

DIGITAL AUDIT OF ISLAMIC BANKING IN MANAGING TECHNOLOGY RISKS

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Abstract

Digital transformation in Islamic banking has significantly changed operational systems and audit practices. This study aims to analyze the role of digital auditing and technology risks in Islamic banks. The research employs a qualitative approach through a literature review of 22 scientific references. The findings indicate that digital auditing can improve efficiency, accuracy, and transparency through the use of data analytics and artificial intelligence. Furthermore, digital auditing enables real-time monitoring, thereby enhancing the effectiveness of internal controls. However, its implementation also faces various challenges, such as cybersecurity risks, regulatory limitations, and inadequate auditor competency. Therefore, strengthening the digital audit system through technology integration and improving the quality of human resources are essential to maintaining compliance with Islamic principles.

Keywords: Digital Audit, Islamic Banking, Fintech, Technology Risk, Governance

A. INTRODUCTION

The development of digital technology has brought fundamental changes to audit systems. The utilization of big data enables auditors to conduct large-scale analyses with a higher level of accuracy compared to conventional methods (Appelbaum, D., Kogan, A., & Vasarhelyi, M. (2021)... - Google Scholar, n.d.). In addition, the concept of continuous auditing allows audit processes to be carried out in real time, making supervision more effective

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and enabling faster risk identification (Naoufal, 2024). This indicates that auditing is no longer periodic in nature but has evolved into a continuous and adaptive process in response to data changes.

Advancements in artificial intelligence (AI) also play a significant role in audit transformation. This technology is capable of recognizing transaction patterns and detecting anomalies more quickly than manual methods (Kokina et al., n.d.). Moreover, AI has proven to enhance audit efficiency while creating new research opportunities, particularly in the areas of automation and risk prediction (Issa et al., n.d.). Thus, technology is no longer merely a supporting tool but has become an inseparable part of modern auditing practices.

On the other hand, the development of AI in accounting does not replace the role of auditors; rather, it strengthens the quality of their work through deeper analysis (Sutton et al., n.d.). However, the use of big data also affects auditors' decision-making behavior, particularly regarding the level of trust in systems and their ability to interpret data (Brown-Liburd et al., n.d.). Therefore, a balance between technological utilization and auditor professionalism is necessary to ensure objective decision-making.

Furthermore, the use of data analytics has been proven to improve audit quality, both in terms of time efficiency and accuracy of results (horizons & 2015, n.d.). With faster and more comprehensive analytical capabilities, auditors are able to provide more relevant recommendations for organizations. This demonstrates that digital transformation not only improves the technical aspects of auditing but also adds value to managerial decision-making.

Meanwhile, the development of fintech has also driven changes in the broader digital financial system. Fintech enables financial services to become more efficient, faster, and more accessible (Buckley et al., 2021). However, behind these conveniences, there is also an increase in operational risks and system complexities that must be monitored by auditors (intermediation &

2020, n.d.). This condition demands a more adaptive and technology-based audit system.

Economic factors are also a major driver in fintech adoption, especially in terms of cost efficiency and enhancing the competitiveness of financial institutions (how & 2020, n.d.). This transformation has even disrupted traditional banking systems, requiring banks to adapt in order to remain competitive (Vives et al., 2019).

In the context of Islamic banking, digitalization has developed rapidly as an effort to improve competitiveness and service quality. In Indonesia, digitalization has proven capable of increasing operational efficiency while expanding service reach (Kualitas Layanan et al., 2025). In addition, the quality of digital services significantly affects customer satisfaction and loyalty (Rahma et al., n.d.).

Sharia auditing plays a crucial role in ensuring that all banking activities comply with Islamic principles. This role has become increasingly complex along with the development of digital technology, which has transformed financial transaction patterns (Sarea, A., & Hanefah, M. (2021). *Shariah Audit Practices...* - Google Scholar, n.d.). Therefore, a strong governance system is required to maintain the transparency and accountability of Islamic financial institutions (Grassa et al., 2025). Research also shows that the effectiveness of sharia auditing directly affects institutional performance and public trust (Ayu et al., 2024).

In addition, digital transformation has also influenced sharia audit practices, where auditors are required to integrate technology into the audit process without neglecting sharia principles (Sari, D. R., & Kuntadi (2024). *Digital Transformation...* - Google Scholar, n.d.). Innovation in auditing has become essential in dealing with the increasing complexity of technology (Saputra, 2025).

Digital banking also has a positive impact on customer satisfaction through improved service quality and ease of access (Salsabila et al., n.d.).

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This development has encouraged greater public use of digital financial services, reflecting changes in consumer behavior (Sukri, S. A., et al. (2025). *Adoption of Digital...* - Google Scholar, n.d.).

