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Digital Transformation in the Dynamics of Sharia Accounting Standards: Challenges and Opportunities in the Era of 4.0 and Society 5.0

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Abstract

Abstract: Digital transformation in the Industrial Revolution 4.0 and Society 5.0 era has presented opportunities and challenges in developing Sharia accounting standards. The phenomenon can be seen in the digital literacy gap, limited technological infrastructure, and the need to harmonize Sharia accounting standards with international standards such as IFRS. This research aims to analyze the dynamics of the development of Sharia accounting standards in the digital era, identify key challenges such as technological limitations and differences in interpreting Sharia principles, and uncover innovation opportunities through digitalization. A descriptive qualitative approach uses secondary data from academic journals, institutional reports, and regulatory documents. The study results show that blockchain, artificial intelligence (AI), and the Internet of Things (IoT) can improve Sharia-based finance's efficiency, transparency, and inclusion. However, its implementation requires infrastructure investment, increased digital literacy, and cross-sector collaboration. The implications of this research include strategic recommendations for regulators, practitioners, and academics to take advantage of digital technology opportunities to strengthen Islamic financial institutions' global competitiveness. The latest of this research lies in analyzing the integration of Sharia principles with modern technology, offering strategic guidance in creating relevant Sharia accounting standards in the digital era. This study provides important insights to encourage sustainability and innovation in Islamic financial management by Islamic principles.

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INTRODUCTION

Digital transformation has brought significant changes in various sectors, including Sharia accounting. In the Industrial Revolution 4.0 and Society 5.0 era, blockchain, artificial intelligence (AI), and the Internet of Things (IoT) drove these changes (Nugroho, Utami, et al., 2024; Zakiyah et al., 2022). In the context of Sharia accounting, this technology offers the potential to improve efficiency and transparency and presents new challenges that require adjustments to existing standards. Indonesia, as a country with the largest Muslim population in the world, plays a vital role in the development of Sharia accounting. Implementing Sharia accounting standards based on digital technology must increase global competitiveness and ensure compliance with Sharia principles (N. Chen & Yu, 2023; Khoerulloh & Janwari, 2021; Soeharjoto et al., 2019). However, this process cannot be separated from obstacles, such as limited digital literacy, inadequate technological infrastructure, and the need to harmonize Sharia and international standards (Devi et al., 2023; Nugroho et al., 2023). In addition, Sharia accounting professionals face pressure to improve their competence in understanding and integrating digital technology with Sharia principles. Against this background, research on the dynamics of the development of Sharia accounting standards in the digital era is relevant to answering the needs of various parties, including academics, practitioners, and regulators.

Changes in the digital era bring several phenomena that affect the dynamics of Sharia accounting standards; for example, blockchain and AI improve efficiency, security, and transparency in Sharia-based financial reporting (Nurdany et al., 2024; Putri & Hanif, 2024). Furthermore, blockchain allows for more accurate and Sharia tracking of transactions. In addition, there is a phenomenon where Sharia accountants must have adequate technological expertise to utilize digital systems effectively without violating Sharia principles (Nuraini & Cheumar, 2023). Nevertheless, there is also a phenomenon of differences in the interpretation of Sharia principles in various regions, which often causes inconsistencies in financial statements (El-Halaby & Hussainey, 2016; Muhtadi et al., 2023; Nasfi et al., 2022). This requires the development of Sharia accounting standards that are more flexible but still comply with Sharia principles.

Following the background and phenomenon above, there are several gaps, including the fact that Sharia accounting standards are often not in line with international standards, making it challenging to adopt global technology that supports the digitization of financial statements. In addition, not all Islamic financial institutions have access to the technology needed to support digital transformation, especially in remote areas. Furthermore, there is also a gap in many Islamic accounting practitioners with inadequate technological skills, making the transition to a digital system difficult. Based on the background and gap phenomenon identified, there are several problem formulations, which include:

- How does the development of Sharia accounting standards adapt to digital technology in the Industrial Revolution 4.0 and Society 5.0 era?
- What are the main challenges in implementing Sharia accounting standards following Sharia principles amid economic and financial digitalization?
- What opportunities can be taken advantage of by digitalization to improve the efficiency and effectiveness of Sharia-based financial management?

