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The Role Of Management In Enhancing The Competitiveness Of Islamic Banks In The Era Of Digital Transformation

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Abstract

Digital transformation has become both a challenge and an opportunity for Islamic banking in improving competitiveness in the modern era. This study aims to analyze the role of human resource management (HRM) in enhancing digital competencies within Islamic banks. The research employs a qualitative approach using a literature review method based on various scientific sources and official reports. The findings indicate that HRM plays a strategic role through the development of digital competencies, transformation of organizational culture, technology-based talent recruitment, implementation of digital performance management, digital leadership, enhancement of Sharia literacy, and change management. These factors have proven effective in improving organizational readiness to face technological disruption while maintaining compliance with Sharia principles. Therefore, adaptive and digitally oriented human resource management serves as a key factor in creating competitive advantages for Islamic banks in the era of digital transformation.

Keywords: human resource management, digital transformation, Islamic banking, digital competence, competitiveness

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INTRODUCTION

The development of information and communication technology in the era of globalization has brought significant changes to various aspects of human life, including the economic and financial sectors. Advances in digital technology have encouraged financial institutions to continuously innovate in order to survive and compete amid increasingly modern and digitally oriented societal behavior. Banking institutions, as one of the main pillars of the financial sector, play an important role in supporting economic activities. Therefore, banks are required to provide services that are fast, efficient, secure, and easily accessible at any time. These conditions have made digital transformation an unavoidable necessity for the banking industry, including Islamic banking. Digital transformation is not merely interpreted as the use of technology in services, but also encompasses changes in work systems, organizational culture, business strategies, and interaction patterns between banks and customers. According to Anjas Saputra, Nidia Kumia Gusvela, and Suyono (2023), digital transformation is a process of change that utilizes digital technology to create new value within organizations through the integration of data utilization, analytical systems, and technological innovation.

Islamic banking, as a financial institution operating based on Islamic Sharia principles, also faces major challenges in responding to the rapid development of digital technology. On the one hand, digital transformation provides significant opportunities for Islamic banks to improve service quality, expand market reach, and enhance operational efficiency. On the other hand, digitalization also requires Islamic banks to maintain compliance with Sharia principles in every service innovation they develop. Therefore, Islamic banks are not only expected to compete technologically with conventional banks and fintech companies, but they must also ensure that all digital products and services remain aligned with Islamic values such as justice, transparency, and the prohibition of riba, gharar, and maisir. According to Muttaqin and Khasanah (2022), digital transformation in Islamic banking requires strict supervision to ensure that technological innovation remains in accordance with the principles of maqashid al-sharia and does not deviate from Islamic law.

Digital transformation in Islamic banking can currently be seen through the development of various technology-based services such as Islamic mobile banking, internet banking, digital onboarding, Sharia QRIS, digital payment systems, and the integration of zakat, infaq, sadaqah, and waqf services into digital applications. These innovations provide convenience for customers in conducting financial transactions quickly and practically without the need to visit bank offices directly. In addition to

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improving customer convenience, digitalization also helps Islamic banks enhance operational efficiency by converting manual processes into more effective automated systems. According to Samsiyah, Bayu Sudrajat, and Fadoli (2025), digital transformation in Islamic banking has become an important strategy in creating a modern, inclusive financial system capable of meeting the needs of society in the digital era. Through digital services, Islamic banks can reach communities that previously had limited access to financial services, thereby supporting the growth of Islamic financial inclusion in Indonesia.

Besides offering numerous opportunities, digital transformation also presents complex challenges for Islamic banking institutions. One of the main challenges is the readiness of human resources to adapt to rapid technological changes. Digitalization requires Islamic banking employees to possess technological capabilities as well as a strong understanding of Sharia principles. Human resources no longer function merely as operational executors, but are also expected to become drivers of organizational innovation. Therefore, Islamic banks need to continuously develop digital competencies through training and education programs so that employees can adapt to technological advancements. According to Hidayat and Abduh (2021), the readiness of human resources is the primary factor determining the success of digital transformation in the Islamic banking industry. Without competent human resources, the digitalization process will be difficult to implement optimally and may reduce service quality for customers.

