



Implementation of Digital-Based Operational Management to Meet the Expectations of “Z Generation”

Alfiyatun Ilmiyah^{1*}, Andhini Sovi Hidayanti², Kirania Ima Dwi Sindarti³, Neza Maulida Bil Ghisah⁴, Novia Fitri Jufriani⁵

¹⁻⁵Program Studi Sarjana Manajemen, Sekolah Tinggi Ilmu Ekonomi Pemuda, Surabaya, Indonesia

Email: alfiyatunilmiyah@gmail.com¹, Andhinisovi05@gmail.com², Kiraniaima244@gmail.com³, maulidabilghisahneza@gmail.com⁴, noviaqftr1411@gmail.com⁵

*Corresponding Auhtor: alfiyatunilmiyah@gmail.com

Abstract. This study explores the implementation of digital-based operational management in meeting the expectations of Generation Z consumers in the business sector. Rapid technological advancements and changing consumer behavior have encouraged businesses to transform their operational processes to improve efficiency, service quality, and customer orientation. Generation Z expects fast services, easy access to information, personalized experiences, and technology-driven interactions. This study employed a qualitative case study approach. Data were collected through in-depth interviews, observations, and documentation involving business owners who have implemented digital operational systems. The data were analyzed using data reduction, data display, and conclusion drawing, while source triangulation ensured the credibility of the findings. The results show that digital-based operational management enhances business efficiency, improves service quality, and strengthens organizational responsiveness to Generation Z preferences. The use of digital technologies, such as inventory management systems, digital payment platforms, and social media, supports faster and more accurate operational decision-making. However, challenges remain, including limited employee digital competencies, high technology investment costs, and the need for continuous organizational adaptation. The study concludes that successful digital operational management requires technology adoption, organizational readiness, capable human resources, and continuous innovation.

Keywords: Business; Digital Technology; Generation Z; Operational Management; Qualitative Approach.

1. INTRODUCTION

Digital transformation has fundamentally changed how businesses manage operational activities and establish relationships with customers. This transformation has become increasingly significant as Generation Z emerges as a dominant consumer segment characterized by high technological adaptability, a preference for fast service, easy access to information, personalized experiences, and seamless digital interactions throughout the purchasing process (Deloitte, 2023; PwC, 2024). These changing consumer expectations require businesses to redesign their operational management strategies to achieve greater efficiency, flexibility, and customer orientation.

In practice, many organizations, particularly small and medium-sized enterprises (SMEs), continue to encounter substantial challenges in implementing digital-based operational management. These challenges include inadequate technological infrastructure, limited digital competencies among employees, poor integration of operational systems, and the underutilization of data for decision-making processes (OECD, 2023; World Bank, 2022). Consequently, the quality of service and organizational responsiveness often fail to satisfy the rapidly evolving expectations of Generation Z consumers.

Previous studies have examined digitalization in operational management and its influence on business performance (Ivanov, 2021; Heizer, Render, & Munson, 2022). Other studies have investigated the consumption behavior and purchasing characteristics of Generation Z within the digital business environment (Djafarova & Bowes, 2021; Deloitte, 2023). However, the majority of these studies have adopted quantitative approaches, primarily focusing on testing relationships among variables or measuring causal effects. Limited research has qualitatively explored how business practitioners implement operational management strategies to meet the expectations and preferences of Generation Z consumers (R.Prasetyo, 2026). Therefore, a significant research gap exists regarding the understanding of the implementation process, organizational experiences, operational challenges, and adaptation strategies employed by businesses in responding to changing consumer behavior.

To address this gap, the present study offers a novel contribution by exploring the implementation of digital-based operational management from the perspective of business practitioners through a qualitative approach. Rather than merely identifying operational practices, this study investigates the supporting factors, implementation barriers, and adaptive strategies that enable organizations to meet the expectations of Generation Z consumers. This approach is expected to provide a more comprehensive understanding of operational management dynamics in the era of digital transformation. The findings of this study are expected to contribute theoretically by enriching the literature on operational management in relation to the characteristics of Generation Z within the digital business context (D.W.Sari, 2021). From a practical perspective, the results may serve as valuable references for business practitioners in designing more adaptive operational strategies, improving service quality, strengthening competitive advantage, and supporting long-term business sustainability amid continuous technological advancement and evolving consumer behavior.