Referring to the formulation of these problems, this article aims to analyze the dynamics of Sharia accounting standards in the digital era and identify challenges such as limited infrastructure and digital literacy, as well as technological opportunities such as

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blockchain. This article offers strategic solutions to help academics, practitioners, and regulators improve the efficiency, transparency, and accountability of Islamic finance sustainably.

This research contributes to the literature on Sharia accounting by analyzing how Sharia accounting standards can adapt to digital technologies such as blockchain and AI, as well as integrating Sharia principles with international standards to create a more flexible and relevant framework in the digital era. In addition, this article offers strategic guidance for practitioners, regulators, and academics in addressing the challenges of digital transformation, including improving technological literacy, developing infrastructure, and creating Sharia accounting standards that align with global needs. The focus on adopting Sharia-based digital technology in the Society 5.0 era makes this research relevant and innovative to answer the needs of the industry.

LITERATURE REVIEW

Digital technology processes, stores, and distributes information in a digital format using a binary system of 0 and 1 (Mardani et al., 2020). In contrast to analog technology, which relies on continuous signals, digital technology allows faster, more precise, and more efficient data processing (Lakkannavar et al., 2012). This technology has become an integral part of human life, influencing various aspects such as communication, economy, education, and socio-culture. With the advancement of the Industrial Revolution 4.0 and Society 5.0, digital technology now includes elements such as the Internet of Things (IoT), artificial intelligence (AI), blockchain, and cloud computing (Nugroho, Melzatia, et al., 2024; Sarfraz et al., 2021). According to Aloini et al. (2021) and Suwanroj et al. (2019), digital technology consists of four main components that support each other to create an effective digital ecosystem:

- Hardware: Physical components such as computers, smartphones, tablets, and network devices. Hardware is the primary medium for running digital systems, processing data, and storing information.
- Software: Programs and applications run on top of hardware, allowing users to perform various functions such as text processing, data analysis, communication, and graphic design.
- Network: The infrastructure that connects hardware and software, allowing for the efficient exchange of information over the internet, intranet, or local area network (LAN).
- Data is information processed and stored digitally, including text, images, videos, and sounds. It is an essential resource for analysis and decision-making.

Digital technology converts analog information into digital formats through digitization (Dekkati et al., 2016). The digitized information is processed by computer systems using specific algorithms and protocols. Using binary code in this process allows the system to perform logic and arithmetic operations with high precision, minimize errors, and ensure data security and integrity. Furthermore, digital technology has had a significant impact on the development of Islamic economics, especially in the innovation of Islamic financial services:

- Sharia Fintech: Blockchain-based digital banking and online zakat payment platforms have made accessing financial services easier (Azizah, 2023; Utomo et al., 2024). Sharia Fintech increases financial inclusion by reaching people who were previously difficult to reach.

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- Digitalization of Zakat and Waqf: The digital-based Islamic banking system makes it easier to manage Zakat and Waqf transparently and efficiently, contributing to poverty alleviation and social development (Karyanto et al., 2019; Khan & Rabbani, 2022).
- Sharia Accounting: Technologies such as blockchain allow automation in Islamic financial reporting, increase transparency and accountability, and ensure compliance with Sharia principles such as the prohibition of riba and gharar (Fasa et al., 2020; Imani et al., 2023; Nazeri et al., 2023).

The Industrial Revolution 4.0 and Society 5.0 are interrelated concepts, reflecting fundamental changes in how humans live, work, and interact with technology (Mtotywa et al., 2022; Sarfraz et al., 2021). These two eras are marked by increasingly sophisticated digital technology, such as the Internet of Things (IoT), artificial intelligence (AI), big data, and blockchain. Although they complement each other, they have different focuses and goals. The Industrial Revolution 4.0 emphasizes industrial transformation through automation and digitalization, while Society 5.0 focuses on social impact and sustainability by placing people at the center of technological innovation (Khonchev et al., 2024).

