasing competition. The selection of digital banking products is expected to increase customer loyalty and become part of the modern lifestyle. Countries such as Singapore, Japan, and the UK, which are global financial centers, have proven that financial technology has a significant impact on economic development and financial system stability. All three show that banking institutions have gained significant benefits, including expanding geographical and time services, reducing operational costs, and collecting funds more efficiently from customers (Zain et al., 2020).

Digital transformation has transformed the landscape of the financial industry globally, including in the context of Islamic finance. The sustainability and growth of the Islamic finance sector largely depend on its ability to adopt modern technologies. The Islamic finance sector has grown rapidly in recent years and has become an integral part of the global economy. The principles of Islamic finance based on Islamic law emphasize the ethical and moral aspects of financial activities. However, the sector also faces challenges such as increasing competition in the global financial market, regulatory complexity, and increasing consumer demands. Islamic finance faces significant pressures and opportunities in the era of digital transformation. As an integral part of the global financial system, the sector must adopt modern technologies to meet the increasing demands of consumers and maintain competitiveness on a global scale. Financial technology (Fintech) has revolutionized the financial sector as a whole. Innovative developments in Fintech have changed the way people access and manage financial services, providing more efficient and practical solutions. Fintech has proven successful in addressing several problems that exist in the conventional financial sector. In the context of Islamic finance, Fintech has also played an increasingly significant role in facilitating the growth and transformation of the sector. This includes services such as peer-to-peer (P2P) Sharia financing, investment platforms, and Sharia-based financial applications that enable easier access to Sharia financial products and services (Tripalupi et al., 2021).

The rapid growth of digital technology has fundamentally changed the way we interact with the world, including the financial sector. This phenomenon involves rapid developments in information technology, telecommunications, artificial intelligence, data analytics, and various other technological innovations. This speed of change creates a huge opportunity to improve efficiency and expand access to Islamic financial services. Despite the huge opportunities, Islamic finance also faces unique challenges in adopting digital transformation. From Shariah compliance requirements to societal acceptance, several factors limit the sector's ability to harness the potential of technology fully. Digital transformation can be a key enabler in achieving the goals of financial inclusion and global access for communities that follow Shariah principles. However, it is important to understand how technology can be integrated well without compromising Shariah compliance. The development of adequate digital infrastructure and a supportive regulatory framework are crucial in ensuring the success of Islamic finance's digital transformation. This includes aspects of data security, privacy, and technological infrastructure readiness (Norrahman, 2023).

Digital disruption has changed the way people do business and transact. Customers prefer the smoothness and convenience of products and services, receiving information about products and services effectively through smartphones. Understanding the value of the digital revolution, banks are no longer embracing the traditional model of operating through branches. The spread and utilization of the internet and mobile phones throughout the world have had an impact on the transformation of new forms of banking and the financial sector, leading to the formation of digital banking. The role of Fintech in the transformation of the Islamic financial sector refers to the positive contribution and influence offered by financial technology (Fintech) in changing the landscape of the financial sector based on Islamic principles. This includes innovations in Islamic financial products and services supported by information and communication technology, as well as their impact on financial inclusion, operational efficiency, and compliance with Islamic principles in financial services. Digital banking, which was originally an application with standard transaction features, has now transformed into an application with various functions, ranging from opening savings and investment accounts, cardless withdrawals, real-time gross settlements, point exchanges, shopping, and several other types of transactions. Banks carry out digitalization to achieve customer satisfaction. Customer satisfaction is important in the banking industry, which is a service sector. Customers will move from one bank to another if they do not get what they expect. Therefore, Islamic banks must be able to keep up with the pace of technological development in providing digital-based services. Digital transformation will be a challenge for the banking industry to remain in business in the financial sector (Aoujil et al., 2023).

