

Research Article

The Impact of Digitalization of Accounting Systems On The Operational Efficiency Of MSMEs In The Digital Economy Era

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Abstract

The rapid advancement of digital technology has driven the digitalization of accounting systems as a strategic tool to enhance the operational efficiency of micro, small, and medium enterprises (MSMEs) in the digital economy era. This study aims to analyze the impact of accounting system digitalization on MSMEs' operational efficiency and to identify factors influencing its implementation. Using a qualitative library research method, this study systematically reviews relevant national and international literature published over the last decade. The findings indicate that digital accounting systems significantly improve time and cost efficiency through automation, enhance the accuracy and timeliness of financial information, and support more effective managerial decision-making. However, the effectiveness of digitalization is mediated by factors such as digital literacy, managerial support, innovation capability, and regulatory environment. This study concludes that accounting digitalization represents a strategic organizational transformation essential for improving MSMEs' operational efficiency and competitiveness in the digital economy.

Keywords: digital accounting systems, operational efficiency, MSMEs, digital economy.



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INTRODUCTION

The development of information and communication technology has driven fundamental transformations in business management systems, including the field of accounting. Globally, the digitalization of accounting systems is regarded as a strategic instrument for improving organizational operational efficiency through the automation of transaction recording, integration of financial data, and the provision of accurate and real-time information to support managerial decision-making. In an increasingly competitive digital economy, business actors are required to manage resources effectively and efficiently by leveraging digital technology as a primary support for operational and financial activities (Prasetianingrum & Sonjaya, 2024; Verhoef et al., 2021). Digital transformation in accounting not only enhances the accuracy of financial reporting but also contributes to cost control, time efficiency, and increased business productivity.

In Indonesia, micro, small, and medium enterprises (MSMEs) play a strategic role as the backbone of the national economy, both in terms of their contribution to gross domestic product and employment generation. Nevertheless, most MSMEs continue to face significant limitations in financial management, particularly due to the use of manual and non-standardized accounting systems. This condition leads to low-quality financial information, delayed reporting, and suboptimal operational decision-making. The digitalization of accounting systems through the use of digital-based applications and software represents a potential solution to address these challenges, as it simplifies recording processes, enhances financial transparency, and supports operational efficiency among MSMEs in the digital economy era (Anggadini et al., 2025).

From an academic perspective, the issue of accounting digitalization in MSMEs has received increasing attention in recent years. Several studies have demonstrated that the adoption of digital accounting systems positively affects operational efficiency and financial performance among MSMEs. Lutfi et al., (2022) found that accounting system digitalization improves operational efficiency by reducing recording errors and accelerating the preparation of financial reports. Muttiwijaya et al., (2025) reported that the use of digital accounting applications contributes to improved financial data accuracy and tax compliance among MSMEs. Meanwhile, Mendorfa et al. (2025) showed that business digitalization, including accounting systems, has a significant impact on enhancing MSMEs' operational efficiency through process automation.

Other studies by Badria & Hasanah, (2024) and Apriyanti & Yuvitasari, (2021) further confirmed that the utilization of digital accounting technology plays a crucial role in improving financial management effectiveness and overall MSME performance.

Despite these findings, previous studies tend to address accounting digitalization from a partial perspective, focusing primarily on aspects such as financial reporting quality or tax compliance, rather than comprehensively examining its relationship with overall operational efficiency in MSMEs. Moreover, there remains a limited number of studies that specifically explore the mechanisms through which accounting system digitalization influences operational efficiency within the dynamic context of the digital economy, particularly among MSMEs in Indonesia. These limitations indicate the presence of a research gap that needs to be addressed through more integrated and context-specific empirical investigations.

Based on the above discussion, this study focuses on examining the impact of accounting system digitalization on MSMEs' operational efficiency in the digital economy era, as well as identifying the factors that influence this relationship. The objectives of this study are to analyze the effect of accounting system digitalization on operational efficiency among MSMEs and to identify supporting and inhibiting factors in its implementation, thereby contributing theoretically to the development of digital accounting studies and practically to MSME practitioners and policymakers.

METHOD

This study employs a qualitative research design using a library research approach. Library research is a research method that emphasizes a systematic review of relevant written sources to obtain both conceptual and empirical data without involving the collection of primary data in the field (Creswell & Poth, 2016). This approach is selected because the objective of the study is to analyze and synthesize findings from previous research as well as theoretical frameworks related to the digitalization of accounting systems and the operational efficiency of MSMEs within the context of the digital economy. Library research enables researchers to construct comprehensive scholarly arguments based on the accumulation of knowledge that has been academically published (Zed, 2008).

