

Impact of Digital Transformation on Efficiency and Profitability: BSI Islamic Bank 2022–2024

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ABSTRACT

The rapid advancement of digital technology has reshaped the global banking industry, including Islamic banking, which faces unique challenges in balancing efficiency with ethical principles. This study investigates the impact of digital transformation on operational efficiency and profitability in Bank Syariah Indonesia (BSI) during 2022–2024. The purpose is to evaluate how technology investment and digital adoption influence cost structures and financial performance in the context of Islamic banking. Employing a descriptive quantitative approach with a case study design, the research utilizes secondary data from audited annual financial statements. The analysis focuses on three key indicators: operational efficiency measured by BOPO and Cost to Income Ratio (CIR), digitalization assessed through the growth of mobile banking transactions, and profitability evaluated via net profit. The findings reveal a significant escalation in technology investment, accompanied by rapid adoption of digital services and a marked shift in customer behavior toward electronic transactions. These developments contributed to a consistent decline in BOPO, stable CIR levels, and steady growth in net profit. From a theoretical perspective, digitalization not only enhances efficiency and reduces monitoring costs but also aligns with *maqasid al-shariah* by promoting resource optimization and financial inclusivity. In conclusion, digital transformation emerges as a strategic driver that strengthens competitiveness, supports sustainable growth, and reinforces the ethical foundation of Islamic banking.

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1. INTRODUCTION

From the perspective of management accounting, the Islamic banking industry is currently facing significant challenges in its cost structure, largely driven by shifts in market behavior and technological disruption (Aisyah, 2018). Historically, efficiency ratios—proxied by the Operating Expenses to Operating Income (BOPO)—have shown greater rigidity in Islamic banks compared to their conventional counterparts (Sari et al., 2025). This tendency is often attributed to the high processing costs of multi-

contract administrative procedures, as well as substantial allocations for depreciation and maintenance of physical branch networks (Rusydiaana & Hasib, 2020).

In response to these dynamics, the Financial Services Authority (OJK) issued Regulation No. 12/POJK.03/2021, which provides the legal foundation for digital banking operations. The regulation defines digital banks as Indonesian legal entities conducting their business primarily through electronic channels, thereby shifting resource allocation from tangible fixed assets to intangible technology-based assets. This phenomenon is evident in the growing investment in digital infrastructure across several Islamic banking institutions in Indonesia (Fitriani et al., 2023).

This transitional phase is critical, as capital expenditure (CAPEX) on information technology infrastructure is expected to generate future efficiency gains by reducing operating expenditure (OPEX) (Fatimah & Hendratmi, 2020). Consequently, digital transformation in Islamic banking is not merely a matter of regulatory compliance, but rather a strategic effort to meet customer demands for seamless, faster, and more transparent financial services (Shabri, 2022).

Literature Review

Efficiency Theory

In conventional management accounting, efficiency is generally understood as the relationship between inputs (resources used) and outputs (results achieved). The fewer resources required to produce a given output, the more efficient an organization becomes (Desiana, 2017). Within Islamic banking, however, efficiency is not only a technical matter but also carries ethical and moral dimensions rooted in *Maqasid al-Shari'ah* (Sahrullah & Suprayogi, 2022).

Resource management in Islamic banking is regarded as a trust (*amanah*), meaning that efficiency is pursued not solely for profit maximization but also to avoid *tabzir* (wastefulness) and *israf* (excessive use) (Lantara et al., 2022). Operational efficiency thus reflects both the sustainability of the institution and its adherence to Islamic values.

In practice, Islamic banks often face high operating costs due to the complexity of multi-contract agreements, which require longer processes and greater expenses compared to conventional banks (Hidayah et al., 2024). Digital technology offers a solution by reducing variable costs per transaction through automation, application-based services, and integrated information systems (Fatimah & Hendratmi, 2020). This enables economies of scale, where increasing transaction volumes do not proportionally raise costs, thereby lowering the average cost per service unit.

Agency Theory

In Islamic management accounting, agency relationships occur between the *mudharib* (bank as fund manager) and the *shahibul maal* (depositors as fund owners). Agency Theory highlights the potential for conflicts of interest arising from information asymmetry, where fund managers possess more information than depositors (Salman, 2023). Such conflicts are further exacerbated by high monitoring costs required to ensure compliance with contractual agreements (Khandelwal et al., 2023).

Traditional Islamic banking operations often involve inefficient monitoring due to reliance on manual processes, fragmented physical documentation, and human involvement prone to error and moral hazard (Rahmawati et al., 2024). Digitalization provides a more effective and integrated monitoring mechanism. Digital banking systems can generate accurate, real-time audit trails, automatically recording every transaction in electronic ledgers (Normasari & Mayangsari, 2022). This automated process reduces opportunities for data manipulation, a common issue in manual systems (Han et al., 2022).