The Industrial Revolution 4.0 began in the early 21st century, marking an era in which digital technology is thoroughly integrated with industrial processes. The German government first introduced the term in 2011 to describe advanced technologies such as IoT, AI, robotics, big data, and cloud computing (Jazzar et al., 2021). The main goal of the Industrial Revolution 4.0 is to increase efficiency, productivity, and flexibility through automation and digitalization (Nolting et al., 2019). Furthermore, according to Stanić et al. (2018) and Luthra & Mangla (2018), the main characteristics of the Industrial Revolution 4.0 are as follows:

- Cyber-Physical Systems: These systems integrate the physical and digital worlds. This system's physical devices are equipped with sensors, software, and communication technology to optimize real-time performance. An example is a smart factory that can automatically control and regulate production.
- Connectivity and IoT: IoT allows devices to connect and communicate with each other without human intervention. It monitors machine performance, analyzes production data, and optimizes industry efficiency.
- Artificial Intelligence and Data Analytics: AI aids in data-driven decision-making, while data analytics allows companies to more accurately understand market patterns, trends, and needs.
- Smart Manufacturing: Automating manufacturing processes allows for more efficient and flexible production, reduces waste, and improves product quality.

Society 5.0 is a concept introduced by Japan in 2016 in response to the impact of the Industrial Revolution 4.0 (Grabowska et al., 2022). This concept aims to create a society that balances technological advancement and human welfare. In Society 5.0, technology is used to solve social problems and improve the quality of life in the community. Based on Tavares et al. (2022), Ahmadin et al. (2023), and Ihwanudin et al., 2023), the main principles of Society 5.0 include the following:

- Humans as the Center of Innovation: Compared to Industrial Revolution 4.0, which focused on industrial efficiency, Society 5.0 places humans at the center of technology development. Technology serves as a tool to empower individuals and communities.

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- Integration of the Physical and Digital Worlds: Technologies such as AI and IoT process data from the physical world, resulting in solutions that can be reapplied in the real world. An example is the use of drones to deliver goods to remote areas.
- Sustainability and Inclusivity: Society 5.0 seeks to ensure that technology benefits all levels of society, including the underprivileged. Initiatives include the development of digital infrastructure, inclusive education, and universal access to health services.

Thus, according to the statement above, the differences between the Industrial Revolution 4.0 and Society 5.0 are as follows:

- Main Focus
  1. Industrial Revolution 4.0: Industrial transformation through automation and digitalization.
  2. Society 5.0: Solving social problems and improving the quality of human life.
- Approach
  1. Industrial Revolution 4.0: Technology for efficiency and productivity.
  2. Society 5.0: Technology for well-being and inclusivity.
- Social Impact
  1. The Industrial Revolution 4.0 can cause labor market disruption due to automation.
  2. Society 5.0 seeks to overcome this disruption by creating new jobs and ensuring social inclusivity.

Therefore, these two concepts complement each other. Technology developed within the framework of the Industrial Revolution 4.0 is the foundation for Society 5.0. For example, IoT and AI, used to improve production efficiency in Industry 4.0, can also be applied to improve healthcare, education, and environmental management in Society 5.0. Therefore, a holistic approach is needed to ensure that technology improves economic efficiency and provides significant social benefits.