In addition to human resource readiness, another challenge faced by Islamic banks is digital security and customer data protection. The increasing use of digital services has also increased the risk of cybercrimes such as phishing, identity theft, data leakage, and malware attacks. Digital security has become a crucial aspect because it directly relates to public trust in Islamic banking institutions. From a Sharia perspective, maintaining the security and confidentiality of customer data is considered part of the trust (amanah) that must be upheld by Islamic financial institutions. Therefore, Islamic banks need to implement strong digital security systems, including data encryption, multi-factor authentication, and integrated cybersecurity monitoring systems. According to Harahap (2025), digital security risks in Islamic banking continue to increase alongside technological advancements and the growing complexity of cybercrime, making comprehensive risk management strategies essential to protect customer data and transactions.

The success of digital transformation is also influenced by an organizational culture that supports change and innovation. Islamic banks need to establish an adaptive,

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innovative, and collaborative work culture so that all organizational elements can effectively accept technological changes. An organizational culture that is open to innovation will accelerate the implementation of digital systems in banking services. In addition, visionary leadership is highly necessary to guide organizations in facing the era of digital transformation. Leaders who possess technological understanding and strong managerial capabilities will be able to create effective strategies to improve the competitiveness of Islamic banks. According to Sari and Nugroho (2020), an organizational culture that supports innovation has a positive influence on the successful implementation of digital transformation in the banking sector. Thus, digital transformation is not solely related to the use of technology, but also involves changes in organizational mindset and work culture as a whole.

In facing competition within the modern financial industry, digital service innovation has become one of the key strategies for enhancing the competitiveness of Islamic banks. The development of digital-based services enables Islamic banks to provide faster, more practical, and more efficient services in accordance with the needs of modern society, which increasingly demands convenience in financial transactions. Furthermore, digital service innovation can improve customer loyalty and strengthen the image of Islamic banks as modern financial institutions that remain firmly grounded in Islamic principles. According to Hafidh (2024), digital service innovation strategies significantly influence customer loyalty and the competitiveness of Islamic banks in the digital era. Therefore, the role of management in managing digital transformation is extremely important to ensure that Islamic banks are able to survive, grow, and compete effectively amid the increasingly dynamic changes in the global financial industry.

RESEARCH METHOD

This study employs a qualitative approach using the library research method. The qualitative approach was chosen because this research focuses on gaining an in-depth understanding of the role of management in enhancing the competitiveness of Islamic banks in the era of digital transformation. A qualitative approach allows researchers to analyze various phenomena, concepts, theories, and findings from previous studies related to the digitalization of Islamic banking in a more comprehensive and systematic manner. Qualitative research emphasizes not only data collection but also the interpretation process of the information obtained in order to generate a deeper understanding of a particular phenomenon. According to Rahman (2021), a qualitative

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approach is highly relevant for studies aimed at understanding processes, strategies, and dynamics of change within organizations or institutions.

The library research method was employed because this study did not involve direct field data collection, but instead examined various written sources related to the research topic. The literature study was conducted by collecting, reading, understanding, and analyzing various scientific references such as books, national and international journals, scientific articles, research reports, and official documents related to digital transformation, human resource management, digital service innovation, digital security, and Sharia compliance within the Islamic banking industry. According to Pratama and Putri (2022), a literature study is a research method aimed at obtaining a strong theoretical foundation through the analysis of various scientific sources relevant to the research topic. By using this method, researchers are able to understand theoretical developments and findings from previous studies, thereby providing a broader understanding of the phenomenon being examined.

The data sources in this study consisted of primary and secondary data. Primary data were obtained from scientific journals and research articles that directly discuss digital transformation in Islamic banking. Meanwhile, secondary data were derived from books, official reports of financial institutions, regulations issued by the Financial Services Authority (OJK), and other supporting documents relevant to the research topic. The use of multiple data sources aimed to strengthen the validity of the research so that the findings could be scientifically justified. According to Samsiyah, Bayu Sudrajat, and Fadoli (2025), the use of diverse references in literature research is essential to obtain a more objective and in-depth perspective regarding digital transformation in Islamic banking.

Data collection techniques were conducted through documentation processes and systematic literature searches. Researchers gathered various references related to the research theme and then classified them based on discussion subtopics such as digital transformation strategies, the role of human resource management, digital service innovation, cybersecurity, and Sharia compliance. Subsequently, the collected data were analyzed to identify relationships between theories and phenomena occurring within the Islamic banking industry. Documentation techniques were selected because they are capable of providing more complete and in-depth data regarding the development of digital transformation in the banking sector. According to Hidayat and Abduh (2021), documentation is one of the most effective data collection techniques in qualitative research because it provides accurate information based on reliable written sources.