2. METHODS

This study employs a descriptive quantitative approach with a case study design focusing on PT Bank Syariah Indonesia Tbk (BSI) during the observation period of 2022–2024. The analysis is based on secondary data obtained from the company's audited annual financial statements, ensuring reliability and validity of the information used.

To capture the longitudinal impact of digital transformation, the research applies financial ratio analysis combined with trend analysis. The investigation centers on three key performance indicators:

- Operational Efficiency – assessed through the Operating Expenses to Operating Income ratio (BOPO) as a proxy for cost efficiency, and the Cost to Income Ratio (CIR) to evaluate the effectiveness of cost utilization in generating revenue (Rahma & Sutrisno, 2023).
- Digitalization Indicator – measured by the growth of transactions conducted via BSI Mobile, serving as a parameter of successful digital penetration in banking operations (Sari et al., 2025).
- Profitability – examined through Net Profit, which reflects the ultimate impact of efficiency gains on the company's financial performance (Fannisa et al., 2025).

By integrating these indicators, the study aims to provide a comprehensive understanding of how digital transformation influences both operational efficiency and profitability in Islamic banking. The methodological framework thus bridges financial performance metrics with the broader strategic implications of technology adoption.

3. FINDINGS AND DISCUSSION

Annual reports of Bank Syariah Indonesia (BSI) for 2022–2024 reveal a significant increase in technology investment as part of the company's digital transformation strategy. In 2022, BSI allocated IDR 266 billion to stabilize post-merger systems, enhance digital service features, and strengthen IT security infrastructure.

The investment rose sharply in 2023 to IDR 968 billion, directed mainly toward service innovation, cybersecurity, and the standardization of technology-based business processes. The peak occurred in 2024 with the launch of the *super application* BYOND, when intangible assets reached IDR 1.14 trillion, largely from technology licenses and application development, alongside IT infrastructure investment of IDR 754.41 billion.

From a management accounting perspective, this escalation in capital expenditure (CAPEX) reflects a strategic shift from physical expansion toward building a digital banking ecosystem (Siswanto et al., 2025). Investments in intangible assets such as software and system licenses signal BSI's effort to establish a technology-driven competitive advantage and create entry barriers for competitors (Hartanto & Wahyuningtyas, 2023).

In essence, technology investment serves not only operational purposes but also as the foundation for long-term business transformation in the digital finance industry (Ardianto et al., 2024).

Acceleration of Digital Adoption and Shifts in Customer Behavior

BSI's digital transformation is evident in the rapid growth of mobile banking users. In 2022, BSI Mobile recorded 4.80 million registered users, of which 2.37 million were active. By 2023, registered users increased to 6.31 million, with 2.99 million active users.

In 2024, the combined users of BSI Mobile and BYOND reached 7.99 million, with 3.52 million active accounts. BYOND alone attracted 1.98 million registered users, with 1.31 million activated accounts, while 26.79% of BSI Mobile users migrated to the new platform.

This surge was accompanied by a sharp rise in transaction volume: mobile banking transactions reached 546 million in 2024, growing 45.2% year-on-year, while total electronic transactions amounted to 851.5 million. Since its launch, BYOND processed 16 million transactions. Notably, 98.03% of BSI's customer transactions are now conducted electronically, reflecting both the success of digitalization and growing public trust in digital banking.

From a business economics perspective, this expansion enables economies of scale, where transaction growth is not proportionally matched by operating costs (Tiffani, 2023).

Operational efficiency Analysis: BOPO and CIR

The impact of increased digital transactions and the migration of services to electronic channels is clearly reflected in the improvement of BSI's operational efficiency. This can be observed through the

development of two key ratios: the Operating Expenses to Operating Income ratio (BOPO) and the Cost to Income Ratio (CIR).

BSI's BOPO ratio consistently declined during the study period, from 75.58% in 2022 to 71.27% in 2023, and further down to 69.93% in 2024. The cumulative reduction of 5.65% over three years demonstrates the bank's success in enhancing efficiency through the adoption of digital technologies. Digitalization allowed BSI to reduce operating costs associated with manual branch-based transactions, including labor expenses, administrative costs, and branch network maintenance. As transaction volumes shifted to digital platforms, the cost per transaction decreased significantly compared to traditional branch operations (Suharbi & Margono, 2022).

