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Transformation of Digital Management Information Systems Through Business Process Reengineering (BPR): A Case Study of PT Bank Central Asia Tbk

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Abstract

The development of digital technology requires banking organizations to adapt not only through technology adoption but also through changes in business processes. This study aims to examine the transformation of Digital Management Information Systems (MIS) through a Business Process Reengineering (BPR) approach in improving organizational performance, taking a case study at PT Bank Central Asia Tbk (BCA). This study uses a descriptive qualitative method with a case study approach. The unit of analysis is focused on digital account opening services. The results of the analysis show that the integration between Digital MIS and BPR can eliminate non-value-added activities, reduce data redundancy, and accelerate service time through automated verification (e-KYC). The success of this transformation is also accompanied by the challenge of strengthening cybersecurity governance and human resource readiness. Therefore, it is concluded that technological investment must always be preceded by an audit of operational business processes.

Keywords: Digital Transformation, Management Information Systems, Business Process Reengineering, Banking, Organizational Performance

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INTRODUCTION

The development of digital technology has brought major changes to the global business ecosystem, including in the banking sector. Organizations today are required to provide faster, more efficient, and adaptive services to customer expectations. Digital Management Information Systems (MIS) present as a main pillar to collect, process, and present information to support operations and managerial decision-making. However, the application of digital technology does not automatically guarantee improved performance.

Citing Verhoef et al. (2021), digital transformation encompasses broader changes than mere technology adoption, involving capabilities, organizational structure, and value creation strategies. If new technology is simply "attached" to a long and inefficient old workflow, the organization risks only transferring manual bureaucracy into an electronic format. To avoid this, organizations need a Business Process Reengineering (BPR) approach. BPR is the fundamental rethinking and radical redesign of business processes to achieve dramatic performance improvements (Hammer & Champy, 1993; Hamouda, 2022).

PT Bank Central Asia Tbk (BCA) is a highly relevant object in this study. Through the development of integrated digital service channels, BCA's service transformation can be analyzed to see how Digital MIS and BPR interact. This article aims to analyze the implementation of Digital MIS and BPR in banking operations, identify their impact on efficiency, and formulate managerial recommendations.

RESEARCH METHODOLOGY

This study is designed using a descriptive qualitative method with a case study approach. To ensure the sharpness of the analysis, this methodology is divided into three main parameters:

Data Analysis Techniques

Data analysis was performed using a structural comparative approach adapted from the Business Process Reengineering framework. The analysis process includes four stages:

1. Identifying and mapping the conventional service process model (As-Is Process).
2. Mapping the design of digital technology-based service processes (To-Be Process).
3. Conducting a gap analysis to identify which stages are eliminated, automated, or integrated due to BPR.
4. Drawing conclusions (logical inferences) regarding the impact of process reengineering on organizational performance indicators (time, cost, productivity, and risk).

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RESULTS AND DISCUSSION

Synergy of Digital MIS and Business Process Reengineering

Conceptually, the integration between Digital Management Information Systems (MIS) and Business Process Reengineering (BPR) is not merely a partial automation process, but a fundamental institutional transformation. Literature findings show that these two elements work in a complementary manner and are inseparable in the modern business ecosystem. BPR serves as a diagnostic and conceptual method to dissect inefficient procedures, while Digital MIS acts as the infrastructure and enabler that allows the operational execution of the new design.

Referring to the classic concept initiated by Hammer and Champy (1993), BPR requires organizations to fundamentally rethink and radically overhaul from the roots to achieve exponential performance leaps (time, cost, service), rather than just marginal improvements. This is in line with Davenport's (1993) view on process innovation, where information technology should not only be used to speed up obsolete processes but must be used to design entirely new ways of working. Without BPR, the application of high technology to convoluted business processes will only result in organizational dysfunction that moves faster. Digital systems risk merely transferring manual bureaucracy into electronic formats without resolving the main bottlenecks (Verhoef et al., 2021).

In the contemporary banking context, the role of Digital MIS has evolved. Hamouda (2022) emphasizes that Digital MIS today not only acts as an administrative data storage facility but has become the determinant of whether a business process redesign is technically viable to execute. Digital MIS enables the creation of new capabilities such as real-time verification, cross-departmental data integration without physical boundaries, and predictive data analytics. This synergy drives the evolution of BPR to become more complex. According to a systematic literature review by Anwar et al. (2026), the evolution of BPR in the digital era no longer focuses solely on cutting internal work steps, but has expanded into the integration of a customer-centric business model.

Furthermore, this synergy distinguishes itself from the continuous improvement (Kaizen) approach. The Kaizen concept is highly effective for maintaining stability and making marginal daily operational refinements. However, when legacy banking systems face digital disruption and the expectations of modern customers who demand instant service, incremental approaches are no longer sufficient. Organizations require a total dissection of their service architecture.

Therefore, in responding to business environment pressures, BPR has proven to be an essential intermediary instrument. Successful digital transformation requires

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synchronization between a bold workflow redesign to eliminate non-value-added activities and the use of Digital MIS to execute automation.