2. LITERATURE REVIEW

Operational Management

Operational management refers to the systematic process of planning, organizing, directing, and controlling organizational resources to produce goods and services efficiently while creating value for customers and stakeholders. Its primary objective is to ensure that organizational operations achieve high levels of productivity, quality, cost efficiency, flexibility, and customer satisfaction. Effective operational management integrates strategic objectives with day-to-day business activities by optimizing the use of human resources, technology, materials, information, and financial assets. In today's highly competitive business

environment, organizations are increasingly required to adopt continuous improvement practices, lean management principles, and data-driven decision-making to maintain operational excellence (Heizer et al., 2022). Furthermore, the rapid advancement of digital technologies has significantly transformed operational management practices through the implementation of artificial intelligence, cloud computing, big data analytics, the Internet of Things (IoT), and automation systems. These innovations enable organizations to improve forecasting accuracy, optimize supply chain performance, reduce operational costs, enhance product and service quality, and respond quickly to changing customer demands (Ivanov, 2021). According to the OECD (2023), digital transformation has become a strategic enabler of operational resilience, sustainability, and long-term competitiveness across industries. Consequently, modern operational management is no longer limited to efficiency improvement but also emphasizes innovation, organizational agility, sustainability, and the ability to create continuous value in an increasingly digital and dynamic business environment (UNCTAD, 2024).

Digital-Based Operational Management

Digital-based operational management refers to the integration of digital technologies into organizational operational processes to improve efficiency, transparency, agility, and responsiveness in delivering products and services. The adoption of digital solutions, including Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), cloud computing, artificial intelligence (AI), Internet of Things (IoT), digital payment systems, and big data analytics, enables organizations to automate routine processes, optimize resource allocation, enhance decision-making, and improve customer experiences (Ivanov, 2021; Heizer et al., 2022). According to the World Bank (2022), digital transformation strengthens organizational competitiveness by increasing operational efficiency and reducing transaction costs across various sectors. Moreover, digital technologies facilitate real-time monitoring, predictive analytics, and integrated supply chain management, allowing organizations to respond rapidly to changing market demands and operational risks (OECD, 2023). Nevertheless, the successful implementation of digital-based operational management depends not only on technological infrastructure but also on organizational readiness, effective leadership, employee digital competencies, and a culture that supports continuous innovation (Deloitte, 2023). PwC (2024) further emphasizes that organizations with strong digital capabilities and adaptive management practices are more likely to achieve sustainable operational performance and long-term competitive advantage. Therefore, digital-based

operational management has become a strategic necessity for organizations seeking resilience, operational excellence, and sustainable growth in the digital economy (UNCTAD, 2024).

Generation Z as Digital Consumers

Generation Z, generally defined as individuals born between 1997 and 2012, represents the first generation to grow up entirely in a digitally connected environment. As digital natives, they possess high levels of digital literacy and rely extensively on smartphones, social media, e-commerce platforms, and mobile applications for communication, information, entertainment, and purchasing decisions (Djafarova & Bowes, 2021). Their consumer behavior is characterized by a strong preference for speed, convenience, personalization, and seamless digital experiences across multiple platforms. Furthermore, Generation Z actively seeks authentic brand interactions and is highly influenced by online reviews, user-generated content, influencer recommendations, and real-time engagement through social media channels (OECD, 2023). According to Deloitte (2023), this generation values transparency, sustainability, and social responsibility, expecting businesses to demonstrate ethical practices while delivering efficient digital services (SA Rahma, 2026). Compared with previous generations, Generation Z exhibits greater adaptability to technological innovation and higher expectations regarding service quality, responsiveness, and digital accessibility. Consequently, organizations must redesign their operational strategies by integrating advanced digital technologies, customer-centric service models, and data-driven decision-making to meet these evolving expectations (PwC, 2024). Effective digital-based operational management enables businesses to enhance customer satisfaction, strengthen brand loyalty, improve operational efficiency, and maintain long-term competitiveness in an increasingly dynamic and technology-driven marketplace (Heizer et al., 2022; UNCTAD, 2024).

Theoretical Foundation and Conceptual Framework

This study is grounded in Dynamic Capability Theory, which explains that organizations achieve sustainable competitive advantage by continuously sensing environmental changes, seizing emerging opportunities, and reconfiguring internal and external resources to adapt to rapidly evolving business conditions (Teece, 2020). In the context of digital-based operational management, dynamic capabilities enable organizations to integrate advanced digital technologies, redesign operational processes, and enhance organizational flexibility to address changing customer expectations and market dynamics. The adoption of technologies such as artificial intelligence, cloud computing, Internet of Things (IoT), enterprise resource planning (ERP), and big data analytics strengthens operational efficiency, service quality, and organizational responsiveness (Heizer et al., 2022; OECD,

