

Digital Transformation Strategies In The Banking Industry: A Case Study of The Implementation of New Technology at PT. Bank Mandiri (Persero) TBK

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Abstrak

Isu yang signifikan dalam industri perbankan saat ini adalah transformasi digital. Perubahan yang terjadi akibat disrupsi digital telah mengubah cara orang berbisnis dan melakukan transaksi. Namun, dalam melakukan transformasi digital ini masih terdapat sejumlah tantangan yang perlu diatasi. Oleh karena itu, penelitian ini bertujuan untuk menganalisis proses transformasi digital dan dampaknya terhadap perkembangan dan pertumbuhan di PT Bank Mandiri (Persero) Tbk. Metode penelitian yang digunakan adalah kualitatif deskriptif dengan pendekatan Systematic Literature Review. Data penelitian ini dikumpulkan dari berbagai referensi literatur ilmiah, buku, dan laporan dari lembaga resmi. Penelitian ini menunjukkan bahwa Bank Mandiri telah berhasil menerapkan strategi bisnis yang sesuai dengan lima domain transformasi digital menurut Rogers (2016). Dengan adanya transformasi digital ini, perusahaan telah mencapai pertumbuhan bisnis yang signifikan.

Kata Kunci: *Transformasi Digital; Bank Digital; Lima Domain Transformasi Digital*

Abstract

The significant issue in the banking industry today is digital transformation. The changes resulting from digital disruption have transformed how people conduct business and transactions. However, several challenges still need to be addressed in this digital transformation. Therefore, this research aims to analyze the digital transformation process and its impact on the development and growth of PT Bank Mandiri (Persero) Tbk. The research method used is qualitative descriptive with a Systematic Literature Review approach. The data are collected from academic references, books, and reports from official institutions. This research shows that Bank Mandiri has succeeded in implementing a business strategy that is by the five domains of digital transformation, according to Rogers (2016). With this digital transformation, the company has achieved significant business growth.

Keywords: **Digital Transformation; Digital Banking; Five Domains Of Digital Transformation**

Introduction

The progress in the use of information technology in recent years has driven changes in how society acts and chooses digital services. In this regard, there has been a trend of accelerated digital transformation in the banking sector since 2022. Banks actively leverage digital technology to enhance the products and services offered to customers (Financial Services Authority, 2023). According to Verhoef et al. (2021), digital transformation strategies in the banking industry involve using information and communication technology to change internal operations, enhance customer interactions, and create more innovative business models.

Digital transformation has become an integral part of banking strategies in Indonesia (Marginingsih, 2021). According to Winasis & Riyanto (2020), Indonesian society is increasingly accustomed to the ease of accessing information and digital services, leading to higher expectations for banking services. The rapid pace of technological innovation and development requires Indonesian banks to continuously develop and modernize their technology platforms (Bank Indonesia, 2023). In this digital era, banks in Indonesia have implemented various technology solutions such as mobile banking applications, online banking services, and biometric technology for transaction security (Shabri et al., 2022). One banking institution actively adopting digital transformation strategies is PT. Bank Mandiri (Persero) Tbk. As one of the largest banks in Indonesia, Bank Mandiri has introduced various new technologies to enhance operational efficiency, improve customer service, and create a better banking experience.

However, amidst the ongoing digital transformation, digital transformation poses challenges for the banking industry to stay competitive in the financial sector (Shabri et al., 2022). In addition to opportunities that can be leveraged to gain a competitive advantage, several challenges need to be overcome in adopting digital transformation. Some of these challenges include personal data protection and data leakage risks, the risk of investing in technology that does not align with business strategies, the risk of misuse of artificial intelligence technology, cybersecurity risks, outsourcing risks, the need for support in preparing digital-focused institutions, financial inclusion for people with disabilities, low levels of digital financial literacy, technology infrastructure inequalities in Indonesia, and regulatory framework support (Otoritas Jasa Keuangan, 2022). According to a report by IBM Security, the financial services, healthcare, and energy sectors are among the top three sectors that incurred losses of US\$5.85 million due to data breaches (Abubakar & Handayani, 2017).

Furthermore, digital transformation requires banks to change their organizational culture, involve employees in the change process, and enhance digital literacy among their staff (Yasin et al., 2021). According to Kitsios et al. (2021), an organizational culture that supports innovation and risk-taking will encourage employees to adopt and effectively utilize digital technology. Additionally, research by Westerman et al. (2019) indicates that organizational flexibility in adapting to technological changes and the ability to collaborate cross-functionally can enhance the success of digital transformation in the banking industry.