The data sources in this study consist of secondary data obtained from various relevant and credible academic literatures. These sources include scholarly books in

the fields of accounting, information systems, and MSME management; reputable national and international journal articles addressing accounting system digitalization, operational efficiency, and the digital economy; and official documents such as government reports, public policies, and publications issued by national and international institutions related to MSME development. The selection of data sources is based on criteria of substantive relevance, academic validity, and publication recency, with a particular focus on literature published within the last ten years to ensure alignment with the evolving dynamics of digital transformation (Saunders et al., 2009).

Data collection is conducted through several systematic stages. The first stage involves literature identification, which includes searching for relevant academic sources through databases such as Google Scholar, national journal portals, and institutional digital libraries using keywords including *accounting system digitalization*, *MSME operational efficiency*, and *digital economy*. The second stage is literature selection, which entails screening titles, abstracts, and full texts to ensure alignment with the research focus and the methodological quality of the sources. The third stage is literature classification, whereby selected sources are grouped into specific categories or themes, such as accounting digitalization concepts, dimensions of operational efficiency, implementation benefits and challenges, and the MSME context in the digital economy. These stages are intended to facilitate systematic data analysis and synthesis (Snyder, 2019).

Data analysis in this study employs content analysis, thematic analysis, and critical-comparative analysis. Content analysis is used to systematically examine meanings, concepts, and research findings contained in the reviewed literature by identifying units of information relevant to the research focus (Krippendorff, 2018). Subsequently, thematic analysis is applied to identify major themes and recurring patterns across the literature, such as the impact of digitalization on cost efficiency, time efficiency, and operational productivity among MSMEs (Braun & Clarke, 2022). In addition, critical-comparative analysis is utilized to compare findings and research approaches across previous studies, assess differences in perspectives, and identify the strengths and limitations of each study in order to determine the position and contribution of the present research within the existing body of knowledge (Miles et al., 2014).

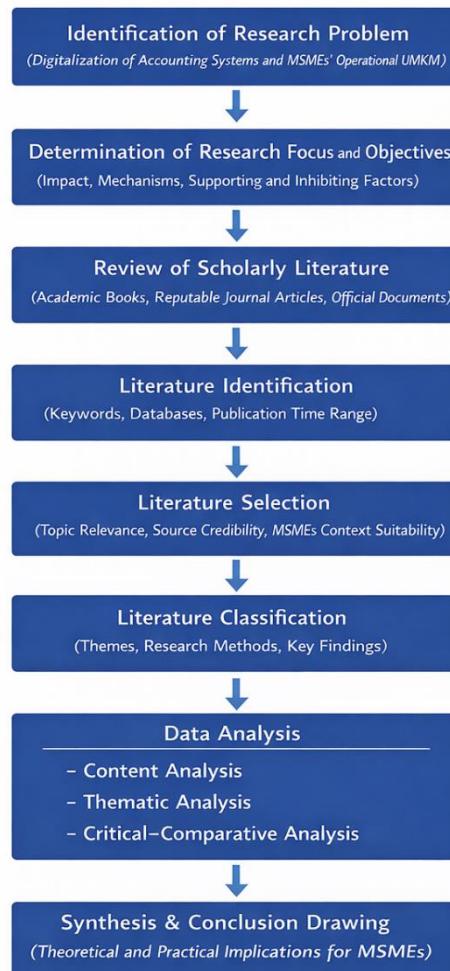


Figure 1 literature study research methodology

Through the integration of these methodological approaches and analytical techniques, this study is expected to produce a robust and argumentative conceptual synthesis regarding the impact of accounting system digitalization on MSMEs' operational efficiency in the digital economy era, while also providing both theoretical and practical contributions to the advancement of digital accounting research and the enhancement of MSME competitiveness.

RESULT AND DISCUSSION

The following table presents a summary of previous studies relevant to the digitalization of accounting systems in MSMEs. It includes information on research objects, main research focuses, and key findings from various national and international studies related to operational efficiency in the digital economy era.

The table aims to strengthen the theoretical and empirical foundation of this study while identifying research trends and existing gaps. Accordingly, the synthesis of prior research serves as an important basis for emphasizing the relevance and contribution of this study to the development of digital accounting research in MSMEs.