2023). Previous studies indicate that organizations possessing strong dynamic capabilities are more successful in implementing digital transformation initiatives and achieving long-term operational resilience and competitive advantage (Ivanov, 2021; UNCTAD, 2024). However, much of the existing literature emphasizes quantitative relationships between digitalization and organizational performance, while relatively few studies explore the lived experiences, managerial strategies, and practical challenges encountered during digital operational transformation (Deloitte, 2023). Therefore, this study proposes that digital-based operational management, supported by dynamic capabilities, improves operational efficiency, customer responsiveness, and service quality, enabling organizations to better satisfy the expectations of Generation Z consumers. By adopting a qualitative approach, this research provides deeper insights into how digital operational practices are implemented and experienced in real organizational settings (PwC, 2024).

Conceptual Framework

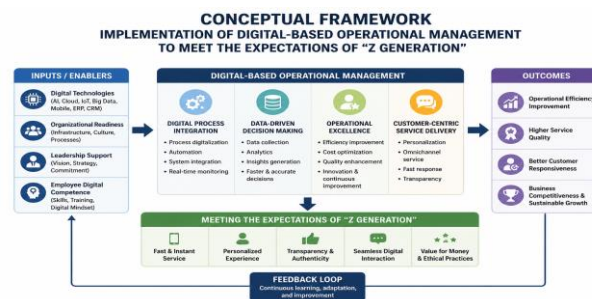


Figure 1. Conceptual Framework.

3. METHOD

Research Design

This study employed a qualitative research design using a descriptive case study approach to explore how digital-based operational management is implemented to meet the expectations of Generation Z consumers. A qualitative approach was selected because it enables researchers to gain an in-depth understanding of participants' experiences, perceptions, and organizational practices in the context of digital transformation (Creswell & Poth, 2022). The case study approach is particularly appropriate for investigating complex organizational phenomena within their real-life contexts, allowing researchers to examine interactions between technology adoption, operational management, and customer expectations (Yin, 2024). The study was theoretically guided by Dynamic Capability Theory, which explains how organizations continuously sense environmental changes, seize digital opportunities, and

reconfigure organizational resources to maintain competitiveness in dynamic business environments (Teece, 2020).

Research Setting

The research was conducted in business organizations that have implemented digital technologies in their operational management systems. These organizations operated in service and retail sectors where interactions with Generation Z customers occur predominantly through digital platforms. The selected organizations had adopted technologies such as Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), digital payment systems, cloud computing, and social media-based customer service. Participants were selected through purposive sampling because they possessed direct experience in digital operational management. The participants consisted of operational managers, digital transformation coordinators, supervisors, and employees with at least two years of experience in implementing digital operational systems. Purposive sampling is widely recommended in qualitative studies because it enables researchers to obtain rich and relevant information from participants who possess extensive knowledge of the phenomenon under investigation (Creswell & Poth, 2022).

Data Collection

Data were collected using multiple qualitative techniques to enhance the comprehensiveness and credibility of the findings. Semi-structured interviews were employed as the primary data collection method, allowing participants to explain their experiences while providing flexibility for probing emerging issues (Yin, 2024). Interview questions focused on digital operational strategies, technology implementation, organizational readiness, leadership support, operational challenges, customer service innovation, and organizational responses to the expectations of Generation Z consumers. In addition, non-participant observations were conducted to examine operational workflows and digital service implementation in everyday business activities. Documentary evidence, including organizational reports, digital transformation policies, operational guidelines, and internal procedures, was also reviewed to complement interview findings and strengthen methodological triangulation (Flick, 2022). Data collection continued until thematic saturation was achieved, where no substantially new information emerged from subsequent interviews.

Data Analysis

The collected data were analyzed using thematic analysis following the six-stage framework proposed by Braun and Clarke (2022). First, interview recordings were transcribed verbatim and repeatedly reviewed to familiarize the researcher with the data. Second, meaningful statements were assigned initial codes. Third, similar codes were organized into

broader categories representing patterns of digital operational management implementation. Fourth, these categories were refined into overarching themes. Fifth, the themes were reviewed and interpreted using Dynamic Capability Theory to explain how organizations adapted their operational processes to satisfy Generation Z expectations. Finally, the findings were interpreted by integrating interview results, observational evidence, and documentary analysis to produce comprehensive explanations of digital operational management practices (Braun & Clarke, 2022).