Ultimately, the synergy of these two elements creates an operational foundation that is lean, agile, and responsive to the dynamics of an increasingly competitive banking industry.

Case Analysis Mapping (As-Is vs To-Be Process) on Account Opening Services

Within the Business Process Reengineering methodological framework, mapping the current process (As-Is) is strictly necessary to identify points of inefficiency, redundancy, and bottlenecks before technology-based solutions are formulated. In the banking sector, the process of opening a new customer account (onboarding) is one of the most critical flows as it involves legality verification and risk profile assessment.

In the conventional operational realm (As-Is Process), mapping the account opening workflow requires a long and repetitive series of physical activities. Generally, this process requires customers to be physically present at the branch office during specific operational hours. The flow continues with taking a queue number, which often results in unproductive lead time. After facing Customer Service (CS), customers are required to fill out a multi-page printed form that frequently triggers data input redundancy (such as writing names and addresses repeatedly). The CS officer then manually validates the identity card, photocopies the document, and re-inputs the data into the bank's internal system (core banking). This process is not only time-consuming (can reach 30-45 minutes per customer) but is also prone to human error and burdens the organization with paper-based storage costs. These manual administrative activities, from a BPR perspective, are categorized as non-value-added activities, which do not provide direct added value to customer satisfaction (Saragih et al., 2021).

Through BPR interventions supported by state-of-advanced Digital MIS architecture (To-Be Process), PT Bank Central Asia Tbk (BCA) completely overhauled this flow by introducing self-service account opening via smartphone (e.g., via BCA mobile or myBCA). This new process design eliminates the necessity for physical presence and cuts front-desk bureaucracy. Customers simply download the application and perform a single data input directly into the system. The most fundamental aspect of this BPR transformation is the automation of identity verification, which was previously a human monopoly. The system uses Optical Character Recognition (OCR) technology to scan ID cards (KTP) and applies Electronic Know Your Customer (e-KYC) which includes liveness detection. The BCA digital system then retrieves data via an Application Programming Interface (API) connected directly to the population database (Dukcapil) for instant validation.

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A gap analysis between the As-Is and To-Be models shows a radical elimination of physical stages. The To-Be process successfully cuts 100% of physical queuing time, removes the need for clerical intervention by CS in the early stages, eliminates the use of paper media (paperless), and compresses the cycle time from hours to just a few minutes. This change clearly represents the BPR definition by Hammer & Champy (1993), where the redesign focuses on integrated outcomes (customers instantly get active accounts) rather than merely speeding up fragmented stages. The digital transformation of banking demonstrated by BCA in this case aligns with the findings of Susanto et al. (2023), that process simplification through secure digital interfaces can increase service utility without sacrificing compliance with banking regulations.

Impact on Organizational Performance

The integration of this digital approach stimulates several operational performance leaps, including:

Time and Cost Efficiency: A drastic reduction in service time, suppressing overhead costs (paper, printing), and efficiency of physical document storage space (Xie & Wang, 2023).

HR Capacity Scalability: Employees at branch offices are no longer burdened with massive clerical activities. The CS workload can be reallocated to resolving more complex cases (problem-solving) or value-added financial consulting activities.

Improved Decision Quality: The system produces digital footprints (data analytics) that allow the bank to precisely map customer behavior and preferences (Morgan, 2021).

Risks and Mitigation

Although it has a positive impact, this analysis also found the emergence of new vulnerabilities, namely absolute dependence on IT infrastructure reliability (downtime risk) and cybersecurity threats (phishing, fraud). To face this, banks must ensure the principle of security by design in MIS development and implement change management to accelerate the digital literacy of their employees.

CONCLUSION

Digital Management Information Systems and Business Process Reengineering (BPR) are two closely related strategic instruments in holistically driving organizational performance. The case of banking account opening operational transformation proves that digitalization will only yield efficiency when the bureaucratic conventional business flow is boldly overhauled, reduced, and automated (To-Be Process). The success of increasing

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efficiency indicators—time, redundancy, and cost—depends entirely on the compatibility between technological infrastructure, work process redesign, information security, and HR capabilities.

Managerial Suggestions / Recommendations

Based on these conclusions, this study recommends (1) Pre-Investment BPR Audit: Always conduct mapping of operational process inefficiency points before implementing and purchasing new application systems, (2) Combination of Strategies: Marrying major overhauls (BPR) for the transition from analog to digital, followed by Kaizen practices for regular evaluation of the banking application UI/UX, and (3) Strengthening Security Governance: Embedding multi-layered encryption and e-KYC systems to anticipate digital crimes resulting from faceless transaction automation.

REFERENCES

Anwar, N., Widodo, A. M., et al. (2026). Business Process Reengineering Evolution and Business Model Integration Using a Systematic Review. *Aptisi Transactions on Technopreneurship (ATT)*, 9(1), 159-172. https://doi.org/10.34306/att.v9i1.823

Athanasoglou, P., et al. (2026). Digital Transformation and Bank Profitability in Indonesian Commercial Banking. *Academia Open*, 11(1). https://doi.org/10.21070/acopen.11.2026.14155

Davenport, T. H. (1993). *Process innovation: Reengineering work through information technology*. Harvard Business School Press.

