

The Role Of Digitalization In Operational Efficiency Case Study On Seganex Footwear SMEs in Mojokerto City

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Abstract

The development of digital technology offers opportunities for MSME actors to enhance operational efficiency and business competitiveness. This case study aims to analyze the role of digitalization in improving operational efficiency at the footwear MSME “Sepatu Seganex” in Mojokerto City. The study employed a qualitative descriptive method through field observations, interviews with the owner, and documentation of the production process. The findings indicate that the implementation of digitalization—covering digital financial recording, order management systems, digital marketing, and the use of marketplaces—significantly improves time efficiency, reduces operational costs, and increases productivity. The main challenges include limited digital human resources, initial technology adoption costs, and suboptimal internet access. This study contributes to MSME literature related to digital transformation strategies in the local manufacturing sector.

Keywords: Digitalization, Operational Efficiency, MSMEs, footwear, Mojokerto.

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are a vital foundation of Indonesia’s economic structure. More than 99% of business units in the country come from the MSME sector, contributing significantly to the national Gross Domestic Product (GDP) and generating employment opportunities. At the regional level, Mojokerto City has become one of the rapidly growing creative industry hubs, particularly in the footwear sector. One notable enterprise is the MSME “Sepatu Seganex,” a local footwear producer known for its simple yet high-quality designs. Despite its strong potential, MSMEs like Seganex face increasingly complex competitive pressures, driven by rising market competition and the shift in consumer behavior toward digital-first preferences.

In today’s digital economy, the ability of MSMEs to adapt to technological advancements has become essential for sustaining and expanding their market reach. Various studies indicate that digitalization can enhance operational efficiency, accelerate workflow processes, and improve customer service quality (Rahayu & Day, 2020). Digitalization encompasses more than just digital marketing—it includes inventory management systems, digital financial recording, order processing, and the use of e-commerce platforms to expand market access. However, field observations show that many micro and small MSMEs still rely heavily on manual work methods. This not only reduces operational effectiveness but also limits their



capacity to compete with mass-produced goods and digital-first products that increasingly dominate the market.

Traditional MSMEs face several core challenges, including irregular financial records, weak inventory management systems, lengthy production input-output processes, limited promotional capabilities, and difficulties in reaching markets beyond their local areas. For Seganex, these issues are evident in its manual production processes, frequent inaccuracies in stock recording, and marketing efforts that depend largely on conventional word-of-mouth promotion. These conditions lead to cost inefficiencies, production delays, and low capacity to meet the demands of an increasingly dynamic market.

In this context, digitalization emerges as a strategic solution that can optimize MSME business processes. Digital transformation at the MSME level does not require large or costly interventions; it can begin with simple steps such as using digital bookkeeping applications, marketplaces, social media platforms, and basic digital tools in the production process. Prasetyo and Sutopo (2021) emphasize that the gradual adoption of digital technology can enhance productivity and competitiveness, particularly in creativity-driven and small-scale manufacturing industries like Seganex.

However, the implementation of digitalization also comes with several challenges. Key obstacles include low digital literacy among owners and workers, limited capital for digital technology investments, and unstable internet connectivity in certain areas. Additionally, shifting from manual work habits to digital systems requires a significant adjustment period. Therefore, gaining a deeper understanding of how MSMEs adopt digitalization, its direct impacts on operational efficiency, and the challenges encountered becomes essential for providing practical recommendations to other MSMEs.

Based on this background, this study was designed to address three key questions: (1) how digitalization is implemented in the operational activities of the MSME Sepatu Seganex, (2) the extent to which digitalization influences operational efficiency, and (3) the challenges encountered during the application of digital technology at Seganex. This study is expected to contribute to MSME literature and offer practical insights for business practitioners seeking to leverage digital technology to enhance business sustainability.

2. Literature Review

2.1. Digitalization of MSMEs

Digitalization is a critical process in the development of modern businesses, including the MSME sector. According to Zimmermann (2018), digitalization is the integration of digital technology into all aspects of business activities to enhance efficiency, quality, and organizational capabilities. In the context of MSMEs, digitalization is not limited to the use of digital tools but also involves transforming workflows, business models, and customer interactions. Rahayu and Day (2020) explain that digitalization in MSMEs encompasses several key aspects, including digital marketing, digital financial recording, stock management applications, digital cashier systems, and the use of marketplaces as distribution channels. Through digitalization, MSMEs can reduce dependence on manual processes that are prone to errors and improve data accuracy in daily operations. In creative industries such as footwear, digitalization has opened wider opportunities through the use of social media, design applications, and online selling platforms. A study by Nugroho et al. (2021) indicates that MSMEs utilizing digital marketing experienced a 45% increase in sales compared to those relying solely on conventional marketing. Furthermore, digitalization enables MSMEs to reach broader markets without geographical limitations. However, the implementation of

digitalization among MSMEs is often hampered by limited technological knowledge, insufficient capital, and resistance to change (Setiawan & Santoso, 2022). Therefore, digitalization requires strategic planning, especially for MSMEs that have long relied on manual systems.