Sharia accounting standards are principles and guidelines that govern accounting practices in Sharia-based financial entities (Aziz et al., 2021; Maulida et al., 2022). The standard ensures that financial statements reflect Islamic values, such as transparency, accountability, and fairness, while adhering to Sharia principles, including the prohibition of riba, gharar, and maisir. Along with the rapid growth of the Islamic finance industry in various countries, including Indonesia, the need for comprehensive and relevant Islamic accounting standards is increasing. Furthermore, according to Diani & Nugroho (2024) and Sukmadilaga & Nugroho (2017), Sharia accounting is based on several main principles that distinguish it from conventional accounting, including:

- Prohibition of Riba (Interest): In Islam, interest transactions are prohibited. Therefore, the financial statements must reflect that all transactions made do not contain elements of riba.
- Transparency: The information in the financial statements must be compiled and can be understood by all interested parties.
- Fairness: Every transaction must be conducted fairly, without harming either party. It also includes fairness in the distribution of profits and risks.
- Sharia Compliance: All transactions must comply with Sharia law, supervised by the Sharia Supervisory Board (DPS).

In Indonesia, Sharia accounting standards are regulated by the Indonesian Institute of Accountants (IAI) through the Sharia Accounting Standards Council (DSAS). DSAS is tasked with compiling and establishing the Sharia Financial Accounting Standards

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Statement (PSAK Syariah), the main guideline in Islamic financial reporting (Nugroho, 2022; Putra, 2015). Some of the relevant PSAKs include:

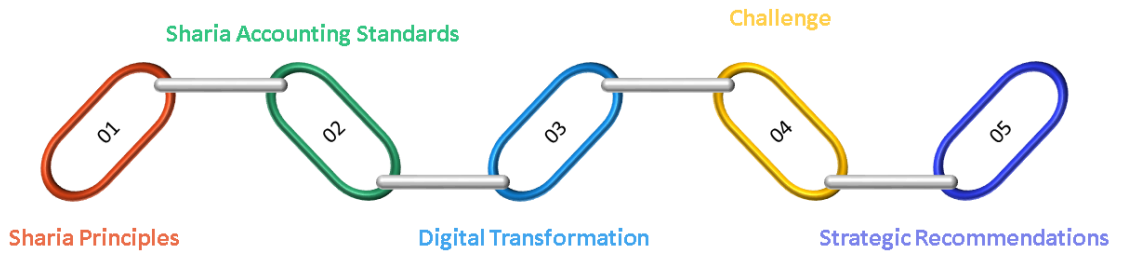
- PSAK 101: This regulation regulates the presentation of Islamic financial statements, including the format and elements of reports such as balance sheets, income statements, and cash flow statements.
- PSAK 102: Regulating accounting for murabahah transactions, namely financing based on buying and selling.
- PSAK 103: Provides guidelines for salam transactions, which involve purchasing goods with prepayment.
- PSAK 105: Regulates mudharabah transactions and business partnerships in which one party provides capital and the other party's expertise.
- PSAK 107: Regulating ijarah or leasing transactions in the context of Sharia.

The Basic Framework for the Preparation and Presentation of Sharia Financial Statements (KDPPLKS) is the conceptual basis for the preparation of Sharia SAK. This framework ensures that all transactions are recorded and reported under Sharia principles. The main focus of KDPPLKS is:

- Avoidance of Profit: Financial transactions must be free of interest.
- Risk Management: Emphasizes risk disclosure to protect all parties involved.
- Information Reliability: Financial statements must present relevant, accurate, and reliable information.

Following the research objectives and literature review mentioned above, the conceptual framework of the research is as follows:

Figure 1. Conceptual Framework of Research



According to Figure 1 above, the conceptual framework of the research can be explained by using a descriptive qualitative approach to analyze the dynamics of the application of Sharia accounting standards in the digital era. The digital transformation that includes technologies such as blockchain and AI is a key driver to adapting these standards to modern needs. The research focuses on digital literacy, technological infrastructure challenges, and the opportunities digitalization offers to improve efficiency and transparency. This analysis produces relevant strategic recommendations to improve Sharia compliance, global competitiveness, and sustainability in Sharia accounting.