Based on the explanation above, it can be concluded that digital transformation not only creates opportunities to improve audit efficiency and quality but also presents challenges that must be managed properly. Therefore, this research is important to further examine the role of digital auditing and technology risks in Islamic banking in order to support the development of a more effective audit system that remains compliant with sharia principles in the digital era.

B. METHOD

This study employs a descriptive qualitative approach using a literature review method. This approach was chosen because the objective of the research is to gain an in-depth understanding of the phenomenon of digital auditing in Islamic banking through various relevant scientific sources. Through a literature review, researchers are able to examine concepts, theories, and findings from previous studies in order to provide a comprehensive overview of the topic under discussion.

The data used in this study were derived from 22 scientific references, including both international and national journals discussing digital auditing, fintech, sharia governance, and banking transformation. The sources were selected purposively by considering topic relevance, credibility, and the recency of publication to ensure that the data obtained are valid and reliable.

Data collection was conducted through documentation techniques, namely by identifying, classifying, and reviewing the contents of each reference related to the research variables. Furthermore, data analysis was carried out by comparing and integrating findings from previous studies in order to identify patterns, similarities, and differences in concepts and research outcomes ((Issa et al., n.d.); (Sutton et al., n.d.)).

The stages of analysis were conducted systematically, including data reduction, data presentation, and conclusion drawing. Data reduction was carried out by filtering information relevant to the research focus, while data presentation was arranged in the form of structured descriptions. The final stage, conclusion drawing, aimed to formulate the main findings regarding the role of digital auditing and technology risks in Islamic banking.

Through this approach, the study is expected to provide deeper insights and produce a comprehensive analysis regarding the implementation of digital auditing in Islamic banking amid the era of digital transformation.

C. RESULTS AND DISCUSSION

1. In-Depth Understanding of Digital Auditing Concepts

The development of digital auditing is not only related to the utilization of technology but also involves a shift in perspective regarding the audit process itself. Previously, audits were conducted periodically and based on sampling methods; however, with the emergence of big data, auditors are now able to analyze entire data populations comprehensively, making audit results more reliable (Appelbaum, D., Kogan, A., & Vasarhelyi, M. (2021)... - Google Scholar, n.d.).

In addition, the concept of continuous auditing enables supervision processes to be carried out in real time. This approach provides advantages in detecting errors and irregularities at an early stage before they create greater impacts on organizations (Naoufal, 2024).

The role of artificial intelligence (AI) has also become increasingly important in improving audit effectiveness. This technology is capable of identifying unusual transaction patterns and predicting potential future risks (Kokina et al., n.d.). Furthermore, AI has proven to enhance audit quality through automation in data analysis processes (Issa et al., n.d.).

Moreover, the implementation of AI does not replace the role of auditors; rather, it strengthens analytical capabilities in decision-making processes (Sutton et al., n.d.). Nevertheless, the use of technology also influences

auditor behavior, particularly regarding the level of dependence on systems and increasingly data-driven decision-making processes (Brown-Liburd et al., n.d.).

In addition, the utilization of data analytics also improves audit quality, particularly in terms of time efficiency and accuracy in examination processes (horizons & 2015, n.d.).

2. In-Depth Analysis of the Role of Digital Auditing in Islamic Banks

In Islamic banking, the role of digital auditing tends to be more complex than in conventional banking. This is because auditing does not only focus on financial aspects but also includes compliance with sharia principles. Sharia auditing aims to ensure that all bank operational activities are aligned with Islamic legal provisions (Sarea, A., & Hanefah, M. (2021). *Shariah Audit Practices...* - Google Scholar, n.d.).

In addition, the implementation of good governance is an essential element in supporting audit effectiveness within Islamic banks. A strong governance system can improve transparency and accountability in financial management (Grassa et al., 2025).

Research findings also indicate that the effectiveness of sharia auditing has a significant relationship with the performance of financial institutions. Well-functioning audits can strengthen public trust while maintaining the stability of the Islamic financial system (Ayu et al., 2024).

On the other hand, digitalization in Islamic banks has also encouraged greater efficiency in financial services. The utilization of digital technology enables banks to provide faster and more accessible services to customers.

Furthermore, the quality of digital services also affects customer satisfaction levels. The more optimal the quality of services provided, the higher the level of customer satisfaction (Rahma, N., & Sofyani, H. (2024). *Digital Service...* - Google Scholar, n.d.).

3. In-Depth Analysis of Fintech and Digital Transformation

Fintech has become one of the main driving forces behind digital transformation in the financial system. The presence of fintech creates opportunities for financial service innovations that are more efficient, flexible, and accessible (Buckley et al., 2021).

However, the development of fintech also brings consequences in the form of increasing complexity within financial systems. This condition requires more advanced and adaptive audit systems to supervise various digital transaction activities (intermediation & 2020, n.d.).