2.2. Operational Efficiency

Operational efficiency refers to an organization's ability to achieve optimal output while minimizing resource usage. Slack et al. (2015) state that operational efficiency is determined by time effectiveness, cost reduction, improved data accuracy, reduced production errors, and enhanced labor productivity. In the context of MSMEs, operational efficiency is a critical factor for strengthening competitiveness in a rapidly changing market environment. Research by Sari and Yuniarto (2020) shows that MSMEs implementing digital systems in operational activities—such as digital inventory recording, automated cashier systems, and production control applications—experienced a 35% increase in time efficiency and a 20% reduction in production costs. These improvements result from reduced manual errors and streamlined workflow processes.

Digitalizing operations also enhances the ability of MSMEs to manage information. Using digital financial applications, for instance, allows MSMEs to monitor cash flow in real time, facilitating more accurate strategic decision-making. In the footwear industry, digitalization in design processes, material cutting, and stock recording can reduce material waste and improve production accuracy. Overall, operational efficiency is a critical dimension highly influenced by an MSME's ability to adapt to digitalization.

2.3. Digital Transformation in MSMEs

Digital transformation refers to comprehensive efforts to reshape business models and operational processes through the adoption of digital technologies. Prasetyo and Sutopo (2021) emphasize that digital transformation in MSMEs goes beyond technology adoption; it involves shifting mindsets among business owners, strengthening digital skills, and adjusting operational procedures to align with new technologies. Digital transformation is strategic and holistic. It not only enhances efficiency but also creates added value through product innovation, digital customer service, and data-driven decision-making. Wijaya (2022) notes that MSMEs that adopt digital transformation more rapidly are more resilient to disruptions—including the pandemic—and have greater opportunities to survive and grow. In the footwear industry, such as Seganex, digital transformation may include the use of 2D/3D design applications, automatic cutting machines, marketplace integration, and data-based production systems. Digital transformation also enables MSMEs to implement lean management concepts by reducing waste and optimizing production processes. Meanwhile, barriers to digital transformation within MSMEs are largely influenced by low digital literacy, limited investment capacity, and insufficient technical support (Setiawan & Santoso, 2022). Therefore, support from the digital ecosystem—such as training, mentoring, and access to technology—is essential.

3. Methods

This study employed a descriptive qualitative approach using a case study method to obtain an in-depth understanding of the role of digitalization in enhancing operational efficiency at the MSME “Sepatu Seganex” in Mojokerto City. The qualitative approach was chosen because it allows the researcher to explore phenomena comprehensively, understand real-life contextual conditions, and capture the dynamics that occur throughout the digitalization process. The case study method was applied because the research focuses on a single unit of analysis—Seganex—requiring detailed exploration of its operational practices and the forms of digitalization implemented. The research was conducted directly at the Seganex workshop and outlet, which serve as the centers of production and marketing activities. The research subjects consisted of the business owner, two production employees, and one digital administrator, all of whom are actively involved in both operational processes and digital technology adoption.

Data were collected through three primary techniques: observation, in-depth interviews, and documentation. Non-participatory observation was conducted to directly examine the shoe production process—from material cutting, assembly, and finishing, to packaging and the workflow of order management from customers to shipment. The researcher also observed the use of digital technologies such as financial recording applications, marketplace platforms, and cutting machines. Semi-structured interviews were conducted with the business owner, production employees, and the digital administrator to explore their understanding, experiences, and perceptions regarding digitalization. These interviews investigated the technology adoption process, perceived benefits, impacts on time and cost efficiency, and challenges encountered during implementation. Meanwhile, documentation techniques were used to obtain supporting evidence such as transaction records, digital financial reports, photos of production activities, and screenshots of the digital applications used, allowing the collected data to be verified and enriched.