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The data analysis in this study employed descriptive qualitative analysis techniques. This technique was carried out by describing and interpreting data obtained from various literature sources systematically in order to generate a comprehensive understanding of the role of management in enhancing the competitiveness of Islamic banks in the era of digital transformation. The stages of data analysis included data reduction, data presentation, and conclusion drawing. Data reduction was conducted by selecting and simplifying information relevant to the research focus. Subsequently, the data were presented in descriptive form to facilitate understanding and analysis. The final stage involved drawing conclusions based on the interpretation of the analyzed data. According to Sari and Nugroho (2020), descriptive qualitative analysis aims to provide a detailed description of a phenomenon based on the interpretation of collected data.

In this study, data validity was ensured through source triangulation techniques. Source triangulation was conducted by comparing various reference sources to ensure that the obtained information possessed a high level of consistency and accuracy. Researchers compared findings from previous studies, theories proposed by various scholars, and regulations related to digital transformation in Islamic banking in order to produce more objective and reliable research results. According to Harahap (2025), source triangulation is highly important in qualitative research because it enhances the credibility and validity of data through comparisons across different references. Therefore, this study is expected to provide a comprehensive overview of management strategies, digitalization challenges, and efforts to enhance the competitiveness of Islamic banks in the era of digital transformation.

In addition, this study also employed a conceptual analysis approach to understand the relationship between digital transformation and the enhancement of Islamic banks' competitiveness. Conceptual analysis was conducted by examining various concepts such as digital management, service innovation, cybersecurity, Sharia literacy, and human resource development strategies within the Islamic banking industry. This approach is important because digital transformation is not only related to the use of technology, but also involves changes in organizational strategies and service patterns for customers. According to Muttaqin and Khasanah (2022), digital transformation in Islamic banking must be understood as a comprehensive process of change involving technological aspects, management, organizational culture, and compliance with Sharia principles. Therefore, this study is expected to contribute valuable insights regarding the importance of management's role in supporting the sustainable success of digital transformation in Islamic banking.

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RESULTS AND DISCUSSION

Management Strategies in Adapting to Digital Transformation in Islamic Banks

1. Definition of Digital Transformation

When discussing computer technology, it is important to note that this technology has existed for several decades, whereas the concept of transformation itself is relatively new. The concept emerged in the 1990s alongside the widespread popularity of the internet. During that period, the ability to convert traditional documents and image media into binary forms gradually became more prominent as digital technology started to play a significant role in society. The practice of digital transformation is generally implemented within organizational and business contexts. Emerging technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), and cloud computing accelerate the transformation process, while foundational technologies such as data analysis and data management are essential in handling the vast amount of data generated through digital-based transformation.

Digital transformation is not solely focused on technology. Rather, it occurs at the intersection of individuals, businesses, and technology, all of which operate based on an organization's overall business strategy. An organization can be considered successful when it manages data generated by or through technology more efficiently in ways that enable flexible business transformation. David Macdonald, Executive Vice President and Head of Sales, stated that:

"Digital transformation encompasses every effort to discover value within your business processes and return it to customers while remaining agile enough to leverage data and analytics in creating innovative experiences. The process of digital transformation will lead organizations toward an analytics-based approach, and the implementation of integrated AI technology will become common practice." (Anjas Saputra, Nidia Kumia Gusvela, & Suyono, 2023).

2. Digital Transformation Strategies in Islamic Banking

Digital transformation in Islamic banking is essentially a long-term journey that focuses not only on technological changes, but also on business adjustments, service quality improvement, and the development of new perspectives in financial management based on Islamic values. Amid the rapid growth of the national digital ecosystem, Islamic banks are required not merely to follow existing trends, but also to establish their own identity and competitive advantages through relevant, inclusive innovations that remain aligned with Sharia principles. Therefore, digitalization must be implemented comprehensively and should not be limited to small-scale technological projects. Digital

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transformation should be viewed as a major agenda affecting all organizational aspects, ranging from technological foundations to employees' work culture.

The first step that must be taken in the digital transformation process of Islamic banks is strengthening the technological infrastructure that supports all digital services. Islamic banks need to ensure that the core banking systems they use are capable of adapting to various modern digital features such as mobile banking, digital onboarding, instant verification through electronic Know Your Customer (e-KYC), and real-time data integration through Application Programming Interfaces (APIs). The resilience of this infrastructure is crucial because it directly affects the continuity and reliability of digital services. Without a strong digital foundation, service innovations may lead to operational instability that could reduce customer trust. The modernization of core systems also enables the replacement of various manual processes with automated systems, allowing banks to save time, reduce operational costs, and improve work efficiency. Several studies, including those conducted by Bhayangkara and Nabila, indicate that strengthening digital infrastructure is directly associated with improved efficiency and service quality in Islamic banking. (Samsiyah, Bayu Sudrajat, & Fadoli, 2025).