Trustworthiness

To ensure the rigor and trustworthiness of the findings, this study adopted the criteria of credibility, transferability, dependability, and confirmability originally proposed by Lincoln and Guba and widely applied in contemporary qualitative research (Creswell & Poth, 2022; Flick, 2022). Credibility was enhanced through data triangulation involving interviews, observations, and document analysis, as well as member checking, in which participants reviewed interview summaries to verify the accuracy of the interpretations. Transferability was achieved by providing detailed descriptions of the research context, participant characteristics, and organizational settings, enabling readers to determine the applicability of the findings to similar contexts. Dependability was maintained through a systematic audit trail documenting every stage of data collection and analysis. Confirmability was ensured by maintaining researcher reflexivity, recording analytical decisions, and verifying that all conclusions were derived directly from empirical evidence rather than personal assumptions. Collectively, these procedures enhanced the validity, consistency, and credibility of the qualitative findings (Yin, 2024; Creswell & Poth, 2022).

4. RESULTS AND DISCUSSION

The findings reveal that the implementation of digital-based operational management has significantly transformed organizational operations by improving efficiency, enhancing service quality, and enabling organizations to better satisfy the expectations of Generation Z consumers. Based on thematic analysis, four major themes emerged: (1) digital process integration, (2) customer-centric operational services, (3) organizational readiness and dynamic capabilities, and (4) challenges in digital operational transformation.

Digital Process Integration Improves Operational Efficiency

Table 1. Digital Process Integration Improves Operational Efficiency.

Aspect	Findings	Discussion
Digital technologies used	Participants reported using Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), cloud computing, and digital payment systems.	These tools simplified operational workflows and reduced manual administrative tasks.
Operational efficiency	Digital platform integration enabled real-time information sharing, improved inventory control, accelerated transaction processing, and minimized operational errors.	The findings indicate that digital process integration strengthens operational performance by making business activities faster, more accurate, and more coordinated.
Workforce impact	Several participants emphasized that automation reduced repetitive work and allowed employees to focus on strategic and customer-oriented activities.	This suggests that digitalization not only improves efficiency but also reallocates employee effort toward higher-value tasks.
Link to previous studies	The findings support previous studies showing that digital technologies enhance operational efficiency through process automation, integrated information systems, and data-driven decision-making (Heizer et al., 2022; Ivanov, 2021). OECD (2023) also argues that digital transformation is a strategic driver of productivity and organizational competitiveness across industries.	The results are consistent with the literature and reinforce the view that digital process integration is a key mechanism for improving organizational efficiency and competitiveness.

Customer-Centric Digital Services Meet Generation Z Expectations

The second theme demonstrates that Generation Z consumers expect organizations to provide fast, personalized, transparent, and seamless digital services. Participants explained that customers preferred mobile applications, online ordering, digital payment options, instant communication, and social media interactions. Businesses therefore redesigned operational processes to ensure rapid responses, personalized services, and consistent customer experiences across multiple digital platforms. The findings indicate that customer satisfaction among Generation Z depends not only on product quality but also on the overall digital experience throughout the service journey. These results are consistent with Djafarova and Bowes (2021), who reported that Generation Z consumers value convenience, personalization,

and authentic digital engagement. Deloitte (2023) further emphasizes that this generation expects organizations to integrate digital technologies with transparent and responsive customer service.

Organizational Readiness Strengthens Digital Transformation

Table 2. Organizational Readiness Strengthens Digital Transformation.

Theme	Key Finding	Key Identified	Elements	Supporting Theory	Evidence /
Organizational Readiness Strengthens Digital Transformation	Successful digital-based operational management depends heavily on organizational readiness.	Leadership commitment, employee competence, organizational continuous technological infrastructure	digital culture, learning,	Participants' findings	
Capability Development	Organizations investing in training and digital skill development experience smoother implementation and greater flexibility.	Employee digital development, continuous learning culture	training, capability	Participant findings	
Dynamic Capability Perspective	Digital transformation success is driven by the ability to adapt and reconfigure resources in response to technological change.	Sensing opportunities, seizing digital tools, reconfiguring organizational resources		Dynamic Capability Theory (Teece, 2020)	
Industry Insight	Adaptive leadership and digitally skilled employees improve operational excellence and innovation outcomes.	Adaptive leadership, digital skills, innovation capacity		PricewaterhouseCoopers (PwC, 2024)	

Challenges in Implementing Digital-Based Operational Management

Table 3. Challenges in Implementing Digital-Based Operational Management.