METHOD, DATA, AND ANALYSIS

This research used a qualitative approach, especially library research, to address the problem under study. Qualitative approaches were well suited to exploring complex phenomena, such as the role of support in the digital economy, as they emphasized understanding and interpreting underlying patterns, relationships, and contexts. By focusing on textual data, this method allowed for in-depth analysis of concepts, theories, and empirical evidence related to the research topic. This research aims to analyze the concept, impact, and implementation of artificial intelligence (AI) in the digital Sharia financial sector in Indonesia based on Sharia principles. The literature study allows researchers to identify relevant literature, identify training, and understand the challenges and opportunities of AI development in this field.

This research was conducted in stages to ensure a structured approach to data collection and analysis. It started with the identification and review of primary literature regarding the impact and implementation of artificial intelligence (AI) in the digital Islamic financial sector in Indonesia. This step included collecting important works and recent studies that formed the theoretical and contextual basis of the research. The second step was to synthesize the information gathered to develop a comprehensive theoretical framework. This synthesis integrated findings from multiple sources to create a cohesive narrative that explained the relationship between support and economic outcomes. Finally, the data was analyzed qualitatively through a deductive approach, starting from the general theory and moving on to specific conclusions based on the literature collected (Sugioyono, 2017).

This study analyzed best practices and Islamic financial policy institutions that had implemented AI technology, both in Indonesia and in other countries with rapidly developing Islamic financial industries. Data collection techniques were carried out through document analysis, scientific journals, research papers, books, regulations, and articles discussing the application of AI in the fields of digital finance and Sharia finance. These sources came from statistics, academic research, and peer-reviewed reports by leading and international organizations. Data obtained through careful analysis was used to assess how AI could be applied to Islamic finance without violating Shariah principles and to identify available challenges and opportunities (Levy & Ellis, 2016).

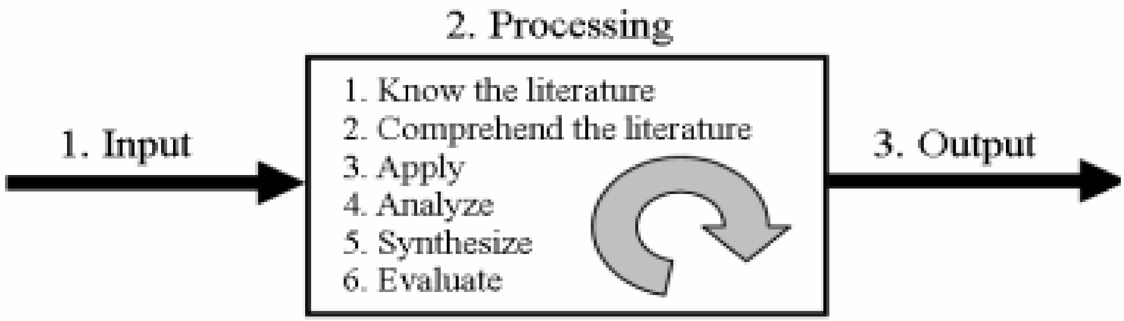

Figure 1

Stages of the Literature Review Process

A literature review was the final result through several stages of the process. Hence, the literature review activity was a series of activities, such as a research method consisting of data input, process, and output results. The literature review process from start to finish, in essence, went through several important stages, namely identifying subjects or topics, review scope or review pattern, empirical findings related to the review scope, studies and reviews, formulating new propositions or theories, and evaluating the need for further study (Thomas, 2021).

RESULT AND DISCUSSION

The Impact of Artificial Intelligence (AI) Application on Islamic Financial Literacy and Global Economic Changes in the Banking World