In addition to modernizing core systems, digital transformation also requires innovation in service products that reflect Islamic values rather than merely imitating digital service models from conventional banks. Islamic banking possesses significant potential to create digital products that are more transparent, easier to understand, and aligned with the demands of modern society. For example, digital-based financing services for Micro, Small, and Medium Enterprises (MSMEs) can be expanded through digital scoring systems that accelerate and broaden feasibility analysis. Islamic savings and deposit products can also be designed with transparent profit-sharing ratios (nisbah) and contracts (akad) that are easily accessible through digital applications. Furthermore, Islamic philanthropic services such as zakat, infaq, sadaqah, and waqf can be integrated into a single reliable digital platform. Products such as Sharia QRIS and Islamic Digital Ecosystems demonstrate that digitalization can provide added value not only in terms of transaction speed, but also in facilitating worship, connecting users with zakat institutions, and integrating halal lifestyle services. Research conducted by Kusnanto and colleagues shows that appropriate innovation significantly contributes to improving Islamic financial literacy and inclusion. (Eri Kusnanto, Muhammad Rizal, & N. P., 2024).

Apart from internal development, another important strategy is establishing collaboration with various parties within the digital ecosystem. In an increasingly interconnected era, competition is no longer individualistic. Therefore, Islamic banks must

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collaborate with Islamic fintech companies, digital infrastructure providers, halal e-commerce platforms, and Islamic digital wallet providers. Such collaborations offer practical solutions that enable Islamic banks to expand their services without having to independently develop all technological systems, which generally require substantial financial investment. Through these partnerships, banks can gain access to advanced technologies such as big data analytics, machine learning for risk assessment, and broader payment integration systems. Asmuni and Tartila emphasize that cross-sector collaboration represents a realistic and efficient strategy for Islamic banks to accelerate digital transformation while simultaneously enhancing competitiveness. (Samsiyah, Bayu Sudrajat, & Fadoli, 2025).

In addition to innovation and collaboration, digital strategies must also prioritize security and data protection. Considering the increasing prevalence of cybercrimes such as phishing and identity theft, Islamic banks need to ensure that their technological systems are equipped with adequate security measures, including strong encryption, multi-factor authentication, and regular threat monitoring. Security is not merely a technical issue, but is also closely related to the trust and responsibility (amanah) entrusted by customers to Islamic financial institutions. Finally, digital transformation strategies must be accompanied by efforts to improve human resource capabilities. Employees should be equipped with technological competencies, Sharia expertise, and the ability to adapt to change. Organizational cultural transformation is also essential to ensure that technological innovations can be implemented consistently and sustainably. (Samsiyah, Bayu Sudrajat, & Fadoli, 2025).

3. Adaptation and Digital Transformation Strategies in Islamic Banks

Over the last decade (2015–2025), there has been a significant increase in both the quantity and diversity of studies discussing adaptive strategies adopted by Islamic banks in responding to digital transformation. During the early period of this timeframe (2015–2018), most studies focused primarily on the introduction of fundamental financial technologies such as internet banking, digital payment systems, and the strengthening of technological infrastructure within Islamic banks. The main issues discussed at that time revolved around the digital readiness of Islamic banks and the integration of technology with Sharia principles.

Between 2019 and 2025, particularly after the COVID-19 pandemic, there was a substantial increase in digitalization-related topics within the literature. Researchers shifted their focus toward broader strategic approaches, including the implementation of Islamic mobile banking, open banking, big data analytics, artificial intelligence in financing

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management, and collaboration between Islamic banks and halal fintech platforms. Discussions regarding digital compliance within the framework of maqashid al-sharia also became increasingly prominent. Countries with rapidly growing Islamic banking sectors, such as Indonesia, Malaysia, Bahrain, and Pakistan, became major contributors to this body of literature. However, there is still a lack of studies quantitatively evaluating the long-term effectiveness of adaptive strategy implementation. Most existing studies remain exploratory or theoretical in nature, while only a few utilize measurement models or conduct empirical analyses regarding the actual impact on financial performance and Sharia compliance. (Rahman, n.d.).