Data analysis followed the Miles and Huberman (1994) model, consisting of three main stages. The first stage was data reduction, in which the researcher selected, organized, and simplified field data, then categorized them into themes such as types of digitalization, impacts on operational efficiency, and encountered constraints. The second stage involved data presentation through descriptive narratives, tables, and thematic matrices to ensure logical and systematic interpretation of relationships among the findings. The final stage was conclusion drawing, which involved interpreting the overall data to produce findings related to the implementation of digitalization at Seganex, its influence on operational efficiency, and both the challenges and enabling factors. These conclusions were then re-verified against field data to ensure validity and reliability. Through this comprehensive method, the study aims to provide an in-depth illustration of the realities of digital transformation within the footwear MSME sector in Mojokerto City.

4. Results and Discussion

Seganex Footwear MSME is a micro-enterprise in the footwear manufacturing sector established in 2018 in Mojokerto City. Focusing on casual footwear such as canvas-based sneakers and slip-ons, Seganex targets young consumers and informal workers. The enterprise currently employs 3–5 workers with a production capacity of 150–200 pairs of shoes per month. Before digitalization, most operations depended heavily on manual methods, including order recording, production workflow, and marketing. This situation frequently led to issues such as recording errors, delays in order information, and limited marketing reach.

These challenges formed the basis for Seganex to begin adopting digital technologies to enhance efficiency and competitiveness.

Digitalization at Seganex is implemented across several operational aspects. First, in financial recording, Seganex uses applications such as BukuKas and Majoo to manage transactions, inventory, and financial reports. This transformation accelerates report generation through automated recording, reduces data errors, and enables the owner to plan production more accurately based on real-time financial information. These findings align with Rahayu and Day (2020), who emphasize that digital financial recording improves data accuracy and transparency for MSMEs. Second, in order management, Seganex integrates Google Forms, WhatsApp Business, and a digital catalog, creating a more organized and structured ordering process. This system minimizes duplicated orders, accelerates administrative response time, and improves customer satisfaction due to clearer ordering procedures. Third, in digital marketing, Seganex actively uses Instagram, TikTok, Facebook Ads, and marketplaces such as Shopee and Tokopedia to expand its product reach. This strategy has delivered significant impact—sales increased by 30–40% within six months, and market reach expanded from local to regional and national levels—supporting Nugroho et al. (2021), who highlight the effectiveness of digital marketing for MSMEs. Fourth, in production, Seganex has begun using a digital cutting machine, which produces more precise cuts, reduces material waste, and speeds up the production process. This indicates that digital adoption extends beyond administrative functions and directly enhances core operational activities.

Digitalization has produced tangible benefits for Seganex's operational efficiency. In terms of time, the production process—especially material cutting—has become faster, and order management that previously required around two hours can now be completed in approximately 45 minutes. In terms of cost, the use of paper and ink has decreased by about 30%, production errors have declined, and digital marketing costs are more efficient compared to physical promotion. Productivity has also increased, from an average of 120 pairs to 180 pairs per month following the implementation of digital production tools and data-driven management systems. Moreover, data accuracy and transparency improved significantly because inventory information and financial reports are stored digitally and can be accessed at any time. These findings support Slack et al. (2015), who state that operational efficiency is achieved through time optimization, cost reduction, and improved information accuracy.

However, the digitalization process has not been without challenges. Some obstacles faced by Seganex include low digital literacy among workers, requiring training and adaptation time; relatively high initial investment for digital cutting machines and premium application subscriptions; and unstable internet access that disrupts content uploading and marketplace stock updates. In addition, digital marketing content remains inconsistent and lacks professional quality, preventing the enterprise from fully optimizing its promotional potential. These constraints align with Setiawan and Santoso (2022), who note that major barriers to MSME digitalization stem from limited digital literacy, high initial investment costs, and insufficient digital infrastructure. Overall, the findings indicate that digitalization significantly contributes to Seganex's operational efficiency, although human resource readiness and digital infrastructure remain critical factors for successful MSME digital transformation.

5. Conclusion

The findings of this study conclude that digitalization plays a significant role in enhancing the operational efficiency of the “Seganex Footwear” MSME in Mojokerto. The adoption of digital technologies in financial recording, order management, marketing, and production processes has proven effective in accelerating workflows, reducing operational costs, increasing productivity, and generating more accurate and accessible data to support decision-making. Although several challenges remain—such as limited employee digital literacy, substantial initial investment, and internet infrastructure issues—the benefits gained outweigh the obstacles. Therefore, continued digitalization is essential and should be supported through employee digital skills training, as well as assistance from the government, MSME support institutions, and digital platforms to ensure that the digital transformation becomes more optimal and sustainable for MSMEs like Seganex.

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