One of the factors driving competition in the Indonesian banking industry is the deregulation and liberalization of the financial sector. According to research by Putra & Hasibuan (2021), the deregulation of the financial sector in Indonesia has opened the doors to more intense competition among existing banks, including domestic and foreign banks. According to research by Khalifaturrofi'ah & Nasution (2016), competition in the banking industry in Indonesia has increased with the emergence of new banks and banking service innovations. Intense competition between banks has driven the adoption of new technologies and innovations to improve service quality and meet the diverse needs of customers.

Moreover, regulations and policies also significantly impact digital transformation in the banking industry. Kraus et al. (2020) state that regulations promoting personal data protection and information security are crucial in building customer trust in digital banking services. However, challenges arise in compliance with evolving and complex regulations. According to Agarwal et al. (2000), policies that support collaboration between the government, banking industry, and other stakeholders can facilitate successful digital transformation in the banking industry.

Nevertheless, behind these challenges are significant opportunities for the banking industry to embrace digital transformation. One key opportunity is increased access to a broader market. In the digital era, banks can reach potential customers through online platforms, reducing geographical limitations. Winasis & Riyanto (2020) state that adopting digital technology allows banks to expand their customer base and offer banking services to previously inaccessible communities.

In the banking industry, digital transformation strategies are crucial in addressing the increasingly complex business environment. According to Lynn et al. (2020), cloud computing enables banks to access scalable and elastic computing resources, facilitating speed, efficiency, and flexibility in implementing digital services. Additionally, artificial intelligence (AI) and data analytics are essential factors in digital transformation. For example, Menon et al. (1999) reveal that AI can be used in automation processes, decision-making, and personalized banking services. AI is a significant technology in the banking industry, utilized to enhance service personalization and provide a better customer experience. Furthermore, blockchain technology has attracted interest in the banking industry due to its ability to improve transparency, security, and transaction efficiency (Yli-Huumo et al., 2016). Big data analytics allows banks to analyze large volumes of data in real-time and identify patterns and trends for strategic decision-making (Chen et al., 2012).

With new technologies, banks can automate previously time-consuming and resource-intensive processes, enhancing productivity and reducing operational costs (Chouaibi et al., 2022). Also, the implementation of new technologies impacts the customer experience positively. Through digital banking services and improved personalization, banks can provide a more convenient, fast, and tailored experience that meets individual customer needs (Waqas et al., 2021).

Considering the changes in consumer behavior towards technology, as mentioned, the digital transformation trend is likely to continue in 2023. Projected trends for that year will likely involve digitalization encompassing increased adoption of digital technologies, hybrid banking implementations, and big data and customer experience. However, emerging trends are still possible depending on other factors such as customer needs, global economic uncertainty, and geopolitical situations (Otoritas Jasa Keuangan, 2023).

Based on the above phenomenon, this research analyzes the key domains of digital transformation proposed by David L. Rogers through a Systematic Literature Review at PT. Bank Mandiri (Persero) Tbk. According to Rogers (2016), organizations can see how digital forces reshape five key strategic domains: customers, competition, data, innovation, and value. These five domains depict the landscape of digital transformation for businesses today.

This research aims to analyze the digital transformation strategies implemented by Bank Mandiri in the banking industry. Specifically, this research aims to: 1) analyze the steps taken by Bank Mandiri to integrate new technologies into its banking operations, 2) assess the benefits obtained by Bank Mandiri from the implementation of new technologies, both from the perspective of operational efficiency and customer service, 3) evaluate the factors influencing the success of digital transformation strategy implementation in Bank Mandiri, including technological factors, organizational culture, and regulations, and 4) identify and analyze the challenges faced by Bank Mandiri in adopting new technologies for overcoming those challenges.

Table 1. Strategic Assumption Changes From The Analog To The Digital Era
(Rogers, 2016)

	From	To
Customers	Customers as mass market	Customers as a dynamic network
	Communications are broadcast to customers	Communications are two-way relationships
	The firm is the key influencer	Customers are the key influencer
	Marketing to persuade purchase	Marketing to inspire a purchase, improve loyalty, and promote advocacy
	One-way value flows	Reciprocal value flows
	Economies of (firm) scale	Economies of (customer) value
Competition	Competition within defined industries	Competition across fluid industries
	Clear distinctions between partners and rivals	Blurred distinctions between partners and rivals
	Competition is a zero-sum game	Competitors cooperate in key areas
	Key assets are held inside the firm	Key assets reside in outside networks
	Products with unique features and benefits	Platforms with partners who exchange value
	A few dominant competitors per category	Winner-takes-all due to network effects
Data	Data is expensive to generate within the firm	Data is continuously generated everywhere
	Challenge of data is storing and managing it	Challenge of data is turning it into valuable information
	The firm makes use only of structured data	Unstructured data is increasingly usable and valuable
	Data is managed in operational silos	Value of data is in connecting it across silos
	Data is a tool for optimizing processes	Data is a key intangible asset for value creation
Innovation	Decisions made based on intuition and seniority	Decisions made based on testing and validating
	Testing ideas is expensive, slow, and difficult	Testing ideas is cheap, fast, and easy
	Experiments conducted infrequently by experts	Experiments conducted constantly by everyone
	Challenge of innovation is to find the right solution	Challenge of innovation is to solve the right problem
	Failure is avoided at all cost	Failures are learned from, early and cheaply
	Focus is on the “finished” product	Focus is on minimum viable prototypes and iteration after the launch