The rapid development of digital technology has encouraged the global banking sector, including Islamic banking, to innovate to improve its services and competitiveness. Digital transformation is not only about improving access and operational efficiency but also about creating a better customer experience through faster, safer, and more personalized services. It is especially important to consider consumer behavior, which is increasingly dependent on digital technology, which also opens up opportunities for Islamic banking to provide services that are more relevant to the needs of modern customers. The introduction of artificial intelligence (AI) in the digital Sharia finance sector in Indonesia has brought many significant changes. With advances in technology, Islamic financial institutions can now utilize AI to improve operational efficiency, expand service access, and provide a better experience for customers. Following are some of the main impacts of implementing AI in Islamic finance. AI allows Islamic financial institutions to automate various processes that previously took time and effort. For example, in analyzing customer data, AI can process information quickly and accurately. It means that financial institutions can make decisions related to financing or investment more quickly. AI can analyze large amounts of data quickly and accurately. The process of analyzing customer data manually is often time-consuming and prone to human error. By using machine learning algorithms, Islamic financial institutions can perform data analysis automatically, allowing them to identify patterns and trends more efficiently (Kismawadi et al., 2024).

Furthermore, the application of digital technology must also pay attention to the aspect of financial inclusion. Along with the growth of technology, the Islamic banking sector has a great opportunity to increase the accessibility of financial services for marginalized communities, such as those living in remote areas or low-income communities. Innovations such as mobile banking and digital payment systems can open up opportunities for these community groups to access Islamic banking products more easily and quickly. It is very important because Islamic banking has great potential to create financial inclusion, which in turn can help improve the economic welfare of the community. However, despite the many opportunities, the implementation of the digital transformation of Islamic banking must also consider the issue of data security and protection of customer information. The use of new technology, especially in digital transactions, can open up potential risks in terms of the security of personal data and transactions. Therefore, Islamic banking needs to ensure that the system used has sufficient layers of protection to maintain customer privacy and security. It is in line with Sharia principles that emphasize the importance of fairness, transparency, and protection of customer rights (Riani, 2024).

By increasing the efficiency of the data analysis process, Islamic financial institutions can also reduce operational costs. Automation reduces the need for labor for routine tasks, allowing institutions to allocate their human resources to more strategic and value-added tasks. It not only increases productivity but also helps financial institutions to save costs. AI not only increases efficiency but also speeds up decision-making. In the fast-paced world of banking, the ability to make decisions quickly is key to maintaining competitiveness. By using AI, Islamic financial institutions can respond more quickly to customer requests, both in terms of loan approvals and providing other financial products. One of the main advantages of implementing AI is increased accuracy in risk assessment. By leveraging historical data and advanced algorithms, AI can provide more precise risk assessments compared to traditional methods. It is especially important in the context of Islamic finance, where risk assessments must be carried out carefully so as not to violate sharia principles, such as the prohibition of *riba* and *gharar* (uncertainty).

With the efficiencies gained through the application of AI, Islamic financial institutions can improve the overall customer experience. A faster and more accurate process means customers will get better and more responsive service. It is important for building customer loyalty and attracting more new customers. Personalization of services. One of the major advantages of using AI is its ability to analyze customer data in depth. By understanding customer behavior and preferences, Islamic financial institutions can offer more personalized and relevant services. In this way, institutions can increase customer satisfaction and build long-term loyalty through better risk management. AI also plays an important role in risk management in the Islamic financial sector. By using historical data and predictive analysis techniques, financial institutions can identify potential risks early. The application of AI in mobile banking applications and other digital platforms allows people, especially those in remote areas, to access Islamic financial services easily. AI can analyze big data efficiently, providing Islamic financial institutions with valuable insights into consumer behavior, market trends, and potential risks (Omar & Adam, 2024).

The use of application technology in banking, known as digital banking, has experienced developments so far involving various services such as ATMs, internet banking, mobile banking, video banking, telephone banking, and SMS banking. Some banks have even introduced branchless banking services, especially those aimed at people who do not have access to banking. A significant discovery in banking is the invention of the Automated Teller Machine (ATM). Although initially used for cash withdrawal transactions, ATMs can now also carry out payment and transfer transactions. Thousands of ATMs that accept cash deposits make it easier for customers to carry out various transactions, providing an impetus for Indonesian banks to be less aggressive in opening branches and expanding their networks. While smartphone technology continues to improve, Islamic banks are also trying to keep up with these developments. SMS banking, internet banking, and banking through mobile applications (m-banking) services have been introduced to provide convenience for customers (Al-Baity, 2023).