No	Author(s) & Year	Research Object	Main Research Focus	Key Findings
1	Ismail & King (2007)	Manufacturing SMEs in Malaysia	Alignment of accounting information systems	Proper alignment of accounting information systems with business needs improves operational efficiency and the quality of financial information
2	Anggadini et al. (2025)	SMEs in Indonesia	Digital accounting transformation	Digital accounting adoption enhances operational efficiency, financial reporting accuracy, and managerial decision-making in SMEs
3	Badria & Hasanah (2024)	SMEs	Role of digital accounting in the digital era	Digital accounting systems support efficiency improvement, competitiveness, and business sustainability among SMEs
4	Hosseini (2022)	Sole entrepreneurs	Digital accounting systems	Digital accounting systems simplify financial recording processes and improve time efficiency and transparency.
5	Priyono et al. (2020)	SMEs during the COVID-19 pandemic	Digital transformation of business models	Digital transformation, including accounting digitalization, plays a critical role in improving adaptability and operational efficiency of SMEs.
6	Rahayu & Day (2017)	SMEs in Indonesia	Digital technology adoption	Digital literacy and technological readiness significantly influence successful digital system adoption and SME performance.

7	Romney et al. (2012)	Accounting information systems	AIS concepts and implementation	Integrated accounting information systems enhance operational efficiency and support effective managerial decision-making.
8	Saunila (2020)	SMEs across sectors	Innovation capability in SMEs	Innovation capability and digital technology adoption strengthen operational efficiency and overall SME performance.
9	Safitri et al. (2025)	Culinary SMEs in Medan City	Digital accounting applications	Digital accounting applications improve financial report quality and administrative efficiency in SMEs
10	Azizah et al. (2025)	SMEs in Indonesia	Digital accounting and tax systems	Integration of digital accounting and tax systems increases administrative efficiency and financial transparency in SMEs.

Based on a review of ten relevant previous studies, a comprehensive understanding is obtained regarding the impact of accounting system digitalization on the operational efficiency of MSMEs in the digital economy era, as well as the factors that mediate this relationship. The findings are presented thematically to address the research focus and objectives.

1. Impact of Accounting System Digitalization on MSME Operational Efficiency

The literature review indicates that the digitalization of accounting systems consistently exerts a positive impact on the operational efficiency of MSMEs. Most studies confirm that the implementation of digital accounting systems enhances time efficiency through the automation of transaction recording, financial statement preparation, and real-time financial data processing (Ismail & King, 2007; Hosseini, 2022; Safitri et al., 2025). Such automation reduces reliance on time-consuming manual processes that are prone to recording errors.

In addition to time efficiency, accounting system digitalization also contributes

to cost efficiency. Several studies report that the use of digital accounting applications reduces administrative costs, minimizes expenses related to correcting recording errors, and lowers the costs associated with conventional financial reporting processes (Badria & Hasanah, 2024; Anggadini et al., 2025). Through more integrated systems, MSMEs are able to allocate resources more optimally and improve the effectiveness of financial management.

Furthermore, the literature emphasizes that accounting system digitalization enhances the quality of financial information used as a basis for operational decision-making. More accurate, timely, and easily accessible financial information enables MSME owners to conduct performance evaluations, financial planning, and internal control more effectively (Romney et al., 2012; Azizah et al., 2025). Thus, operational efficiency is reflected not only in technical improvements but also in enhanced managerial decision quality.

2. Accounting Digitalization and MSME Operational Productivity

The reviewed studies also demonstrate that accounting system digitalization contributes to increased operational productivity among MSMEs. The integration of digital accounting systems with other business functions such as sales, inventory management, and taxation promotes more coordinated and efficient business processes (Ismail & King, 2007; Azizah et al., 2025). Such integration helps reduce task redundancy and accelerates operational workflows.

Other studies highlight that accounting digitalization supports financial transparency and accountability, which in turn fosters productivity improvements and business sustainability (Safitri et al., 2025; Badria & Hasanah, 2024). Financial transparency enables MSME owners to monitor business performance periodically and implement continuous improvements in operational processes.

3. Factors Mediating the Relationship between Accounting Digitalization and MSME Operational Efficiency

The literature review identifies several factors that function as mediators or moderators in the relationship between accounting system digitalization and MSME operational efficiency.

a. Digital Literacy and Human Resource Competence

Digital literacy and human resource competence emerge as dominant factors determining the successful implementation of digital accounting systems.