The Role of Human Resource Management in Enhancing Digital Competence

In the era of digital transformation, human resource management (HRM) plays a strategic role in enhancing the competitiveness of Islamic banks. Human resources no longer function solely as operational executors, but also as drivers of organizational innovation. Digital transformation requires changes in competencies, mindsets, and adaptability to continuously evolving technologies. According to research conducted by Hidayat and Abduh (2021), the readiness of human resources is a key factor in determining the success of digitalization within the Islamic banking industry in Indonesia.

The development of digital competencies is a fundamental step that management must continuously implement. Training programs covering fintech, big data, and digital banking systems need to be consistently improved. This is important because limited digital literacy remains one of the main challenges within the Islamic banking industry. Research by Pratama and Putri (2022) indicates that improving employees' digital competencies significantly affects service quality and customer satisfaction in Islamic banks.

In addition, organizational culture transformation is also an essential element in supporting the success of digitalization. Adaptive, innovative, and collaborative work cultures need to be embedded within organizations so that employees can respond effectively to change. According to Sari and Nugroho (2020), organizational cultures that support innovation positively influence the successful implementation of digital technology within the banking sector.

Recruitment strategies and talent management must also be adjusted to meet the demands of the digital era. Islamic banks need to recruit employees who possess competencies in information technology while still maintaining a strong understanding of Sharia principles. Research conducted by Rahman (2021) demonstrates that the

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combination of technological competence and Sharia understanding significantly improves organizational performance in Islamic banking institutions.

The implementation of technology-based performance management systems (digital performance management) has become a solution for improving the effectiveness of HR management. The utilization of digital systems in performance evaluation enables more objective and transparent measurement processes. According to research by Wibowo and Handayani (2022), the use of HR analytics within financial organizations can enhance employee productivity and operational efficiency.

Digital leadership also serves as a crucial factor in driving organizational transformation. Leaders who possess a digital vision are capable of directing change and encouraging sustainable innovation. Research conducted by Fauzi and Karim (2021) shows that digital leadership has a positive influence on the success of digital transformation within Islamic financial institutions.

On the other hand, improving Sharia literacy within the digital context is an aspect that cannot be overlooked. Human resources must be capable of ensuring that every innovation remains aligned with Sharia principles. According to research conducted by Ismail (2020), understanding Sharia principles plays an important role in maintaining customer trust in Islamic banking services during the digital era.

Lastly, change management becomes an essential element in addressing resistance toward digital transformation. The transformation process requires effective communication strategies as well as active employee involvement. Research by Utami and Prasetyo (2021) demonstrates that effective change management significantly increases the success of technology implementation within organizations.

Implementation of Digital Service Innovation as an Effort to Enhance the Competitiveness of Islamic Banks

1. The Role of Digital Service Innovation in Enhancing the Competitiveness of Islamic Banks

Digital transformation is no longer merely an option, but has become an urgent necessity for Islamic banking institutions to remain relevant within the global financial market. Innovations such as mobile banking, digital onboarding, and electronic Know Your Customer (e-KYC) systems enable Islamic banks to provide services that are faster, more efficient, and more transparent. The implementation of these technologies has proven effective in enhancing competitiveness by facilitating easier customer access and attracting younger generations with high levels of technological literacy.

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Furthermore, the use of technologies such as big data and artificial intelligence helps Islamic banks better understand customer behavior and preferences in a more personalized manner. Through services tailored to customer needs, Islamic banks are able to enhance customer loyalty while simultaneously reducing operational costs through transaction automation (A'yun, 2022). This strategy places Islamic banks in a stronger position to compete with both conventional banks and fintech institutions.

Although digital innovation offers numerous benefits, Islamic banking institutions still face significant challenges related to data security and human resource readiness. Transaction security within the digital ecosystem has become a top priority to maintain customer trust. In addition, it is essential for Islamic banks to ensure that every innovation remains grounded in Sharia principles through strict supervision by the Sharia Supervisory Board (Dewan Pengawas Syariah/DPS) (Setiawan & Pratama, 2025).

2. Digital Service Innovation Strategies to Enhance the Competitiveness of Islamic Banks

Within the Islamic banking sector, service innovation strategies serve as vital instruments for strengthening competitiveness while maintaining compliance with Sharia principles in the digital era. Innovation is not solely aimed at accelerating transactions, but also at providing spiritual value and convenience for modern customers who are highly dependent on technology. The implementation of digital technologies such as mobile banking and digital onboarding enables Islamic banks to significantly improve operational efficiency (Hafidh, 2024).