Meanwhile, the CIR ratio remained relatively stable, recording 51.01% in 2022, dropping slightly to 49.86% in 2023, and rising modestly to 50.89% in 2024. Despite minor fluctuations, these figures indicate that efficiency levels were maintained even amid substantial technology investments. The stability of CIR suggests that the growth in operating income was sufficient to offset the increase in digital investment costs, thereby preventing undue pressure on the company's cost structure (Asikin & Fadilah, 2024).

In summary, the downward trend in BOPO and the resilience of CIR highlight how digital transformation has enabled BSI to achieve sustainable operational efficiency while balancing investment in technology with revenue growth.

Theoretical Perspectives: Efficiency, Agency, and Maqasid Shariah

The findings of this study can also be interpreted through several theoretical lenses in economics and management.

From the standpoint of Agency Theory, digitalization in banking services reduces monitoring costs and minimizes information asymmetry between banks and customers. Digital transaction systems provide transparent, real-time audit trails, thereby enhancing accountability and lowering the risk of human error that often occurs in manual processes (Sintha et al., 2024).

In addition, from the perspective of organizational efficiency theory, the adoption of digital technology enables banks to improve operational productivity by leveraging process automation and integrated information systems (Azzahra & Firdaus, 2024). These mechanisms allow institutions to streamline workflows, reduce redundancies, and achieve higher levels of efficiency.

Within the framework of maqasid al-shariah, the operational efficiency achieved through digitalization reflects the responsible management of resources and the avoidance of waste (*tabzir*) in handling public funds (Hananto & Amijaya, 2021). The decline in BOPO and the improvement in efficiency demonstrate the bank's commitment to optimizing resource utilization in line with Islamic principles.

Moreover, digitalization fosters inclusivity by making banking services faster, more accessible, and widely available to society. This aligns with the broader objective of *maslahah* in Islamic economics, which emphasizes the creation of financial systems that deliver tangible benefits to the community at large.

Discussion: Digital Transformation and Strategic Implications in Islamic Banking

The findings of this study confirm the original objective outlined in the Introduction: to evaluate how digital transformation influences efficiency and profitability in Islamic banking. The consistent decline in BOPO and the stability of CIR demonstrate that technology adoption has successfully reduced operational costs without creating undue financial pressure. These results provide scientific evidence that digitalization enhances efficiency by lowering transaction costs, minimizing human error, and enabling real-time monitoring. Such mechanisms align with Agency Theory, which emphasizes reducing monitoring costs and information asymmetry, and with organizational efficiency theory, which highlights productivity gains through automation and system integration.

In comparison with previous studies, the results are largely consistent with earlier findings that digital platforms improve efficiency and competitiveness in Islamic banks (Asrah et al., 2023; Farida et al., 2025). However, the scale of BSI's transformation—particularly the launch of BYOND as a super application—illustrates a more comprehensive approach than reported in earlier research. This difference suggests that BSI is not only responding to customer demand but also proactively shaping the digital banking landscape. From the perspective of *maqasid al-shariah*, the efficiency gains and inclusivity achieved through digitalization reflect responsible resource management and the pursuit of *maslahah*, ensuring that financial services deliver broader societal benefits.

Future research could extend this analysis by comparing digitalization outcomes across different Islamic banks or by examining the long-term sustainability of efficiency gains beyond 2024. Such studies would provide deeper insights into whether institutional size, governance structures, or customer demographics influence the effectiveness of digital transformation in Islamic finance.

4. CONCLUSION

This study set out to examine the impact of digital transformation on operational efficiency and profitability in Islamic banking, with a case study of Bank Syariah Indonesia (BSI) during 2022–2024. The findings demonstrate that technology integration has successfully reduced operating costs, stabilized efficiency ratios, and enhanced profitability, thereby fulfilling the research objectives. More importantly, digitalization has proven to be not only a technical adjustment but also a strategic evolution that strengthens competitiveness and inclusivity while remaining aligned with the ethical foundations of Islamic finance.

The results are consistent with previous studies that highlight efficiency gains from digital adoption, yet BSI's comprehensive approach—particularly the launch of BYOND as a super application—illustrates a more ambitious transformation than earlier cases. This suggests that Islamic banks can proactively shape the digital financial landscape rather than merely respond to customer demand. In the broader context, the study underscores the role of digitalization in advancing *maqasid al-shariah*, as efficiency and inclusivity contribute to the principle of *maslahah* by delivering benefits to society at large.

Future research should extend this analysis by comparing outcomes across different Islamic banks, exploring variations in governance, institutional size, and customer demographics. Longitudinal studies beyond 2024 would also be valuable to assess the sustainability of efficiency gains and to evaluate resilience against cybersecurity risks and regulatory changes.

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Conflicts of Interest: The authors declare no conflict of interest.

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