Category	Challenge	Description	Supporting Evidence
Human factors	Employee resistance to technological change	Employees may be reluctant to adopt new digital systems due to habits, fear of job loss, or lack of familiarity.	Findings from implementation participants
Skills gap	Insufficient digital competencies	Lack of technical skills limits effective use of digital tools and slows operational transformation.	World Bank (2022)
Financial constraints	Limited funding for digital transformation	High costs of software, infrastructure, and training restrict adoption, especially in small organizations.	World Bank (2022)
Security risk	Cybersecurity concerns	Fear of data breaches, hacking, and system vulnerabilities reduces confidence in digital adoption.	Industry findings / participant responses
Technical integration	Difficulty integrating with legacy systems	New digital tools often do not align smoothly with existing operational systems.	Participant findings
Organizational scale	Resource limitations in smaller organizations	Small firms face greater challenges due to limited capital, staff, and IT infrastructure.	World Bank (2022)
Strategic requirement	Need for continuous investment and innovation	Sustainable digital transformation requires ongoing upgrades in infrastructure and workforce capabilities.	UNCTAD (2024)

5. DISCUSSION

Overall, the findings demonstrate that digital-based operational management extends beyond technology adoption and represents a comprehensive organizational transformation involving people, processes, leadership, and organizational culture. From the perspective of Dynamic Capability Theory (Teece, 2020), organizations continuously develop capabilities to sense changing customer expectations, seize digital opportunities, and transform operational processes accordingly. The implementation of integrated digital technologies enables

organizations to improve operational efficiency while simultaneously delivering personalized, transparent, and responsive services demanded by Generation Z consumers.

This study contributes to the existing literature by providing qualitative evidence regarding how organizations experience digital operational transformation in real business settings. Unlike many previous studies that primarily examine statistical relationships between digitalization and organizational performance, this research highlights the practical strategies, managerial experiences, organizational readiness, and operational challenges involved in implementing digital-based operational management. The findings suggest that sustainable competitive advantage is achieved not solely through technological investment but through the effective integration of digital capabilities, leadership commitment, employee competencies, and customer-centered operational strategies in response to the evolving expectations of Generation Z.

REFERENCES

- Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE Publications. <https://doi.org/10.53841/bpsqmip.2022.1.33.46>
- Creswell, J. W., & Poth, C. N. (2022). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). SAGE Publications.
- Deloitte. (2023). *Global Gen Z and millennial survey 2023*. <https://www.deloitte.com>
- Djafarova, E., & Bowes, T. (2021). Instagram made me buy it: Generation Z impulse purchases in the fashion industry. *Journal of Retailing and Consumer Services*, 59, 102345. <https://doi.org/10.1016/j.jretconser.2020.102345>
- Flick, U. (2022). *An introduction to qualitative research* (7th ed.). SAGE Publications.
- Heizer, J., Render, B., & Munson, C. (2022). *Operations management: Sustainability and supply chain management* (13th ed.). Pearson.
- Ivanov, D. (2021). Supply chain viability and the COVID-19 pandemic: A conceptual and formal generalisation of four major adaptation strategies. *International Journal of Production Research*, 59(12), 3535–3552. <https://doi.org/10.1080/00207543.2021.1890852>
- OECD. (2023). *Digital transformation in SMEs and public policy*. <https://www.oecd.org>
- Prasetyo, R. (2026). Konstruksi loyalitas konsumen terhadap brand lokal melalui social commerce. *Jurnal Media Akademik (JMA)*, 4(5). <https://jurnal.mediaakademik.com/index.php/jma/article/view/5935/4292>
- PwC. (2024). *Global digital operations survey 2024*. <https://www.pwc.com>
- Sari, D. W. (2021). Analysis of the effect of the liquidity ratio on financial performance in Multi Bintang Indonesia Tbk. *International Journal of Global Accounting, Management, Education, and Entrepreneurship*, 1(2), 78–89. <https://doi.org/10.48024/ijgame2.v1i2.18>

- Siswohadi, S., & Rahma, S. A. (2026). Digitalisasi manajemen operasional sebagai upaya peningkatan daya saing UMKM Batik TIN. *Jurnal Ekonomi Manajemen Akuntansi*, 32(1), 79–89. <https://ejournals.stiedharmaputra-smg.ac.id/index.php/EMA/article/view/397/257>
- Teece, D. J. (2020). Dynamic capabilities and entrepreneurial management in large organizations: Toward a theory of the (entrepreneurial) firm. *European Economic Review*, 86, 202–216. <https://doi.org/10.1016/j.euroecorev.2015.11.006>
- UNCTAD. (2024). *Digital economy report 2024*. <https://unctad.org>
- World Bank. (2022). *Digital development overview: Bridging the digital divide*. <https://www.worldbank.org>
- Yin, R. K. (2024). *Case study research and applications: Design and methods* (7th ed.). SAGE Publications.