




Leveraging SWOT and Business Model Canvas to Improve Operational Efficiency through Digital Transformation

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ABSTRACT

Digitalization in the banking sector has become a critical driver of operational efficiency and improved service quality. This study aims to evaluate the role of digital transformation in enhancing operational efficiency at Bank Syariah Indonesia (BSI), Yogyakarta Kaliurang Branch, with a specific focus on the implementation of the *Byond* application as a replacement for *BSI Mobile*. The adoption of *Byond* has significantly accelerated transaction processes, enhanced customer experience, and reduced administrative workloads for bank staff. Moreover, digitalization supports human resource optimization by enabling more automated and error-minimized workflows. The findings reveal that while digital initiatives have produced substantial positive impacts, challenges remain, particularly in customer adoption of new technologies. These challenges necessitate more intensive outreach and educational strategies. Therefore, although digitalization has markedly contributed to operational efficiency at BSI, sustainable development strategies are still required to ensure that its benefits are fully realized by all stakeholders.



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1. Introduction

The rise of digital technologies has profoundly transformed the financial services industry by driving innovation in both customer experience and operational performance (Kapoor et al., 2024; Mahalakshmi et al., 2022; Thandayuthapani, 2025). Globally, banking institutions are increasingly leveraging digital platforms to meet the growing demands for convenience, transparency, and speed. In Indonesia, the trend is equally evident, with both conventional and Islamic banks accelerating their digital transformation agendas. These initiatives are particularly relevant in the context of Islamic finance, where the need to align innovation with Sharia principles adds an additional layer of complexity and strategic significance (Abu Karsh & Badarin, 2024; Shehadeh et al., 2023).

As the country's largest Islamic bank, Bank Syariah Indonesia (BSI) has been proactive in implementing digital solutions to remain competitive in a rapidly evolving financial ecosystem. One of its major steps has been the launch of the *Byond* application, which replaces the earlier *BSI Mobile* platform. This super-app aims to offer an integrated digital banking experience, enabling customers to conduct transactions more efficiently while helping the bank streamline internal operations such as data processing and administrative tasks (BSI, 2023). Such innovations reflect a broader strategic imperative in the Islamic banking sector to enhance service delivery while improving internal efficiency through automation and data-driven systems (OJK, 2021)

Despite the substantial benefits associated with digitalization, challenges remain. One key obstacle is customer adoption, especially among segments less familiar with digital tools or hesitant to shift from conventional service modes. For Islamic banks, these challenges are compounded by the need to maintain

religious authenticity, trust, and ethical rigor in their digital offerings (Febriandika & Hakimi, 2023). Consequently, successful digital transformation in this context requires more than just technological capability; it also demands inclusive outreach strategies, customer education, and an agile yet Sharia-compliant operational model.

This study aims to explore how digital transformation initiatives exemplified by the implementation of the *Byond* application can enhance operational efficiency in Islamic banking institutions. Using SWOT analysis (Gurl, 2017) and the Business Model Canvas (BMC) framework (Osterwalder & Pigneur, 2010), the study investigates the strategic opportunities and risks associated with digital innovation in this sector. Empirical data were gathered through observation, interviews, and document analysis conducted in a real banking environment, providing grounded insights into how Islamic banks can effectively align digital solutions with operational goals and customer expectations.

2. Literature Review

2.1 Digitalization in Banking

Digital transformation has emerged as a strategic imperative in the banking sector, driven by customer demand for convenience, operational pressure to reduce costs, and technological advancements that enable automation and data-driven services (Alonge et al., 2021; Ibragimov & Najmiddinov, 2025). In the context of Islamic banking, digitalization also plays a critical role in aligning service delivery with ethical principles, such as transparency, fairness, and the prohibition of uncertainty (*gharar*) or interest (*riba*) (Ichsan). Mobile banking applications, digital onboarding, and real-time transaction systems are increasingly being adopted by Islamic financial institutions to enhance access, efficiency, and compliance with Sharia-based standards (Kapoor et al., 2024; Mahalakshmi et al., 2022; Thandayuthapani, 2025). However, the successful implementation of digital platforms is contingent upon digital literacy, trust, and regulatory support.