Online banking, which has become a standard service, adds value to Islamic banking products and can expand microfinance services in rural areas. Banks that offer branchless online banking services are pioneers in meeting the needs of the local population. These technological innovations can help microfinance and support Micro, Small, and Medium Enterprises (MSMEs) in rural areas. With the ease of having a smartphone, most banks are starting to see m-banking applications as an attractive solution for customers. These banking features make all banking transactions more accessible. Online banking, as a superior technology service, has become a standard in Islamic banking services. The use of technological innovation can extend to microfinance and support the growth of MSMEs in rural areas. Through digitalization, banking has provided solutions that benefit both customers and the economy as a whole. However, challenges related to security and infrastructure need to be addressed so that the growth of the digital banking economy can be sustainable. The development of digital skills that can increase the value of practice can be done through several approaches. Namely, digital technology expands the relationship between banks, customers, employees, and suppliers. Online interactions, payment solutions, mobile features, and opportunities to strengthen the bank's brand on social media are part of this strategy (Alshater et al., 2022).

The use of big data and complex analytics digitally is used to improve decision-making in various areas, including sales, product design, pricing, underwriting, and creating exceptional customer experiences. Straightforward processing involves the automation and digitization of repetitive processes with low value and risk. Process applications help increase productivity and facilitate regulatory compliance, while visualization and straight-through processing applications enable simpler paperless workflows. Digitization is used as an instrument to drive product and business model innovation, such as social marketing and digital-based business models that support crowdsourcing. In the era of rapid digital economic growth, all transactions are technology-based, and various forms of digital economic businesses have emerged to facilitate economic exchanges between business actors. This development also includes significant improvements in the banking sector, where banks work together to improve their systems and strategies, allowing people to experience ease of trade with the support of technology (Mansyur, 2024).

Digital banks are expected to help Islamic banks store and analyze customer data, maintain close relationships with consumers, respond better to consumer complaints, and improve products and services that are more efficient, affordable, transparent, real, and better for consumers. The rapid development of information technology has brought the lives of people around the world into a new era, often called the era of the Industrial Revolution 4.0. The use of various technologies in the field of financial services has brought significant changes to the banking industry. Changes in people's consumption patterns towards digital have encouraged banks to accelerate the transformation process towards digital banking. In total, digital transactions worldwide from 2017–2021 grew by 118%, from USD 3.09 trillion in 2017 to USD 6.75 trillion in 2021. Some of the challenges faced by the digital economy to the advancement of banking include security and safety issues. As the sophistication of digital theft technology increases, efforts to improve security are also increasingly advanced. One common crime is identity theft and phishing, where sensitive information belonging to others is stolen to break into customer accounts (Syed et al., 2020).

The rise of new crimes, such as hacking websites to steal company information and the spread of fraud under the guise of online businesses, are major concerns faced by banking in the digital economy era. Technological advances and high internet speeds will significantly increase the effectiveness and efficiency of Islamic banking involvement and operational financial literacy efforts. Nevertheless, various technical and functional obstacles can be considered challenges and, conversely, can be used as triggers to be creative and produce solutions that can facilitate the arrangement and management of human work. The digital world has penetrated the financial sector, especially with the increase in transactions, such as in e-commerce. In this digital era, people need and appreciate convenience. Society openly accepts transparency and technological advances, and the financial sector, including Islamic banking, has reacted with various types of electronic funds to facilitate daily activities. Starting from electronic money connected to mobile phones to payments with balances in certain applications (Aspiranti et al., 2023).

Opportunities and challenges in the digital era affect various sectors, including Islamic banking and finance. To address potentioal issues, Islamic banks can take several steps to enhance digital banking services. They can improve communication about their services, realizing that consumers in the digital era are very easy to switch to other companies. Cybersecurity or collaboration with the government to ensure safe transactions is the key. Connecting online and offline, enabling engagement across platforms. Leveraging data-driven analytics to understand consumer needs, behaviors, and preferences. Businesses and governments need to work together to build a strong digital identity, and regulations that support digitalization must be enforced. Digital banks are expected to help Islamic banks store and analyze customer data, maintain close relationships with consumers, better respond to consumer complaints, and improve products and services that are more efficient, affordable, transparent, real, and better for consumers (Qudah et al., 2023).