Value	Value proposition is defined by the industry	Value proposition is defined by changing customer needs
	Execute your current value proposition	Uncover the next opportunity for customer value
	Optimize your business model as long as possible	Evolve now before it is too late to stay ahead of the curve
	Judge change by how it impacts your current business	Judge change by how it could create your next business
	Market success allows for complacency	“Only the paranoid survive”

Method

This research utilizes a qualitative method to understand better the digital transformation process at PT Bank Mandiri (Persero) Tbk. The qualitative research method employed in this study is a literature review, which involves gathering information from records, reports, books, and other relevant scholarly sources. According to Nazir (2013), a literature study is a data collection method that involves analyzing relevant books, literature, notes, and reports after addressing the research problem. This research is conducted using the Systematic Literature Review (SLR) approach. Systematic Literature Review is a series of methods for identifying, selecting, and critically evaluating research to answer pre-defined research questions (Dewey & Drahota, 2016).

Results and Discussion

1. Financial Analysis

The following results are obtained based on Bank Mandiri's financial data in three years (December 2020 - December 2022). First, net revenue escalated by 141% (from IDR 17.1 trillion to IDR 41.2 trillion). Second, operating profit rose 142% (from IDR23.2 trillion to IDR56.2 trillion). Third, profit before income tax increased by 142% (from IDR23.3 trillion to IDR56.4 trillion). Fourth, earnings before interest and taxes increased by 44% (from IDR53.6 trillion to IDR77.1 trillion). Finally, total comprehensive income for the year soared 115% (from IDR21.1 trillion to IDR45.4 trillion).

2. Five domains of Digital Transformation According to Rogers at Bank Mandiri

a. Customer

The strategy implemented by Bank Mandiri is in line with previous research (Rogers, 2016). In Bank Mandiri's 2022 annual report, it was announced that the number of KUM (Micro Business Loans) digital customers increased significantly from 221,384 customers (December 2021) to 273,125 customers (December 2022), or increasing 51,741 new customers within one year. This growth is equivalent to more than 4,000 new customers in one month or an average of 143 new customers daily. The increase in new customers results from KUM's acquisition channels through digital platforms such as the Mandiri Pintar mobile app, a channeling model with fintech companies and e-commerce.

b. Competition

Competition in the banking industry requires Bank Mandiri to diversify its products so that its products and services are more sophisticated and more qualified (Wibowo, 2016). In order to compete, Bank Mandiri has collaborated with digital firms in Indonesia to provide working capital loans (non-revolving) to MSMEs registered as electronic transaction traders/sellers. In addition, Bank Mandiri provides a referral website that may process loan applications for digital enterprises that do not have a financing application

platform. Moreover, collaboration with many strategic partners, such as payroll, colleges (Livin' Ambassadors), marketplaces (Livin' Pasar), merchants, tourism destination calendars, and communities, is a strategy for expanding Livin' by Mandiri. Livin' by Mandiri is aimed at increasing the firm revenue. Increasing Livin' by Mandiri transactions is performed through acquiring strategic partners and encouraging increased users (Annual Report PT. Bank Mandiri (Persero) Tbk, 2022).

c. Data

Global competition poses many challenges to the banking industry. Cloud computing offers the speed, flexibility, and real-time information needed to face these challenges cost-effectively (Ghule et al., 2014). Bank Mandiri modernizes its core banking system, including using cloud computing technologies, to adopt technology with high capacity, scalability, and flexibility. Bank Mandiri also implements initiatives to improve data governance, strengthen data analytics, and leverage cutting-edge technologies like machine learning and campaign management to promote business development, strengthen services, and drive efficiency. Furthermore, Bank Mandiri develops abnormal network and account activity identification capabilities using AI and machine learning technology.

d. Innovation

Innovation with rapid experimentation is necessary because, in the business sector, product innovation is one of the critical elements to maintain the company's sustainability. Product innovation represents the company's ability to meet market needs and obtain company profits (Hafidz, 2015).