By shifting physical transactions into digital systems, banks can reduce operational costs while simultaneously expanding service reach to broader customer segments, including millennials and Generation Z. Data-based service personalization also allows Islamic banks to offer financing products that are more relevant and tailored to the unique needs of each customer. The use of sophisticated algorithms assists in conducting more accurate credit feasibility assessments while ensuring that all offered products remain compliant with Sharia contracts (akad).

The implementation of omnichannel systems in Islamic banking ensures a seamless and consistent customer experience across multiple access points. By integrating mobile applications, social media platforms, and physical branch offices, Islamic banks are able to respond to customer needs in real time, which is crucial for increasing customer trust and loyalty amid intense competition with conventional banks.

The development of human resources possessing both Islamic financial literacy and technological expertise remains one of the major challenges that must be addressed.

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Islamic banking institutions need to establish adaptive organizational cultures in which employees not only understand Islamic legal principles, but are also skilled in operating digital tools to provide more effective and solution-oriented services (Wahyudi, 2025).

Strategic partnerships with Islamic fintech companies provide competitive advantages in the form of accelerated innovation without requiring banks to independently build entire technological infrastructures internally. Through such collaborations, Islamic banks can more easily integrate digital payment services and Islamic philanthropic instruments such as zakat, infaq, sadaqah, and waqf (ZISWAF) into their digital ecosystems.

Finally, digital risk management and supervision by the Sharia Supervisory Board (DPS) remain the fundamental pillars of every service innovation. By prioritizing customer data security and transparency in digital contracts, Islamic banks can establish strong reputations as institutions that are not only modern, but also trustworthy (amanah) and reliable in the digital era (Putri, 2025).

Strategies for improving competitiveness in Islamic banking are highly dependent on the ability to effectively adopt digitalization. Service digitalization does not only involve the development of mobile applications, but also includes customer data management and the utilization of big data to provide more personalized product offerings. This is essential for enhancing customer experience, which has become one of the key factors in winning increasingly competitive markets. In addition, optimizing digital marketing through social media utilization and algorithm-based marketing strategies has become increasingly important in reaching customers more efficiently (Hafidh, 2024).

3. The Impact of Digital Service Innovation on Enhancing the Competitiveness of Islamic Banks

Service innovation has become an essential factor for Islamic banking institutions to survive and excel amid increasingly intense competition in the digital era. Through technology-based services such as mobile banking, internet banking, digital payments, and easily accessible applications, Islamic banks are able to provide faster, more efficient, and more convenient services for customers. The primary impact can be observed in the improvement of competitiveness, as Islamic banks are increasingly capable of responding to changing customer behavior that demands practical, secure, and accessible financial services at any time. Digitalization also enables Islamic banks to broaden their market reach, particularly among younger generations who are highly familiar with technology, thereby reducing dependence on physical branch offices (A'yun, 2022).

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In addition, digital service innovation enhances operational efficiency. More automated, faster, and integrated transaction processes can reduce service costs while simultaneously improving customer experience quality, thereby strengthening customer loyalty and trust toward Islamic banks. In the context of Bank Syariah Indonesia (BSI), the development of the BSI Mobile application and improvements in transaction security systems serve as concrete examples of how service innovation supports customer satisfaction while reinforcing the bank's image. Service innovation functions not only as an operational tool, but also as a business strategy that differentiates Islamic banks from their competitors. When digital services continue to operate in accordance with Sharia principles, Islamic banks can create added value in the form of trust, compliance, and spiritual comfort for customers (Habibi, 2022).

This aspect is particularly important because the superiority of Islamic banks is not measured solely by service speed, but also by alignment with Islamic values. Digital transformation also opens opportunities for collaboration with Islamic fintech companies, as well as the utilization of big data, artificial intelligence, and even blockchain technology to strengthen transparency and service security. Through these innovations, Islamic banks are better prepared to compete not only with conventional banks, but also with rapidly growing fintech companies.

However, challenges remain for Islamic banking institutions in the digital era, particularly in educating the public regarding the differences and advantages of Islamic financial products compared to conventional banking products. For instance, there are still public perceptions that Islamic banking is not significantly different from conventional banking, thereby requiring more intensive educational efforts to improve public understanding. Although service innovation provides many benefits, several obstacles continue to hinder the optimal implementation of digital transformation, including low levels of Islamic financial literacy, limited digital infrastructure, and the lack of competent human resources. If these challenges are not properly addressed, service innovation may progress slowly, and the competitiveness of Islamic banks may not improve optimally. Therefore, Islamic banking institutions need to strengthen digital education for society, increase technological investment, and develop human resources that are adaptive to industrial developments (Wahyudi, 2025).