To What Extent Can AI Technology Be Applied Without Violating the Sharia Principles That Underlie Islamic Finance

While there are many benefits to implementing AI, it is important to ensure that this technology is used without violating the Sharia principles that underlie Islamic finance. Here are some ways to apply AI ethically in this context, avoiding usury. All products and services offered must be free from usury. Financial institutions must ensure that the algorithms used in credit assessment or financing do not lead to usury practices. It includes ensuring that all transactions are conducted on a profit-sharing basis. Transparency in the process institutions must maintain transparency in the use of AI, especially regarding how customer data is used and how the AI system makes decisions. Customers must be given a clear understanding of these processes so that they feel safe and confident in the services provided. Compliance with halal principles. The products and services offered must be by halal principles. Therefore, financial institutions need to ensure that data and algorithms do not support investments or transactions in sectors prohibited by sharia, such as alcohol or gambling.

Transactions involving high areas should be avoided. The use of AI should be directed to create certainty in transactions, not the other way around. It means that all data-driven decisions must be based on clear and measurable information. Islamic financial institutions must use AI technology to provide social benefits, such as supporting economic empowerment programs for underprivileged communities through zakat or waqf mechanisms. It is in line with the main objective of Islamic economics, which is to create prosperity for the entire community. On the other hand, another challenge that needs to be considered is the need for clear regulations regarding the use of AI in this sector. Regulations must ensure that this technology is used ethically and does not violate sharia principles. With the right legal framework, Islamic financial institutions can utilize AI for product and service innovation without compromising the integrity of Sharia principles. Overall, the introduction of AI in digital Islamic finance in Indonesia offers great opportunities to improve the efficiency and accessibility of services (Sarea et al., 2021).

However, ensuring its implementation must be done carefully to align with Islamic principles. However, despite the challenges in implementing AI in this sector, the potential benefits are enormous if properly managed by Sharia principles. Further research is needed to explore innovative ways of implementing AI without violating Islamic ethical norms and to develop a regulatory framework that supports the sustainable growth of this sector. Islamic finance is a form of finance that is based on Sharia or Islamic law. The principles of Islamic finance form the ethical and moral basis of Islamic investment. In the practice of Islamic investment, the prohibition of usury *(riba)* is one of the main principles. Usury is the profit obtained from the payment or receipt of interest in a financial transaction, and this is considered inconsistent with the principles of Islamic finance. In addition, Islamic investment adheres to the principle of investing in halal assets, namely assets that do not come from industries that are considered haram in Islam, such as alcohol or gambling. These principles form the basis of Islamic investment ethics, which aims to create finance that is fair, ethical, and follows Islamic values (Setyowati & Rahayu, 2023).

The use of artificial intelligence not only provides benefits in data analysis but also penetrates the cryptocurrency world by increasing predictive intelligence in investment decision-making. Investors can use sophisticated algorithms to analyze market trends and plan investment strategies in digital assets such as Bitcoin and Ethereum. The innovation of the decentralized finance system used by cryptocurrency is one of the most unexpected global monetary developments in the last decade. Bitcoin is the first cryptocurrency created with a decentralized peer-to-peer payment infrastructure and purpose that is sent from one user to another without a trusted authority intermediary such as an administrator or central bank, which is, in principle, separate from the fiat currency system. On the other hand, blockchain technology, which is the basis of most cryptocurrencies, offers decentralization and transparency features. It not only increases transaction security but is also relevant to Islamic principles in all financial transactions. Blockchain creates transparent and immutable evidence that can build trust in the Islamic financial system. The use of digital platforms in the context of cryptocurrency becomes a gateway that connects various parties in blockchain-based Islamic investment. This platform not only increases inclusivity by enabling more individuals and organizations to participate in investments under Islamic principles but also strengthens transparency, reduces transaction costs, and speeds up the process of investing in crypto assets.