METHOD

This study uses a descriptive qualitative approach to analyze the dynamics of implementing Sharia accounting standards in the digital era. This approach was chosen because the research objectives want to describe the phenomenon in depth, including

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challenges, opportunities, and solutions in applying digital technology such as blockchain and AI in Sharia accounting. This study seeks to answer research questions using secondary data from literature reviews, scientific journals, institutional reports, and other related documents. This study adopts a descriptive design to explore the phenomenon of digital transformation in Sharia accounting. The collected data focuses on applying digital technology, technological literacy challenges, infrastructure, and harmonization between Sharia accounting and international standards. Furthermore, the data used in this study are relevant secondary data, including:

- Academic journals related to Sharia accounting and digital technology.
- Reports from institutions such as the Indonesian Institute of Accountants (IAI) and the Sharia Accounting Standards Council (DSAS).
- International publications on blockchain, AI, IoT, and their impact on Islamic financial statements.
- Regulatory documents that include Sharia PSAK and the framework for preparing Sharia financial statements.

In addition, secondary data in this study were collected through:

- Literature review: Identify and analyze journal articles, reports, and publications on applying digital technology in Sharia accounting.
- Document analysis: Evaluate documents such as Sharia PSAK and international regulations related to digital accounting.
- Case study: Utilizing empirical data from the application of digital technology in relevant Islamic financial institutions.

Furthermore, this study uses content analysis to process the collected data, including:

- Data Reduction: Selecting relevant information to answer the research objectives.
- Categorization: Grouping data by themes such as digital technologies, implementation challenges, and strategic opportunities.
- Interpretation: Relating the findings to the theoretical framework and principles of Sharia accounting.

The results of this analysis are expected to make practical and theoretical contributions, including strategic recommendations for regulators, practitioners, and academics in optimizing the implementation of Sharia accounting standards in the digital era. The findings of this study are also expected to be the basis for developing a more adaptive framework for digital transformation.

RESULTS AND DISCUSSION

The Development of Sharia Accounting Standards Must Adapt to Digital Technology in the Era of the Industrial Revolution 4.0 and Society 5.0

The digital transformation driven by the Industrial Revolution 4.0 and Society 5.0 has changed the global economic paradigm. Technologies such as blockchain, artificial intelligence (AI), and the Internet of Things (IoT) are now the main catalysts in creating efficiency and transparency in various sectors, including Sharia accounting. In this context, Sharia accounting standards must adapt to remain relevant and make an optimal contribution to Sharia financial institutions. Sharia accounting standards ensure financial statements comply with Sharia principles such as prohibiting usury, gharar, and maisir. Adapting to technology is essential in the digital era to answer various challenges while

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taking advantage of existing opportunities. Some of the key reasons underlying the importance of this adaptation include:

- Improving Efficiency and Accuracy: Digital technology can automate previously manual accounting processes, reducing the possibility of human error and speeding up data processing (L. Chen et al., 2023).
- Increasing Transparency and Accountability: Blockchain allows for permanent and transparent transaction recording (Bułkowska et al., 2023; Lykidis et al., 2021). This is relevant to ensuring compliance with Sharia principles and facilitating the audit process.
- Meeting Global Needs: In the era of globalization, Islamic financial institutions face pressure to operate according to international standards (Zainuri & Majid, 2017). Adapting to digital technology can facilitate harmonizing Sharia standards with international standards such as IFRS.

In addition, digital technology related to Sharia accounting is as follows:

- Blockchain and Sharia Accounting: Blockchain is a technology that allows for decentralized, secure, and transparent transaction recording. In Sharia accounting, blockchain can ensure that all transactions comply with Sharia principles, such as the prohibition of riba and gharar. In addition, blockchain supports real-time transaction tracking, which makes it easier for Islamic financial institutions to provide accurate and transparent reports.
- Artificial Intelligence (AI): AI has great potential in analyzing financial data quickly and accurately. In Sharia accounting, AI can help detect violations of Sharia principles, such as indications of gharar in transactions. Additionally, AI can generate financial reports automatically, improving efficiency and accuracy.
- Internet of Things (IoT): IoT allows connectivity between various devices to collect real-time data. In Sharia accounting, IoT can monitor assets and liabilities more efficiently, supporting more accurate and relevant financial reporting.