Rahayu & Day, (2017) emphasize that the level of technological understanding

among MSME owners significantly influences the effectiveness of digital system utilization. MSMEs with higher digital literacy tend to gain greater operational efficiency benefits compared to those with limited technological competencies.

b. Innovation Capability and Digital Transformation Orientation

Innovation capability is another important factor mediating the impact of accounting digitalization on operational efficiency. Saunila, (2020) and Priyono et al., (2020) find that MSMEs with strong innovation orientation and readiness for digital transformation are more adaptive in optimally adopting digital accounting systems. Conversely, limited innovation capability often hinders the effective utilization of digital technologies.

c. Managerial Support and System Fit

Managerial support and the alignment of accounting systems with business needs also influence the effectiveness of digitalization. Ismail & King, (2007) stress that alignment between accounting systems and business strategy is a critical prerequisite for achieving operational efficiency. Without adequate managerial support, digital system adoption tends to be partial and suboptimal.

d. External Environment and Regulatory Support

External factors, including the regulatory environment and policy support, also mediate the relationship between accounting digitalization and MSME operational efficiency. show that the integration of digital accounting systems with tax administration systems enhances administrative efficiency and business compliance. However, limited access to technology and insufficient assistance remain challenges for some MSMEs.

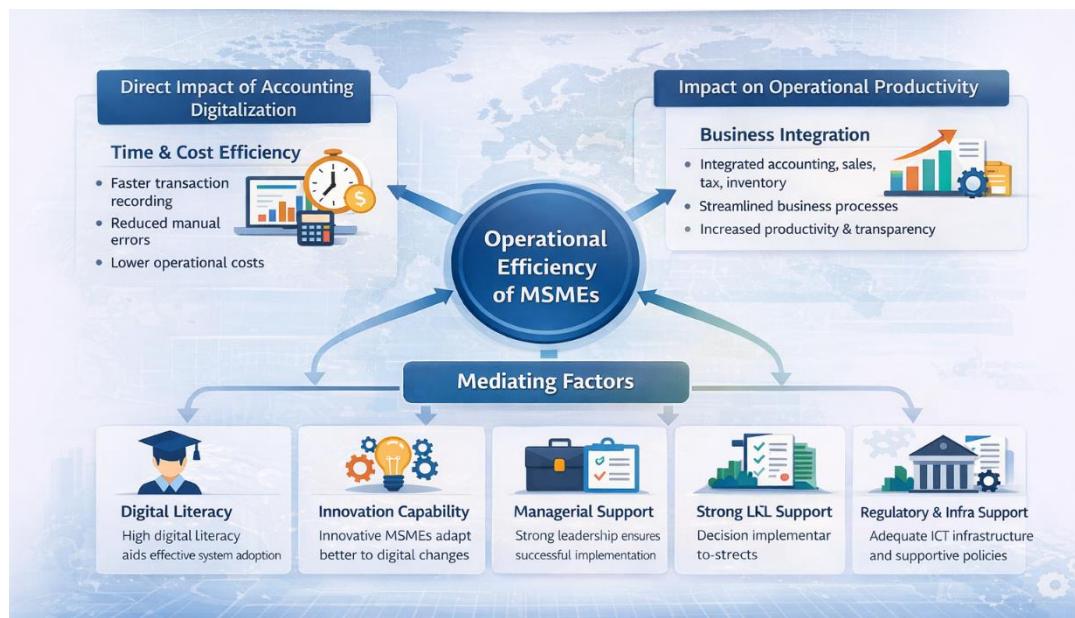


Figure 2 Conceptual Framework of the Impact of Accounting System Digitalization on MSMEs' Operational Efficiency

Overall, the findings from the review of previous studies indicate that the digitalization of accounting systems has a positive and significant effect on the operational efficiency of MSMEs in the digital economy era. However, this impact is not automatic; rather, it is strongly influenced by internal and external factors that mediate the implementation process. Digital literacy, innovation capability, managerial support, system alignment, and the regulatory environment are key factors that can either strengthen or hinder the effect of digitalization on MSME operational efficiency. These findings emphasize that accounting system digitalization should be understood as part of a comprehensive organizational transformation process. Therefore, improving MSME operational efficiency through accounting digitalization requires an integrated approach that aligns technology, human resources, and the policy environment to ensure that the benefits of the digital economy are realized optimally.