Besides introducing and enhancing Livin' and Kopra functions in 2022, Bank Mandiri's digital innovation was performed by launching the Smart Branch program, strengthening Bank Mandiri's steps to become one of the leading banks in digitalization with consistency in global business transformation. The establishment of Livin', Kopra, and Smart Branch has substantially contributed to Bank Mandiri, including considerably boosting fund collection, particularly low-cost funds, income ratio, and fee-based income. In addition, Bank Mandiri's operation is becoming more efficient. Through initiatives such as Livin', KOPRA, and Smart Branch, Bank Mandiri has become one of the largest banks in terms of digitalization. Besides, Livin' by Mandiri, expected to have 17 million downloads by 2022, is now available in 119 countries with increased capabilities. Livin' Sukha, one of the newest features in 2022, merges all financial transaction solutions to fulfill consumer lifestyle needs. Bank Mandiri keeps innovating by improving tactics in each business division. Bank Mandiri pursues its goal to become a prominent wholesale bank by using its strengths as a wholesale bank capable of capturing possible new revenue streams from customers and providing credit (Annual Report PT. Bank Mandiri (Persero) Tbk, 2022).

e. Value

In order to maintain Bank Mandiri's Information Technology (IT) vision of becoming a technology strategic partner that "Always Delivers, Always Ahead" in providing added value and encouraging innovation to all stakeholders in driving healthy and sustainable business growth, IT development in 2023 will remain strategic in nature. Bank Mandiri will continue to promote digital transformation in all business segments and bank operations through strategic projects such as KOPRA, Living by Mandiri, Smart Branch, and Technops (Bank Mandiri, 2022). Bank Mandiri's actions align with research by Loo (2018) that the use of technology in the financial sector will increase the growth of the financial services sector and reduce the likelihood of a crisis in the sector.

Conclusion

According to Rogers (2016), Bank Mandiri has implemented the proper business strategy in adopting digital transformation through the five domains of digital transformation. Bank Mandiri has focused its business on customers by creating a digital ecosystem with collaborations that benefit customers, partners, and the bank's own business, using data to conduct business development, innovating products and services offered, and always creating added value that provides a new value proposition for customers and all related stakeholders. Bank Mandiri has experienced significant growth in key financial indicators over three years (Dec 2020 - Dec 2022). Net revenue, operating profit, profit before income tax, earnings before interest and taxes, and total comprehensive income for the year have all shown substantial increases ranging from 44% to 142%, indicating that Bank Mandiri's financial performance has improved significantly during these periods. Bank Mandiri has successfully implemented digital transformation initiatives across five domains: customer, competition, data, innovation, and value. The bank has witnessed a significant increase in digital customers through various channels and collaborations with fintech companies and e-commerce platforms. Bank Mandiri has also embraced cloud computing, data analytics, AI, and machine learning technologies to enhance its core banking system, improve data governance, and drive efficiency. The bank has demonstrated a commitment to digital innovation by launching the Smart Branch program and introducing features like Livin' and Kopra, contributing to increased fund collection, efficiency, and digitalization. In conclusion, Bank Mandiri has achieved impressive financial growth while successfully implementing digital transformation initiatives across various domains. The bank's focus on customer-centric strategies, competition, data-driven decision-making, innovation, and technology underscores its commitment to remaining competitive, providing value to stakeholders, and driving sustainable business growth in the digital era.

References

- Abubakar, & Handayani. (2017). Perkembangan Transaksi Perbankan dan Implikasinya Terhadap Pembaharuan Hukum Perdata Indonesia. *Justitia Jurnal Hukum*, 1–2.
- Agarwal, R., Sambamurthy, V., & Stair, R. M. (2000). Research Report: The Evolving Relationship Between General and Specific Computer Self-Efficacy—An Empirical Assessment. *Information Systems Research*, 11(4), 418–430.
- Annual Report PT. Bank Mandiri (Persero) Tbk.* (2022).
- Bank Indonesia. (2023). *Dari Visi Menjadi Realitas: Akselerasi Transformasi Digital Menuju Bank Sentral Digital Terdepan Untuk Indonesia Maju*. <https://www.bi.go.id/id/publikasi/kajian/Documents/Dari-Visi-Menjadi-Realitas-Akselerasi-Transformasi-Digital-Menuju-Bank-Sentral-Digital-Terdepan-Untuk-Indonesia-Maju.pdf>
- Chen, H., Chiang, R. H., & Storey, V. C. (2012). Business Intelligence and Analytics: From Big Data to Big Impact. *MIS Quarterly*, 36(4).
- Chouaibi, S., Festa, G., Quaglia, R., & Rossi, M. (2022). The risky impact of digital transformation on organizational performance – evidence from Tunisia. Technological Forecasting and Social Change. *Technological Forecasting and Social Change*, 178.
- Dewey, A., & Drahota, A. (2016). *Introduction to systematic reviews: online learning module Cochrane Training*.
- Ghule, S., Chikale, R., & Parmar, K. (2014). Cloud Computing in Banking Services. *International Journal of Scientific and Research Publications*, 4(6).