In Islamic investment, AI can be a powerful tool to improve efficiency, Sharia compliance, and investment returns. However, it is important to ensure that the use of AI always complies with the principles of Islamic finance and the ethics of Islamic investment. One form of Fintech that is currently being widely discussed is Blockchain. Blockchain is the result of innovation in the world of Fintech (financial technology) that provides various benefits to the community. Blockchain is currently widely discussed, especially its relationship with cryptocurrency or what is commonly called digital currency. Blockchain is a decentralized technology that records and secures transactions in the form of blocks that are linked in a chain. It offers high security because data cannot be manipulated and a level of transparency because all members can see all network transactions. Blockchain is used in a variety of applications, including cryptocurrency and supply chain management (Maryadi et al., 2024).

The application of blockchain technology in the design of the SCF system for MSMEs in the supply chain network using the Sharia crowdfunding platform makes transactions between stakeholders in the supply chain network more transparent. It makes funders in the SCF system feel more confident that their funds will not be misused. They are sure that the projects offered are not fake projects when they decide to provide their funds to MSMEs who need financial support. Digital platforms in Sharia investment are technology-based platforms or applications that enable individuals and institutions to participate in investments that comply with Islamic financial principles. These platforms facilitate easy access to a variety of

Sharia investment products and services, allow users to manage their portfolios online, and often provide relevant information and analytical tools. These digital platforms allow individuals to invest according to Islamic financial principles without the need for traditional intermediaries, such as banks or conventional financial institutions. They also often offer greater transparency and lower costs compared to traditional investment methods (Restu Millaningtyas et al., 2024).

As such, these digital platforms play a vital role in supporting the growth of Islamic investment and making it more accessible to individuals from all walks of life. Fintech is an innovation in the financial services sector that no longer requires the use of paper money. In other words, the existence of financial technology changes currency to digital to make it more efficient. In Islam, there is something called Sharia Fintech. Sharia Fintech is a financial technology sector that specifically supports and adheres to the principles of Islamic finance in its products and services. These principles include the prohibition of usury *(riba)*, haram transactions, and excessive speculation, which are pillars of Islamic finance. This Sharia Fintech in MSMEs has an important role in its implementation where MSME entrepreneurs, when they need funding or financing if in conventional, they provide options for credit, then in sharia they provide profit sharing options with various types of contracts in sharia banking that make it easier for MSME entrepreneurs to obtain financing without being burdened by usury elements. In addition to MSME activities, this Sharia Fintech is also applied to Sharia investment (Yang et al., 2012).

The advancement of technology that has been present with a Sharia-based investment system will be very supportive because it has provided easy services in making investments, which makes it very easy for people who want to invest in Sharia instruments. The Sharia capital market is based on Sharia principles, and the mechanisms used do not conflict with values that damage Sharia (Albab & Zuhri, 2019). Therefore, with the presence of technology, it can be interpreted in the form of tools that humans can utilize to support all their daily activities. With the increasing progress of the digital world and technology, especially in the field of investment, society, especially the millennial generation, will be greatly facilitated in carrying out official investment procedures and mechanisms. With technological innovation, sharia investment has not only undergone a paradigm shift but also has the opportunity to continue to grow and create a positive impact in the ever-changing financial world. It is important to continue to monitor and adapt to the impact of the latest technology, respond to challenges with Sharia-compliant solutions, and take advantage of new opportunities to strengthen the position of Sharia investment in the dynamic and ever-evolving global financial ecosystem (Gazali et al., 2020).