The Main Challenge in the Implementation of Sharia Accounting Standards Under Sharia Principles Amid Economic and Financial Digitalization

Economic and financial digitalization has brought significant changes in various sectors, including the Islamic finance sector. With technological advancements such as blockchain, artificial intelligence (AI), and Sharia-based digital banking systems (DSBS), new challenges and opportunities have emerged in applying Sharia accounting standards. This standard ensures that financial statements reflect Sharia principles such as fairness, transparency, and the prohibition of usury. Furthermore, the challenges of implementing Sharia accounting standards in the era of economic and financial digitalization are as follows:

- Digital Literacy Gap: One of the main challenges is the digital literacy gap among Sharia practitioners and accountants. Many Sharia accounting professionals do not have adequate digital competencies to manage technology-based systems (Ikhsan Abdullah et al., 2023). Implementing technologies such as blockchain and AI, considered potential tools to improve transparency and efficiency in Islamic financial reporting, requires a deep technical understanding. Without specialized training, adopting these technologies risks becoming ineffective. For example, blockchain, which can record transactions permanently and irreversibly, requires digital data management and information security expertise. Sharia accountants need to

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understand how this technology can be applied without violating Sharia principles, such as the prohibition of gharar (uncertainty) and maisir (speculation).

- Limitations of Technological Infrastructure: The uneven availability of technological infrastructure, especially in remote areas, is a significant obstacle for Islamic financial institutions to adopt digital systems. Slow internet, lack of modern hardware, and high costs to upgrade technological infrastructure are the main obstacles to ensuring that Sharia accounting standards can be applied comprehensively (Hassan, Aliyu, Huda, et al., 2019). In some areas, these infrastructure limitations result in manual financial reporting prone to errors and inconsistencies. Digital technologies such as automation in financial reporting can reduce human error and increase the speed and accuracy of data.
- Harmonization of Local and International Standards: Sharia accounting standards in various countries, including Indonesia, often do not align with international standards such as International Financial Reporting Standards (IFRS) (Hassan, Aliyu, & Hussain, 2019). These discrepancies create barriers to cross-border reporting and global integration. Harmonization between local and international standards is essential to create clarity and consistency in financial reporting. However, this harmonization faces additional challenges due to differences in the interpretation of Sharia principles in different countries. For example, regulators in different jurisdictions may translate ijarah (leasing) or mudharabah (business partnership) transactions differently, resulting in non-uniform reporting standards.
- Data Security: Digitalization increases the risk to data security (Sule et al., 2021). Sensitive financial data is the main target of cyberattacks, such as hacking and data manipulation. Data security is an essential challenge that Islamic financial institutions must overcome to protect the integrity of their reporting systems. The application of cybersecurity technology under Sharia principles is a must. This security system must ensure that there is no violation of privacy or data manipulation that could undermine public trust in Islamic financial institutions.
- Differences in the Interpretation of Sharia Principles: Sharia principles are often interpreted differently in different regions (Karbhari et al., 2023). These differences create challenges in creating uniform accounting standards. In practice, this can lead to inconsistencies in financial reporting, which ultimately harms the credibility of Islamic financial institutions. For example, murabahah transactions in some countries may require different accounting treatments depending on local interpretations of Sharia principles.

Despite various challenges, digitalization also opens up great opportunities for Islamic accounting to develop and adapt to modern needs, which include the following, among others:

- Transparency and Accountability: Technologies such as blockchain allow for real-time tracking of transactions, which ensures that all transactions comply with Sharia principles, such as the prohibition of riba and gharar. With this transparency, Islamic financial institutions can increase public trust in their financial statements.
- Financial Inclusion: Digitalization makes it easier to access Islamic financial services, especially for people living in remote areas. The Sharia-based digital banking system (DSBS) allows more people to access Islamic financial products and services, thereby significantly increasing financial inclusion.