Fazlun, I. D. (2025). The Utilization of Digital Technology in Transforming Banking Institutional Services (Case Study: Blu by BCA Digital). *PERSEPSI: Communication Journal*, 8(2), 87-93. https://doi.org/10.30596/persepsi.v8i2.25294

Guo, L., & Xu, L. (2021). The effects of digital transformation on firm performance: Evidence from China's manufacturing sector. *Sustainability*, 13(22), 12844. https://doi.org/10.3390/su132212844

Hammer, M., & Champy, J. (1993). *Reengineering the corporation: A manifesto for business revolution*. Harper Business.

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Hamouda, A. (2022). Business process re-engineering: A literature review-based analysis of implementation measures. *Information*, 13(4), 185. https://doi.org/10.3390/info13040185

Handa, N., et al. (2025). Digital Banking Transformation: Analysis of Financial Technology (Fintech) Implementation in Improving Banking Services at PT Bank Central Asia Tbk. *SINERGI: Jurnal Riset Ilmiah*, 2(12), 5415-5430. https://doi.org/10.62335/sinergi.v2i12.2134

He, S., Jin, Z., et al. (2025). The Impact of Digital Transformation on Commercial Banks' Business Performance: An Empirical Study of 39 Listed Commercial Banks. *SAGE Open*, 15(4), 1–16. https://doi.org/10.1177/21582440251378869

Ji, L., Jiang, W., & Deng, B. (2024). Corporate digital transformation and cost of equity capital. *China Journal of Accounting Studies*, 12(4), 693–721. https://doi.org/10.1080/21697213.2025.2469707

Kitsios, F., Giatsidis, I., & Kamariotou, M. (2021). Digital transformation and strategy in the banking sector: Evaluating the acceptance rate of e-services. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 204. https://doi.org/10.3390/joitmc7030204

Lolemo, A. (2024). E-service quality and customer satisfaction in digital banking. *International Journal of Digital Banking*, 5(3), 213-225. https://doi.org/10.1057/s41599-024-00123-4

Morgan, D. (2021). Digital transformation in banking: Implications for customer satisfaction. *Journal of Business Research*, 124, 342-350. https://doi.org/10.1016/j.jbusres.2020.11.027

Nguyen-Thi-Huong, L., et al. (2023). How does digital transformation impact bank performance? *Cogent Economics and Finance*, 11(1), 1–10. https://doi.org/10.1080/23322039.2023.2217582

PT Bank Central Asia Tbk. (2024). *2023 Annual Report and 2023 Sustainability Report: Live to Empower*. Jakarta: PT Bank Central Asia Tbk.

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Saragih, H., Setyowati, R., & Rahardjo, B. (2021). Digitalization strategy for rural banks in Indonesia: Opportunities and challenges. *Journal of Financial Services Marketing*, 26(4), 245–258. https://doi.org/10.1057/s41264-020-00083-9

Saragih, L. R., Dachyar, M., & Zagloel, T. Y. M. (2021). Business process reengineering at ICT operations, in managing smart cities as new customers (non-human). *International Journal of Technology*, 12(2), 378-389. https://doi.org/10.14716/ijtech.v12i2.4418

Shehadeh, M., et al. (2023). Digital Transformation and its Impact on Operational Efficiency and Competitive Advantage in Islamic Banks. *2nd International Conference on Business Analytics for Technology and Security*, 1–6. https://doi.org/10.1109/ICBATS57792.2023.10111266

Susanto, M. V., & Ardiansyah. (2026). The Impact of Digital Transformation on The Financial Performance of Indonesian Banking Firms (2021–2024). *Journal of Social Science and Business Studies*, 4(2), 114–121. https://doi.org/10.61487/jssbs.v4i2.310

Susanto, S. A., et al. (2023). Customer Experience in Digital Banking: The Influence of Convenience, Security, and Usefulness on Customer Satisfaction and Customer Loyalty in Indonesia. *Devotion: Journal of Research and Community Service*, 4(8), 1671–1685. https://doi.org/10.59188/devotion.v4i8.544

Verhoef, P. C., et al. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901. https://doi.org/10.1016/j.jbusres.2019.09.022

Widiyanto, E., Indrasari, R., & Mubarok, H. (2025). The Effect of Banking Digitalization on Customer Satisfaction of Bank BCA. *Jurnal Akuntansi, Manajemen, Dan Perencanaan Kebijakan*, 3(1), 9. https://doi.org/10.47134/jampk.v3i1.884

Xie, X., & Wang, S. (2023). Digital transformation of commercial banks in China: Measurement, progress and impact. *China Economic Quarterly International*, 3(1), 35–45. https://doi.org/10.1016/j.ceqi.2023.03.002

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