- Hafidz, M. (2015). Keterlekatan Sosial Inovasi Produk Bank Syariah Di Indonesia. *Jurnal Hukum Islam*, 13(2).
- Khalifaturofi'ah, S. O., & Nasution, Z. (2016). Analisis faktor-faktor yang mempengaruhi kinerja keuangan perbankan di Indonesia. *Jurnal Perbankan Syariah. Jurnal Masharif Al-Syariah: Jurnal Ekonomi Dan Perbankan Syariah*, 1(2).
- Kitsios, F., Goatsidis, I., & Kamarioutou, 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).
- Loo, R. Van. (2018). Making Innovation More Competitive: The Case of Fintech. *Boston University School of Law: Scholarly Commons at Boston University School of Law*.
- Lynn, T., Mooney, J. G., Lee, B., & Endo, P. T. (2020).). *The Cloud-to-Thing Continuum: Opportunities and Challenges in Cloud, Fog and Edge Computing*. Palgrave Macmillan.
- Marginingsih, R. (2021). Financial Technology (Fintech) Dalam Inklusi Keuangan Nasional di Masa Pandemi Covid-19. *Moneter: Jurnal Akuntansi Dan Keuangan*, 8(1).
- Menon, A., Bharadwaj, S. G., Adidam, P. T., & Edison, S. W. (1999). Antecedents and Consequences of Marketing Strategy Making: A Model and a Test. *Journal of Marketing*, 63(2), 18–40.
- Nazir, M. (2013). *Metode Penelitian*. Ghalia Indonesia.
- Otoritas Jasa Keuangan. (2022). *Transformasi Digital Perbankan: Wujudkan Bank Digital*. <https://sikapiuangmu.ojk.go.id/FrontEnd/CMS/Article/40774>
- Otoritas Jasa Keuangan. (2023). *Tren Perbankan di Tahun 2023*. <https://www.ojk.go.id/ojk-institute/en/capacitybuilding/upcoming/1281/tren-perbankan-di-tahun-2023>
- Putra, I. K. S., & Hasibuan, H. T. (2021). Faktor - Faktor yang Mempengaruhi Kinerja Keuangan Bank Perkreditan Rakyat. *E-Jurnal Akuntansi*, 31(9).
- Rogers, D. L. (2016). *The Transformation Digital Playbook – Rethink Your Business for The Digital Age*. Columbia Business School Publishing.
- Shabri, H., Azlina, N., & Said, M. (2022). Transformasi Digital Industri Perbankan Syariah Indonesia. *Journal of Islamic Economics*, 3(2).
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research. Journal of Business Research*, 122
- Waqas, M., Hamzah, Z. L. B., & Salleh, N. A. M. (2021). Customer experience: a systematic literature review and consumer culture theory-based conceptualisation. . *Management Review Quarterly, Springer*, 71(1), 135–176.
- Westerman, G., Bonnet, D., & McAfee, A. (2019). Leading Digital: Turning Technology into Business Transformation. *Harvard Business Review Press*.
- Wibowo, B. (2016). Stabilitas Bank, Tingkat Persaingan Antar Bank dan Diversifikasi Sumber Pendapatan: Analisis Per Kelompok Bank di Indonesia. *Jurnal Manajemen Teknologi*, 15(2).
- Winasis, S., & Riyanto, S. (2020). Transformasi Digital di Industri Perbankan Indonesia: Impak pada Stress Kerja Karyawan. *Jurnal Ekonomi Dan Perbankan Syariah*.
- Yasin, R., Lailiyah, N., & Edris, M. (2021). Analisis Pengaruh Layanan Digital Perbankan Syariah terhadap Literasi Keuangan Syariah Generasi Milenial. *Jurnal BAABU AL-ILMI: Ekonomi Dan Perbankan Syariah*, 6.
- Yli-Huumo, J., Ko, D., Choi, S., Park, S., & Smolander, K. (2016). Where Is Current Research on Blockchain Technology? A Systematic Review. *PLoS ONE*, 11(10).