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- Operational Efficiency: Automation in financial reporting can reduce operational costs and improve data speed and accuracy. AI technology can analyze financial data quickly and in-depth, providing better insights for strategic decision-making.
- Sharia Financial Product Innovation: Digitalization allows the development of more innovative Islamic financial products, such as online zakat platforms, digital-based waqf, and AI-based Islamic financing. These products not only meet the needs of the modern market but also increase the competitiveness of Islamic financial institutions in the global market.

Opportunities that Can Be Taken Advantage of Digitalization to Improve the Efficiency and Effectiveness of Sharia-Based Financial Management

Digital transformation has become a key factor in operational changes in various sectors, including Sharia-based financial management. Islamic finance, which aims to meet the principles of fairness, transparency, and sustainability, is gaining great opportunities by applying modern technologies such as blockchain, artificial intelligence (AI), the Internet of Things (IoT), and Sharia-based fintech. Digitalization provides a way for Islamic financial institutions to increase efficiency and effectiveness in implementing operational tasks while expanding the reach of financial inclusion. The digitalization opportunities that can be taken advantage of by Islamic financial institutions are as follows:

- Automation and Operational Efficiency: Digitalization allows Islamic financial institutions to automate processes, such as transaction recording, financial reporting, and budget management. This automation reduces human error and speeds up the completion time of operational tasks. For example, blockchain allows for real-time and permanent recording of financial transactions, providing a high degree of transparency. This technology eliminates the need for a complicated reconciliation process and allows audits to be conducted more efficiently. Additionally, AI-based systems can analyze financial data, provide more accurate reports, and aid strategic decision-making. Operational efficiency is also achieved through reduced administrative costs. Cloud-based software can automate manual tasks such as zakat or waqf data collection, fund allocation, and reporting. This technology allows financial institutions to focus their human resources on more value-added strategic tasks.
- Transparency and Accountability: Islamic finance strongly emphasizes transparency and accountability. With blockchain technology, every transaction is recorded in a distributed network that cannot be changed. This ensures that all parties can monitor the flow of funds, especially when managing zakat, waqf, and infaq. The transparency offered by blockchain increases public trust in Islamic financial institutions. Additionally, the technology facilitates more straightforward and faster audits by regulators and other stakeholders. The system also ensures that every transaction complies with Sharia principles, such as the prohibition of gharar (uncertainty) and riba (interest).
- Increased Financial Inclusion: Digitalization allows Islamic financial services to reach people who were previously difficult to access, especially in remote areas—Sharia-based fintech platforms such as Jadiberkah.Id and Digital Waqf Hasanah allow individuals to access Islamic financial products easily through mobile devices. This service includes online payment of zakat, waqf, and infaq, with nominal flexibility that allows participation from various levels of society. With digitalization, Islamic

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financial inclusion not only increases access to financial services but also supports the economic empowerment of the people.

- Sharia Financial Product Development: Digitalization encourages innovation in developing Islamic financial products. Modern technology allows the management of zakat and waqf funds more efficiently and transparently. For example, blockchain-based waqf ensures the allocation of funds according to the specified goals, providing full transparency to donors. In addition, online Sharia investment allows the public to participate in Sharia-based projects directly through digital platforms. Other products, such as digital-based microfinance, offer easy access for Islamic MSMEs to obtain interest-free financing, supporting Sharia-based economic growth.
- Improvement of Professional Competence: Digitalization encourages Islamic financial institutions to adopt the latest technology, opening up opportunities for Islamic accounting professionals to improve their competence. Sharia accountants can integrate principles with modern technology by understanding digital systems such as PSAK 109 (zakat and infaq accounting) and PSAK 112 (waqf accounting). Digital-based training and workshops can strengthen technological literacy among professionals, helping them operate cloud-based financial management systems and other accounting software. It also allows for better integration between the Islamic financial system and international standards, attracting global investors to participate in Islamic financial products.
- Risk Mitigation and Security: Digital technology also provides opportunities for risk mitigation in Islamic financial management. Using AI in data analysis allows financial institutions to identify potential risks and provide strategic recommendations under Sharia principles. In addition, encryption technology and blockchain-based systems ensure data security, minimizing the risk of leakage of sensitive information. This system gives the public more confidence that their data is protected from cyber threats.