With appropriate strategies, service innovation can not only accelerate business processes, but also become a major driving force for the growth and sustainability of Islamic banking in the digital era. Overall, service innovation plays a substantial role in enhancing the competitiveness of Islamic banking by improving service quality,

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expanding market access, increasing efficiency, and strengthening customer loyalty. In the digital era, innovative Islamic banks will be more adaptable, more relevant to modern customers, and more resilient in competing within the financial industry (Putri, 2025).

4. Management Challenges in Maintaining Sharia Compliance and Digital Security

Digital transformation has fundamentally changed the structure of the banking industry, particularly within the Islamic banking sector in Indonesia. Technological modernization offers numerous advantages, including operational efficiency, broader service coverage, and easier accessibility for customers. However, these developments also present significant challenges for management in maintaining two essential principles: compliance with Sharia principles and the security of information technology systems. Islamic banking institutions are required to remain competitive in terms of innovation while simultaneously preserving the Sharia foundations that distinguish them from conventional financial institutions (Buddhi, 2025).

Non-compliance with Sharia principles may occur when banking products or activities deviate from Islamic law due to market pressures and commercial interests in the development of digital products. At the same time, digital security risks such as data breaches, ransomware attacks, phishing attempts, and identity theft continue to increase alongside the rapid adoption of technology (Harahap, 2025). Therefore, comprehensive management strategies are required to achieve a balance between technological advancement and the preservation of Sharia integrity (Buddhi, 2025).

One of the fundamental challenges lies in the interpretation of fiqh muamalah principles necessary for developing digital products. The principles of fiqh muamalah, which were originally designed for conventional transactions, require reinterpretation to align with the characteristics of digital transactions. Products such as electronic money, mobile banking, and Sharia-based digital finance must be structured based on contracts that fulfill maqashid al-sharia and are free from riba, gharar (uncertainty), and maisir (gambling or speculation) (Muttaqin & Khasanah, 2022). Difficulties arise when algorithmic systems within Islamic financial applications must be controlled to operate according to Islamic contracts without hidden fees or interest-based calculations embedded within programming codes. Services such as instant transfers and digital investments require thorough review by the Sharia Supervisory Board to ensure that no speculative transactions are hidden within automated systems (Buddhi, 2025).

The availability of human resources who master both Sharia principles and digital technology remains a serious obstacle. Islamic banking institutions require personnel who

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understand fiqh muamalah, possess knowledge of modern finance, and are also competent in information technology (Harahap, 2025). This competency gap complicates the alignment between technological development and Sharia compliance requirements, resulting in many industry players still being unable to fully design digital products that completely comply with Sharia provisions. Consequently, a mismatch often occurs between technological innovation and the demands of Sharia compliance (Muttaqin & Khasanah, 2022).

The Sharia Supervisory Board (Dewan Pengawas Syariah/DPS) plays a critical role in safeguarding the Sharia integrity of Islamic banks. However, its capacity is often limited due to the insufficient number of members and limited time availability. As a result, supervision over all banking products and activities has not yet been fully optimal, particularly regarding digital systems (Buddhi, 2025). Ideally, the role of the Sharia Supervisory Board should not only involve reviewing products after implementation, but also participating during the planning stage before products are launched in order to prevent violations from the outset. In reality, however, direct involvement in digital systems remains relatively limited (Muttaqin & Khasanah, 2022).

The imbalance in the number of conventional banks and Islamic banks in Indonesia also complicates the position of Islamic banking institutions. Based on data from the Financial Services Authority (Otoritas Jasa Keuangan/OJK) in 2023, there were 1,517 conventional banks compared to only 185 Islamic banks (Buddhi, 2025). In general, the financial performance of conventional banks was more stable than that of Islamic banks during the 2018–2022 period. The pressure to remain competitive encourages Islamic banks to innovate rapidly; however, this situation also increases the risk of violating Sharia principles because supervisory processes often cannot keep pace with the speed of innovation (Buddhi, 2025).

From the perspective of digital security, cyber threats are becoming increasingly sophisticated and require stronger protection systems. Skilled hackers are capable of accessing customer data and disrupting financial systems through phishing, malware injection, and identity theft. These threats continue to increase alongside the growing complexity of digital crimes. Cyber risk is defined as any attempt to infiltrate, damage, manipulate, or illegally access computer systems or networks without authorization. Islamic banks face significant risks of customer data leakage due to the submission of personal information such as National Identity Numbers and Taxpayer Identification Numbers, which may potentially be hacked or sold to third parties (Harahap, 2025).