2.2 Operational Efficiency

Operational efficiency refers to an organization's ability to deliver products or services using the least possible resources while maintaining quality and customer satisfaction (Mohapatra & Mohanty, 2017). In banking, this includes minimizing transaction time, reducing administrative overhead, and optimizing human resource utilization. Digital solutions, such as integrated banking systems and AI-powered automation, enable real-time data processing and reduce manual errors thereby improving efficiency. Studies show that digital banking transformation can directly impact performance metrics such as transaction throughput, service quality, and cost-to-income ratios (Alonso-Rocha et al., 2025). For Islamic banks, operational efficiency must also account for religious compliance in every stage of service delivery, which can be a source of both value and constraint (A. A. Shaikh & Karjaluoto, 2015; S. A. Shaikh, 2023).

2.3 SWOT Analysis

SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis is a strategic management tool commonly used to assess internal capabilities and external conditions affecting organizational decisions (Gurl, 2017). In the context of digital transformation, SWOT enables banks to identify competitive advantages (e.g., strong digital infrastructure), internal limitations (e.g., staff digital literacy), market opportunities (e.g., fintech partnerships), and environmental threats (e.g., cybersecurity risks and regulatory shifts). Several Islamic banking studies have applied SWOT to examine the readiness of institutions for innovation, highlighting the importance of harmonizing digital initiatives with Sharia-compliant frameworks and customer segmentation strategies (Aransyah, 2021; ElMassah, 2015; Yenice & Orhan, 2025).

2.4 Business Model Canvas (BMC)

Business Model Canvas (BMC) introduced by Osterwalder & Pigneur, (2010) provides a structured framework to visualize and analyze a firm's value creation, delivery, and capture mechanisms. It consists of nine interrelated building blocks: Customer Segments, Value Proposition, Channels, Customer Relationships, Revenue Streams, Key Resources, Key Activities, Key Partnerships, and Cost Structure. In the banking sector, BMC is particularly useful in mapping digital innovations such as mobile apps, AI chatbots, and digital wallets. Recent research on Islamic banks indicates that BMC can help align digital transformation with ethical finance principles, optimize resource allocation, and co-create value with customers and partners in the halal ecosystem (Tyas & Kaniawati, 2024).

3. Research Methods

This study adopts a qualitative descriptive approach to examine the influence of digital transformation, particularly through the implementation of the Byond application, on operational efficiency within Islamic banking institutions. The qualitative design is selected to allow for a comprehensive understanding of the social, organizational, and technological dynamics embedded in the digitalization process. This methodological choice is grounded in the view that qualitative inquiry enables researchers to capture context-specific insights and complex organizational behavior in natural settings, which is especially pertinent for exploratory studies in banking innovation (Creswell & Poth, 2016).

Empirical data were collected over a four-month engagement period through a combination of direct observation, semi-structured interviews, and document analysis. The observational process focused on internal banking routines, including customer service interactions, transaction procedures, and administrative workflows that were influenced by the Byond system. Semi-structured interviews were conducted with selected bank employees and customers to explore their perceptions regarding the usability, efficiency, and limitations of the digital banking application. These interviews were designed to be flexible yet guided by a thematic structure that emphasized operational performance, digital adoption, and service transformation. To complement primary data, the study also analyzed internal documents such as user manuals, internal communication reports, performance dashboards, and public statements by Bank Syariah Indonesia related to its digital strategy.

Data analysis was conducted using two integrative frameworks: SWOT analysis and the Business Model Canvas. SWOT analysis was employed to systematically map the internal strengths and weaknesses as well as external opportunities and threats associated with the digital transformation initiative. This strategic tool has been widely used in organizational research to assess readiness and response to innovation, including in Islamic financial institutions (Gurl, 2017). Meanwhile, the Business Model Canvas, as introduced by Osterwalder & Pigneur, (2010), was used to analyze how the Byond application reshaped key dimensions of the bank's business logic, including customer segmentation, value propositions, revenue mechanisms, and cost structures. The integration of these two frameworks enabled a comprehensive exploration of both strategic alignment and operational implications.