CONCLUSION

Based on the literature review, it can be concluded that the digitalization of accounting systems has a positive impact on improving the operational efficiency of MSMEs in the digital economy era. The implementation of digital accounting systems is proven to enhance time and cost efficiency through the automation of financial recording and reporting processes, while also improving the quality of financial information that supports managerial decision-making.

Furthermore, this study indicates that the effect of accounting digitalization on JURNAL AR RO'IS MANDALIKA (ARMADA) 1049

the operational efficiency of MSMEs is influenced by various mediating factors, both internal and external. Internal factors include digital literacy and human resource competence, managerial support, and innovation orientation of business owners. Meanwhile, external factors encompass the availability of technological infrastructure, access to digital systems, as well as government policies and support programs.

Overall, this study emphasizes that the digitalization of accounting systems functions not merely as a technical tool but as a strategic organizational transformation that significantly contributes to enhancing MSMEs' operational efficiency. These findings provide a conceptual contribution to the literature on digital accounting and offer a foundation for the development of policies and assistance strategies to support MSMEs in adapting to the dynamics of the digital economy.

BIBLIOGRAPHY

Anggadini, S. D., Purfini¹, A. P., & Yulianto¹, H. D. (2025). Digital Accounting Transformation in SMEs: A Systematic Analysis of Operational Efficiency Improvements in Indonesian Context. *Proceedings of the 8th International Conference on Informatics, Engineering, Science & Technology (INCITEST 2025)*, 3.

Apriyanti, H. W., & Yuvitasari, E. (2021). The role of digital utilization in accounting to enhance MSMEs' performance during COVID-19 pandemic: Case study in Semarang, Central Java, Indonesia. *Conference on Complex, Intelligent, and Software Intensive Systems*, 495–504.

Azizah, A., Arifin, Z., & Utomo, K. B. (2025). Transforming SMEs: The role of digital accounting and tax payment systems. *AIP Conference Proceedings*, 3334(1), 80005.

Badria, N., & Hasanah, N. (2024). The role of digital accounting for smes in facing business challenges in the digital era. *Accounting and Finance Studies*, 4(4).

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. sage London.

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Hosseini, S. (2022). *Digital Accounting Systems for Sole Entrepreneurs*.

Ismail, N. A., & King, M. (2007). Factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing firms. *Journal of Information Systems and Small Business*, 1(1–2), 1–20.

Krippendorff, K. (2018). *Content analysis: An introduction to its methodology*. Sage publications.

Lutfi, A., Alkelani, S. N., Al-Khasawneh, M. A., Alshira'h, A. F., Alshirah, M. H., Almaiah, M. A., Alrawad, M., Alsyouf, A., Saad, M., & Ibrahim, N. (2022). Influence of digital accounting system usage on SMEs performance: The moderating effect of COVID-19. *Sustainability*, 14(22), 15048.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook*. (No Title).

Muttiwijaya, G. T. P., Padang, R. R., Yasa, I. N. P., & Adiputra, I. M. P. (2025). Digital

Transformation in Tax Administration: The Role of Coretax, Service Quality, and Morality in Enhancing MSME Compliance in Indonesia. *The Indonesian Journal of Accounting Research*, 28(2), 359–410.

Prasetyaningrum, S., & Sonjaya, Y. (2024). The evolution of digital accounting and accounting information systems in the modern business landscape. *Advances in Applied Accounting Research*, 2(1), 39–53.

Priyono, A., Moin, A., & Putri, V. N. A. O. (2020). Identifying digital transformation paths in the business model of SMEs during the COVID-19 pandemic. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 104.

Rahayu, R., & Day, J. (2017). E-commerce adoption by SMEs in developing countries: evidence from Indonesia. *Eurasian Business Review*, 7(1), 25–41.

Romney, M., Steinbart, P., Mula, J., McNamara, R., & Tonkin, T. (2012). *Accounting information systems Australasian edition*. Pearson Higher Education AU.

Safitri, R., Kurnianingsih, H. T., Nurmala, S., & Lestari, N. (2025). Pengaruh Aplikasi Digital Terhadap Peningkatan Laporan Keuangan UMKM Kuliner Di Kota Medan. *Bisnis-Net Jurnal Ekonomi Dan Bisnis*, 8(1), 94–106.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Saunila, M. (2020). Innovation capability in SMEs: A systematic review of the literature. *Journal of Innovation & Knowledge*, 5(4), 260–265.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339.

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*, 122, 889–901.

Zed, M. (2008). *Metode penelitian kepustakaan*. Yayasan Pustaka Obor Indonesia.