Furthermore, to optimally utilize digitalization opportunities, Islamic financial institutions can implement the following strategies:

- Increased Digital Literacy: Islamic finance professionals can improve their understanding of modern technology through training and workshops on blockchain, AI, and IoT technologies.
- Technology Infrastructure Development: Investments in digital infrastructure, such as internet networks and modern hardware, are essential to support Islamic financial services in remote areas.
- Harmonization of Sharia Standards and Technology: Collaboration between Islamic financial institutions and international authorities can help create a framework that integrates technology with Sharia principles.
- Partnerships with Fintech: Collaboration with fintech platforms can create more innovative and accessible Islamic financial products and services for the public.

Some examples of digitalization implementation in Islamic financial management in Indonesia include:

- Jadiberkah.Id: Facilitating online payment of zakat, waqf, and infaq, making it easier for the community to contribute to Sharia-based social activities.
- Digital Waqf Hasanah: Managing cash waqf fully transparently, allowing donors to monitor fund allocation in real time.
- Blockchain Implementation: Ensuring that every transaction is permanently recorded under Sharia principles, increasing transparency in managing social funds.

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The opportunity for digitalization in Sharia-based financial management is enormous. With the right strategy, digital technology can improve Islamic finance's efficiency, transparency, and inclusion, supporting sustainable economic growth under Sharia principles. Implementing blockchain, AI, and IoT technologies is the primary key to creating a more modern and responsive Islamic financial system that meets the global community's needs.

CONCLUSION

This research reveals that digital transformation has become the main driver in the dynamics of Sharia accounting standards in the Industrial Revolution 4.0 and Society 5.0 era. Technologies such as blockchain, artificial intelligence (AI), and the Internet of Things (IoT) provide an excellent opportunity to improve efficiency, transparency, and accountability in Sharia-based financial reporting. On the other hand, challenges such as the digital literacy gap, infrastructure limitations, and the need for harmonization between local and international standards demand strategic adaptation. Adapting Sharia accounting standards to digital technology allows the development of innovative financial products, such as online zakat, blockchain-based waqf, and AI-based Sharia investments. In addition, digitalization increases financial inclusion, allowing people in remote areas to access Sharia-based financial services. However, this process requires collaboration between regulators, academics, and practitioners to ensure compliance with Sharia principles. The suggestions following the discussion in this study are as follows:

- Improving Digital Literacy: Technology-based training and certification programs for Islamic accounting professionals are indispensable to ensure a deep understanding of technologies such as blockchain and AI.
- Technology Infrastructure Investment: To support Sharia-based financial services, governments and financial institutions must invest in developing digital infrastructure, especially in remote areas.
- Harmonization of Standards: Efforts must be made to harmonize Sharia accounting standards with international standards such as IFRS to create consistency and increase the global competitiveness of Sharia financial institutions.
- Collaboration with Fintech: Islamic financial institutions need to establish partnerships with fintechs to accelerate the innovation of Sharia-based financial products and services.
- Strengthening Data Security: Encryption technologies and blockchain-based systems must be adopted to mitigate data security risks and increase public trust.

In addition, the limitation of this study is that it uses a descriptive qualitative approach with secondary data, so the analysis results are limited to a theoretical perspective and do not include broader empirical data. In addition, this study focuses on the Indonesian context, so generalizing the results to a global scale requires additional analysis. Further studies can use a quantitative approach to evaluate the specific impact of digital technology on the performance of Islamic financial institutions. Comparative research between countries can also provide more in-depth insights related to the harmonization of Sharia accounting standards at the global level. Therefore, through the right strategies and cross-sector collaboration, digitalization can change the Islamic financial landscape to be more efficient, transparent, and inclusive while still complying with Sharia principles.

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