To ensure research rigor, the study incorporated multiple strategies to enhance trustworthiness. Triangulation was applied by cross-referencing data from observations, interviews, and documentation to validate emerging themes. Member checking was also conducted with selected respondents to verify the accuracy of interpretations and refine conceptual insights. Additionally, the researcher maintained detailed reflective notes to trace the evolution of analytical reasoning and reduce subjectivity, following established practices in qualitative inquiry (Guba & Lincoln, 1994). Through this methodological design, the study aims to offer a robust empirical foundation for understanding the effectiveness and challenges of digital innovation in the context of Islamic banking.

4. Results And Discussion

4.1. Digitalization in the Operational Process of Islamic Banking

The increasing integration of digital technologies in the banking sector has initiated a fundamental shift in the way financial institutions operate, particularly in enhancing service delivery and back-office efficiency. In the context of Islamic banking, where operational transparency, compliance with Sharia principles, and customer trust are paramount, digitalization plays an even more strategic role. During a four-month internship at one of the operational branches of Bank Syariah Indonesia (BSI), a structured observation was conducted to investigate how the implementation of the Byond application BSI's digital banking platform replacing the former BSI Mobile contributed to improvements in operational efficiency and customer experience.

The observational insights revealed that the Byond application significantly streamlined routine banking procedures such as customer onboarding, account opening, transaction validation, and service inquiries. Prior to digitalization, these processes were largely dependent on manual inputs, face-to-face verification, and paper-based documentation, often requiring 30 to 45 minutes for account activation alone. With Byond, these tasks were reduced to approximately 10 to 15 minutes, owing to real-time data processing, automated verification features, and integrated access to customer profiles and product catalogues. This automation not

only accelerated the transaction flow but also minimized service bottlenecks, especially during peak banking hours.

Moreover, the shift to digital platforms enhanced the quality of data management. Customer verification, which previously relied on manual form entry and physical document inspection, was transformed into a more seamless process supported by biometric inputs, digital ID capture, and centralized database integration. This transformation led to fewer errors, quicker updates, and reduced duplication contributing directly to lower administrative workload and increased employee capacity to engage in more value-added activities. Employees interviewed during the observation period indicated that the time saved through automation enabled them to focus more on advisory and customer relationship tasks, thereby increasing perceived service value.

From the customer's perspective, the digital transformation improved service accessibility and flexibility. Users expressed satisfaction with the ability to perform transactions independently via mobile interfaces without the need to queue or schedule in-branch appointments. However, the implementation also revealed a crucial limitation: a significant portion of the customer base, particularly among older users or those less familiar with technology, encountered challenges in navigating the new platform. This digital literacy gap occasionally resulted in incomplete transactions, repeated inquiries, or reliance on staff for manual intervention ultimately affecting the system's efficiency gains.

Thus, while the Byond application demonstrably improved operational efficiency through automation, speed, and data accuracy, the experience underscored the importance of parallel investments in user education and system usability. Sustainable digital transformation in Islamic banking cannot rely solely on technological advancement; it must be complemented by inclusive engagement strategies that empower all segments of the customer base to adopt and adapt confidently

Table 1. Comparison of Service Aspects Before and After Digitalization

Aspect	Before Digitalization	After Digitalization
Account Opening Time	30–45 minutes	10–15 minutes
Speed of Service	Medium	High

4.2. SWOT Analysis of Digital Transformation in Islamic Banking

To evaluate the strategic positioning of digital transformation initiatives in Islamic banking, a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis was conducted based on empirical observations and stakeholder engagement during a four-month internship. SWOT is a widely recognized strategic management tool that facilitates systematic diagnosis of internal competencies and external challenges in organizational planning (Gurl, 2017). In this study, the tool is applied to assess the digital transformation process centered around the implementation of the *Byond* application at Bank Syariah Indonesia (BSI), providing insights that can inform broader Islamic banking digital strategies.

Strengths

BSI's most fundamental advantage lies in its status as the largest Islamic bank in Indonesia, with a well-established brand reputation that instills trust among its customer bases. This institutional credibility plays a crucial role in fostering acceptance of digital innovations, particularly in a sector where religious legitimacy is a key driver of customer loyalty. In addition, BSI has successfully integrated several widely acknowledged digital services, such as the *Byond* application and QRIS-based payments, into its operational model. These platforms allow customers to access banking services in a Sharia-compliant, efficient, and user-friendly manner. The bank's clear positioning in offering ethical financial services enables it to attract a niche but growing segment of consumers who prioritize Islamic values in their financial behavior (Muhamad et al., 2012; Riaz, 2016).