In addition, economic factors also contribute to accelerating fintech adoption. Companies and financial institutions utilize digital technology as an effort to improve operational efficiency and strengthen competitiveness (how & 2020, n.d.).

Digital transformation has also triggered disruptions in conventional banking systems. Banking institutions that are unable to adapt to technological developments risk falling behind in competition (Vives et al., 2019).

Moreover, the use of digital banking continues to increase along with technological advancements. This indicates that society is becoming more open and accepting of the utilization of technology in financial services (Sukri, S. A., et al. (2025). *Adoption of Digital...* - Google Scholar, n.d.).

4. In-Depth Analysis of Technology Risks

Digital transformation in Islamic banking brings various risks that must be managed appropriately. One of the primary risks is cybersecurity, where digital systems are vulnerable to attacks such as hacking, malware, and data breaches that may harm financial institutions and customers alike (Vives et al., 2019). In the digital era, data has become a highly valuable asset, so threats to its security can directly affect the reputation and level of public trust in Islamic banks. Furthermore, the increasing use of digital platforms

in financial transactions also broadens potential vulnerabilities that can be exploited by irresponsible parties.

In addition, the complexity of digital systems also increases operational risks, particularly in terms of system integration and data management (intermediation & 2020, n.d.). Islamic banks that adopt various technologies must be capable of integrating systems effectively to avoid errors in transaction processes. Failures in integration may result in operational disruptions, recording errors, and even potential system failures that can negatively impact banks. Furthermore, high dependence on technology also creates risks when technical disruptions occur, potentially hindering overall operational activities.

Another equally important risk is systemic risk, which can affect the stability of the financial system as a whole. This occurs due to the interconnectedness among digital systems within the financial industry, where disruptions in one system may affect others (how & 2020, n.d.). In an increasingly integrated financial system, technological failures in one institution have the potential to spread rapidly to other institutions and increase the likelihood of crises. Therefore, systemic risk management becomes a crucial aspect in maintaining banking stability, including within Islamic banking.

In addition to these three risks, digital transformation also requires the strengthening of internal control systems to keep pace with technological developments. Inadequate controls may increase the likelihood of errors and fraud within digital systems. Therefore, Islamic banks need to develop risk management systems integrated with technology so that all potential risks can be effectively identified, measured, and controlled.

Thus, although digital transformation provides various benefits in improving efficiency and service quality, Islamic banks must remain vigilant regarding the accompanying risks. Optimal risk management is essential to ensure that the implementation of digital technology operates effectively

without disrupting the stability and sustainability of the Islamic financial system.

5. In-Depth Analysis of Challenges and Strategies

The implementation of digital auditing in Islamic banking faces several challenges, particularly related to human resource competencies. Auditors are required to possess technological capabilities; however, in reality, not all auditors have such skills (Sari, D. R., & Kuntadi (2024). *Digital Transformation...* - Google Scholar, n.d.).

In addition, innovation in auditing practices has become highly important in keeping pace with rapid technological developments. Such innovation can improve supervisory effectiveness while enhancing the quality of audit results (Saputra, 2025).

Digital banking also positively affects customer satisfaction levels. This demonstrates that digital transformation influences not only operational efficiency but also improvements in customer experience (Salsabila, T., et al. (2025). *Digital Banking and...* - Google Scholar, n.d.).

To improve the effectiveness of digital auditing, the utilization of technologies such as artificial intelligence (AI) has become one of the most promising solutions. AI can assist auditors in analyzing data more quickly and accurately (Moffitt et al., n.d.).

Furthermore, the implementation of AI across various sectors also demonstrates that this technology can improve operational efficiency, including in the field of auditing (Davenport et al., n.d.).

D. CONCLUSION

Digital transformation has had a major impact on auditing practices in Islamic banking. The utilization of technologies such as big data, artificial intelligence, and data analytics is capable of improving efficiency, accuracy, and transparency in audit processes. In addition, the implementation of the continuous auditing concept enables supervision to be carried out in real

time, thereby strengthening the effectiveness of internal controls and accelerating risk detection. In the context of Islamic banking, digital auditing also plays an important role in ensuring compliance with sharia principles and supporting the implementation of better governance.

Nevertheless, the implementation of digital auditing also creates various challenges and risks that require serious attention. Cybersecurity threats, the complexity of digital systems, and the potential for systemic risks are major issues in the digital era. Furthermore, limited auditor competencies in technology and the lack of optimal regulations also become obstacles to the full implementation of digital auditing.

Therefore, strategic measures are needed, such as improving human resource competencies, developing technology-based audit systems, and formulating regulations that are adaptive to digital developments. With proper management, digital auditing is expected to become an effective tool in improving the performance, transparency, and sustainability of Islamic banking in the era of digital transformation.

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