Sharia entrepreneurship in the digital economy offers significant opportunities to combine modern technology with Islamic principles. It creates new space for businesses. However, challenges such as regulation, compliance, and access to capital remain obstacles. With hard work and innovation, Sharia entrepreneurship can continue to thrive in the digital era, providing broader economic and social benefits to the global community. Artificial Intelligence (AI) technology has great potential to change the way Islamic banks provide services to customers. AI can be used to analyze big data collected by banks to understand customer behavior and provide more personalized products that are tailored to each individual's needs. For example, Islamic banks can use AI to identify customer transaction behavior patterns and then offer relevant products, such as Islamic financing or investments that are under customer preferences. In addition, AI is also used to improve banks' ability to detect fraud. By using AI algorithms, banks can analyze transaction patterns made by customers to detect suspicious or unusual transactions. It is very important in Islamic banking, given the strict supervision of transactions that are not under Islamic principles. For example, AI can be used to detect transaction practices that involve usury or transactions that are contrary to other Islamic principles (Amelia, 2023).

The use of AI in Islamic banking can improve operational efficiency, reduce costs, and provide more responsive services to customer needs. In the long term, this technology is expected to improve customer experience and strengthen banks' relationships with their customers. Apart from that, AI can also improve the quality of customer service through chatbots and virtual assistants who can provide 24/7 service. The implementation of artificial intelligence (AI) has had a significant impact on the growth of digital Islamic finance in Indonesia. The use of AI in this sector also supports operations, increases efficiency, and deepens data analysis in Islamic financial services. This technology enables much more sophisticated data processing, such as analyzing customer transaction data to provide investment recommendations that comply with Islamic principles through robo-advisors. In addition, some chatbots utilize AI to improve customer service by responding to common questions and allowing employees to focus on more complex issues (Rani & Alyssa, 2024).

The integration of AI in the Islamic finance sector also helps in reporting compliance with environmental, social, and governance (ESG) principles. This AI-based system can generate ESG reporting automatically and in real-time, thus supporting Islamic business actors in meeting relevant ethical requirements and increasing their competitiveness in an increasingly environmentally conscious global financial ecosystem. The application of AI in Islamic finance still faces challenges, such as the need for increased digital literacy among the community and assistance with operational costs. Bank Indonesia, together with other financial institutions, continues to promote financial literacy and AI talent development to overcome these challenges and ensure that Islamic finance remains inclusive and by sharia principles in supporting national economic growth (Siregar et al., 2024).

CONCLUSION

The digital era brings significant challenges and opportunities for the banking sector. Digital transformation is no longer an option but a strategic necessity to maintain competitiveness and anticipate changes in the global economy. The Industrial Revolution 4.0 has brought profound changes to all aspects of life, including the banking industry. The digital era opens the door for Islamic banking to adopt digital banking services as a way to expand market access, especially amidst the increasing penetration of fintech. The application of artificial intelligence (AI) in digital Islamic finance has resulted in significant changes, especially in improving operational efficiency, personalization of services, risk mitigation, and financial accessibility. AI enables Islamic financial institutions to automate processes, analyze data quickly and accurately, and provide more accurate conclusions based on data. AI makes financial services more inclusive, especially for low-income communities and enables organizations to identify risks more accurately and use resources more strategically.

Technologies such as AI and blockchain have the potential to increase the transparency and efficiency of transactions but must be adjusted to Sharia guidelines. Increasing human resource capacity is also important to support the adoption of digital technology. Overall, digital transformation plays a significant role in expanding financial access and supporting economic equality. The development of AI also raises issues that require attention, especially in terms of enforcing sharia principles such as identifying usury, *gharar*, and non-halal transactions. Transparency and social responsibility are important components in the use of this technology to ensure that it is followed by Sharia law. Clear regulations and applicable laws will be essential in ensuring that AI is used ethically and according to Sharia principles. Overall, the use of AI offers significant benefits for the development of digital Islamic money in Indonesia, both to enhance global trade and to meet domestic needs. With strict regulations and a wise approach, AI can be a strategic tool to ensure Islamic money, provide financial transparency, and enforce Islamic law. This potential needs to be explored further to identify innovative solutions that integrate technology with Islamic principles in one accord.

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