Weaknesses

Despite these strengths, there remain several internal limitations that constrain the full optimization of digital transformation. Observations reveal that a significant portion of customers particularly those in rural areas or among older demographics lack digital literacy, which impedes their engagement with mobile banking interfaces. This customer segmentation gap necessitates ongoing digital education initiatives and a hybrid service model that can bridge offline and online interactions. Furthermore, although BSI has invested

in digital infrastructure, it is still in a developmental phase. Technical issues, such as latency during peak transaction periods and occasional interface inconsistencies, suggest that system integration and backend optimization remain works in progress. Compounding this, the bank's branch-level staff are not yet uniformly equipped with the digital competencies required to support customer onboarding and troubleshooting effectively, pointing to a need for targeted upskilling programs.

Opportunities

At the macro level, BSI and similar Islamic banks can leverage several external opportunities. The national trend toward a cashless economy, accelerated by the COVID-19 pandemic and supported by Bank Indonesia's digital finance roadmap, is creating fertile ground for rapid adoption of mobile financial services. Technological developments such as artificial intelligence, API-based service integration, and blockchain offer Islamic banks new tools for innovating service delivery while ensuring transparency and Sharia compliance (Yenice & Orhan, 2025). Strategic partnerships with fintech firms also present an opportunity to expand digital reach, particularly in serving the underbanked and micro-enterprise segments. Such collaborations can promote financial inclusion while aligning with *maqāṣid al-sharī'ah* objectives of equity and welfare enhancement (Dusuki & Bouheraoua, 2011).

Threats

However, these opportunities are offset by several emerging threats. Chief among them is the intensifying competition from conventional banks and digital-first neobanks that are aggressively innovating with superior UX design, data analytics, and agile product development processes. Islamic banks must therefore avoid complacency and ensure they offer not only compliant but also competitively superior digital services. Additionally, the digitization of financial operations increases vulnerability to cybersecurity threats such as data breaches, phishing, and ransomware attacks. This necessitates significant investment in cybersecurity architecture, regulatory compliance, and consumer protection protocols (Adejumo & Ogburie, 2025; Oyewole et al., 2024). Lastly, regulatory uncertainty in both digital finance and Islamic banking governance poses an ongoing threat. The evolving nature of financial technology regulation, combined with the interpretative diversity within Islamic jurisprudence, creates a dual compliance burden that may hinder timely implementation of digital innovations.

SWOT ANALYSIS OF PT. BANK SYARIAH INDONESIA TBK			
Helpful			Problem
S Strengths (Strength)	1. BSI is the largest Islamic bank in Indonesia with a strong reputation. 2. Digital products such as Byond BSI and QRIS are already widely recognized. 3. The Shariah-based banking system attracts a specialized market segment.	W Weaknesses (Weakness)	1. There are still customers who do not understand digital services. 2. Digital infrastructure is still under development and adaptation. 3. Limited manpower to optimally support digital implementation.
O Opportunities (Opportunity)	1. Increased public awareness of digital transactions. 2. Technological developments enable further innovation in digital services. 3. Strategic partnership with fintech to expand BSI's digital ecosystem.	T Threats (Threat)	1. Fierce competition with conventional banks that are also transforming to digital. 2. Increased cybersecurity risks along with digitization of services. 3. Evolving government regulations that the banking industry must comply with.

Figure 1. SWOT Analysis of Islamic Bank Digitalization Strategy

In sum, the SWOT analysis highlights that digital transformation in Islamic banking holds high strategic potential, but its realization requires harmonized responses across organizational readiness, customer education, technology management, and regulatory navigation. Institutions such as BSI must adopt a holistic digitalization roadmap that balances innovation with inclusivity and Sharia compliance, ensuring sustainable competitiveness in the digital era.

4.3. Business Model Canvas of Islamic Digital Banking Transformation

To understand the strategic implications of digital transformation within Islamic banking, the Business Model Canvas (BMC) provides a comprehensive lens through which the structural dynamics of service innovation can be examined. During the internship period, observations and discussions revealed how the Byond application has reshaped the delivery of financial services at Bank Syariah Indonesia. The bank's business model has shifted to accommodate a more digitally engaged customer base, incorporating technological features that emphasize speed, transparency, and Sharia compliance as core components of its value proposition.