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The protection of personal data has therefore become a major challenge because the registration process for digital banking applications requires identity validation that must be cryptographically secured to prevent misuse for fraudulent activities (Ropiah & Syafi'i, 2024). Privacy rights constitute an important component of digital risk management in Islamic banking because they directly influence customer trust. Employees who have access to customer data may also potentially misuse such information if unethical intentions arise, making internal misuse a genuine concern as well (Harahap, 2025).

Unequal technological infrastructure across various regions in Indonesia also represents an operational obstacle for Islamic banking institutions. Limited access to accurate information, network disruptions, and the slow development of secure information systems are among the real challenges faced by the industry (Harahap, 2025). Many regions in Indonesia still lack adequate technological infrastructure to support digital banking operations. Furthermore, regulatory frameworks that are not yet fully mature, combined with the limited availability of professionals specializing in Sharia-based digital technology, intensify these challenges. Public digital literacy also remains relatively low because many customers are still accustomed to conventional services and are reluctant to switch to digital platforms. In addition, public understanding of Islamic financial products and systems remains limited, making educational programs and training essential to help customers adapt to new technologies (Harahap, 2025).

The integration of Sharia compliance and digital security faces challenges because the rapid pace of innovation often conflicts with the need for in-depth review by the Sharia Supervisory Board. Issues related to Sharia compliance most commonly arise in aspects of cybersecurity, transaction automation, and the insufficient internalization of Sharia principles in the design and supervision of digital systems (Muttaqin & Khasanah, 2022). Launching digital products without adequate Sharia audits may result in violations of Sharia principles that could negatively affect the bank's reputation and public trust (Buddhi, 2025). The framework for Sharia governance is regulated under OJK Regulation No. 2 of 2024, which requires the implementation of Sharia compliance functions, Sharia risk management, and internal Sharia audits (Keuangan, 2024).

Comprehensive management strategies require strengthening the Sharia compliance framework through the implementation of an integrated Sharia Compliance Framework connected with general risk management systems (Buddhi, 2025). Enhancing cybersecurity through data encryption technology, two-factor authentication, and artificial intelligence-based threat detection systems has become a strategic imperative.

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Strengthening technological infrastructure through the adoption of cloud computing and collaboration with Islamic fintech companies can also accelerate the development of digital services. In addition, human resource development through internal training programs, external certifications, and the recruitment of IT and cybersecurity experts who understand Islamic banking principles represents a fundamental step in supporting sustainable digital transformation (Harahap, 2025). Educational programs for customers regarding phishing prevention and the importance of using strong passwords also constitute essential strategic measures (Buddhi, 2025).

Compliance with Sharia principles has been proven to significantly influence customer satisfaction. Studies indicate that Sharia compliance directly enhances customer satisfaction at Bank Syariah Indonesia, and this relationship is mediated by the quality of digital banking services (Jailani, 2024). Customers of Islamic banks evaluate service quality not only based on transaction speed and convenience, but also through spiritual and ethical dimensions (Buddhi, 2025). Customer satisfaction and loyalty in Islamic digital banking are strongly influenced by security, trust, perceived benefits, and adherence to maqashid al-sharia principles. Therefore, Sharia compliance serves as the primary distinguishing factor between Islamic banking and conventional digital banking. If this aspect is neglected, all digital innovations lose their spiritual and social values (Buddhi, 2025).

CONCLUSION

Digital transformation has become a fundamental necessity for Islamic banking institutions in facing increasingly dynamic competition within the modern financial industry. Based on the findings of the literature review, it can be concluded that management plays a highly strategic role in enhancing the competitiveness of Islamic banks in the digital era. The success of digital transformation is determined not only by the adoption of technology, but also by management's ability to manage human resources, organizational culture, service innovation, digital security, and compliance with Sharia principles.

Human resource management is a key factor in supporting the success of digitalization through the enhancement of digital competencies, the development of digital leadership, the implementation of change management, and the strengthening of Sharia literacy. Adaptive human resources possessing both technological capabilities and understanding of Sharia principles are capable of improving service quality and supporting sustainable innovation. In addition, an innovative and collaborative

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organizational culture also plays an important role in accelerating the implementation of digital transformation within Islamic banking institutions.

Therefore, it can be concluded that digital transformation managed effectively and consistently grounded in Sharia principles can become the primary means for Islamic banks to enhance competitiveness, expand financial inclusion, and create modern, secure, innovative, and trustworthy financial services in the digital era.

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