BUSINESS MODEL CANVAS OF PT. BANK SYARIAH INDONESIA TBK				
Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
<ul style="list-style-type: none"> - Fintech to support digital innovation. - Regulator to ensure regulatory compliance. - Islamic communities and organizations to expand market reach. 	<ul style="list-style-type: none"> - Development and optimization digital services. - Increased digital literacy for customers and employees. - Collaboration with fintechs and other institutions to expand Service. 	<ul style="list-style-type: none"> - Sharia-based digital services that are transparent and secure. - Ease of transaction through Byond BSI and QRIS. - Support for the growing halal ecosystem in Indonesia. 	<ul style="list-style-type: none"> - Easy-to-use self-service - Digital-based customer service support - Digital loyalty and education programs 	<ul style="list-style-type: none"> - Individual customers who want to use sharia-based banking services. - MSMEs who are looking for digital banking services with sharia principles. - Institutions that require technology-based Islamic banking services.
	Key Resources		Channels	
	<ul style="list-style-type: none"> - Infrastructure digital technology. - A team of experts in digital banking and Islamic banking. - Extensive customer database. 		<ul style="list-style-type: none"> - Byond BSI App - Branch offices and digital banking services. - Social media and digital marketing campaigns. 	
Cost Structure		Revenue Streams		
<ul style="list-style-type: none"> - Development and maintenance of digital systems. - Marketing and customer education costs. - Invest in cybersecurity. 		<ul style="list-style-type: none"> - Transaction fees from digital services. - Revenue from Islamic financing products. - Fee-based income from additional services. 		

Figure 2. BMC Analysis of Islamic Bank Digitalization Strategy

The implementation of the Byond application has allowed the bank to serve diverse customer segments more effectively, including individual clients, micro and small enterprises, and institutional users seeking ethical financial services. The platform facilitates real-time transactions, QRIS-based payments, and easy access to halal financial products, which enhances customer experience while reducing operational bottlenecks. The relationships fostered with users are supported through digital education programs and responsive service channels, including mobile platforms and social media, aiming to build trust and digital literacy concurrently.

On the operational side, the bank has invested significantly in infrastructure, human resource capabilities, and partnerships to sustain its digital agenda. Collaborations with fintech companies and regulatory bodies have enabled the development of secure and compliant services that can adapt to changing technological and legal landscapes. These efforts are complemented by internal activities focused on system maintenance, customer onboarding, and continuous service enhancement. The integration of Islamic values with modern banking tools has positioned the institution to capture niche markets while remaining relevant in a rapidly evolving financial ecosystem.

From a financial perspective, the digital transformation has influenced both cost and revenue structures. While initial investments in cybersecurity, education, and system upgrades are substantial, they are offset by increased efficiency and revenue generated from digital transaction fees, Islamic financing products, and premium services. Overall, the BMC reveals that the bank's strategic approach is oriented not only toward digital expansion but also toward maintaining ethical integrity and operational resilience, setting a potential benchmark for other Islamic financial institutions pursuing similar trajectories.

5. Conclusion

This study has shown that digital transformation through the implementation of the Byond application contributes meaningfully to operational efficiency within Islamic banking institutions. Observations during the internship period indicate that core banking processes became faster, more accurate, and less dependent on manual intervention. This shift allowed frontline staff to allocate more time to relationship-building tasks while improving customer satisfaction through accessible and flexible service delivery.

The strategic evaluation using SWOT analysis and the Business Model Canvas reveals that digitalization influences not only technological performance but also business architecture and value creation. Islamic banking institutions benefit from strong institutional credibility and increasing policy support, yet must overcome challenges related to uneven digital literacy, internal capacity limitations, and system reliability. The integration of digital tools must be guided by institutional readiness, customer education, and consistent alignment with Sharia values to sustain long-term performance.

This study provides a grounded perspective based on field experience, but its scope is limited to a single institutional setting and a specific period of observation. The qualitative nature of the findings offers valuable depth but may not capture broader systemic patterns or long-term impacts. Further research involving multi-institutional comparisons, customer analytics, and performance data is needed to validate the effectiveness of digital strategies and explore their implications for competitiveness, inclusivity, and compliance in the Islamic finance sector.

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