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Digital Accounting for MSMEs: A Bibliometric Analysis of Research Themes (2005–2026)

Loso Judijanto[1], Mos Indrawati[2]
[1] IPOSS Jakarta
[2] Universitas Muhammadiyah Mataram

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ABSTRACT

This study aims to map the intellectual structure, thematic evolution, and emerging research trends in digital accounting for Micro, Small, and Medium-sized Enterprises (MSMEs) through a bibliometric analysis of publications from 2005 to 2026. Data were collected from the Scopus database using relevant keywords related to digital accounting, accounting information systems, cloud accounting, and MSMEs. A total of selected publications were analyzed using VOSviewer to examine keyword co-occurrence, thematic clusters, and temporal developments. The findings reveal that the research field has evolved from a focus on basic adoption factors such as financial literacy and accounting information systems toward more advanced themes including digital transformation, decision-making, and technological innovations such as blockchain and digitization. The results also indicate that MSMEs remain the central focus of the literature, with increasing attention to how digital accounting enhances business performance and strategic capabilities. Despite the growing body of research, emerging themes related to advanced technologies and data-driven decision-making remain underexplored, highlighting opportunities for future studies. This study contributes by providing a comprehensive overview of the development of digital accounting research in the MSME context and offers insights for researchers, practitioners, and policymakers in supporting digital transformation and sustainable growth of MSMEs.

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Corresponding Author:

Name: Loso Judijanto
Institution Address: IPOSS Jakarta
e-mail: losojudijantobumn@gmail.com

1. INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed the global economic landscape, shifting business practices from conventional systems toward digitally integrated processes [1], [2]. Within this transformation, Micro, Small, and Medium Enterprises (MSMEs) have emerged as critical actors in sustaining economic growth, employment, and innovation, particularly in developing countries [3], [4]. However, despite their economic significance, MSMEs often face structural challenges such as limited access to financial resources, weak managerial capabilities, and inadequate accounting practices [5], [6]. The emergence of digital accounting offers a strategic solution to these issues by enabling more efficient financial management, real-time reporting,

and improved transparency, which are essential in a competitive and technology-driven environment [7], [8].

Digital accounting refers to the use of digital technologies, including accounting software, cloud computing, and integrated information systems, to record, process, and report financial data systematically. Its adoption has been shown to enhance operational efficiency, reduce human error, and improve the accuracy and timeliness of financial information. For MSMEs, these advantages are particularly significant because they can facilitate better decision-making and increase access to formal financing institutions. Studies indicate that digital accounting not only improves internal financial management but also strengthens credibility with external stakeholders such as investors and regulators [9].

In the context of the digital economy, the role of accounting information systems (AIS) has expanded beyond traditional bookkeeping functions to become a key driver of organizational performance. Recent research highlights that digital accounting systems, when combined with digital innovation capabilities, significantly contribute to improving MSME financial performance. This relationship reflects the growing importance of integrating technological infrastructure with managerial competencies to create sustainable competitive advantages. Furthermore, digital platforms and innovation capabilities act as mediating factors that transform technological adoption into measurable business outcomes, emphasizing the dynamic nature of digital transformation in MSMEs [10], [11].

Despite its potential benefits, the adoption of digital accounting among MSMEs remains uneven and faces several barriers. These include limited digital literacy, high implementation costs, inadequate infrastructure, and resistance to organizational change. Additionally, technical competencies such as software usage, data security awareness, and analytical skills are often lacking among MSME operators, particularly in rural or less-developed regions. These challenges hinder the effective implementation of digital accounting systems and limit their potential impact on business performance [12].

From an academic perspective, research on digital accounting for MSMEs has grown significantly over the past two decades, reflecting the increasing relevance of digital transformation in business and accounting disciplines. However, the existing literature remains fragmented, with studies focusing on diverse aspects such as financial performance, digital literacy, sustainability, and technological adoption. Bibliometric approaches have been increasingly used to map research trends, identify thematic clusters, and uncover knowledge gaps in evolving fields such as digital transformation and accounting. Such analyses are essential to provide a comprehensive understanding of how research themes have developed over time and to guide future scholarly inquiries [13].

Although the literature on digital accounting in MSMEs has expanded, there is still a lack of integrative studies that systematically map the evolution of research themes, intellectual structures, and emerging trends over an extended period. Most existing studies focus on specific variables or case contexts, resulting in fragmented knowledge and limited theoretical consolidation. Furthermore, there is insufficient understanding of how research on digital accounting for MSMEs has evolved from 2005 to 2026, including dominant themes, methodological approaches, and future research directions. This gap highlights the need for a comprehensive bibliometric analysis that can synthesize existing studies, identify key research clusters, and provide a clearer overview of the development and direction of this field. This study aims to conduct a bibliometric analysis of research on digital accounting for MSMEs from 2005 to 2026.

2. METHODS

This study employs a quantitative bibliometric approach to systematically analyze the development of research on

digital accounting for Micro, Small, and Medium Enterprises (MSMEs) over the period 2005–2026. Bibliometric analysis is a widely used method for evaluating scientific literature through statistical and mathematical techniques, enabling researchers to identify patterns, trends, and relationships within a body of knowledge [14]. The approach is particularly suitable for this study because it allows for the mapping of research themes, publication growth, and intellectual structures in an objective and replicable manner. By applying bibliometric techniques, this study seeks to provide a comprehensive overview of how digital accounting research in the MSME context has evolved over time.

The data for this study are collected from reputable academic databases such as Scopus and Web of Science, which are known for their high-quality and peer-reviewed publications. The search strategy involves the use of relevant keywords, including "digital accounting," "accounting information systems," "MSMEs," "SMEs," and "digital transformation," combined using Boolean operators to ensure comprehensive coverage. Inclusion criteria are applied to select articles published between 2005 and 2026, written in English, and relevant to the research topic. Duplicate records, non-academic publications, and studies outside the scope of MSMEs are excluded to maintain data quality. The final dataset is then exported in compatible formats for further analysis, ensuring consistency and reliability in the bibliometric process.

3. RESULTS AND DISCUSSION

3.1 Network Visualization

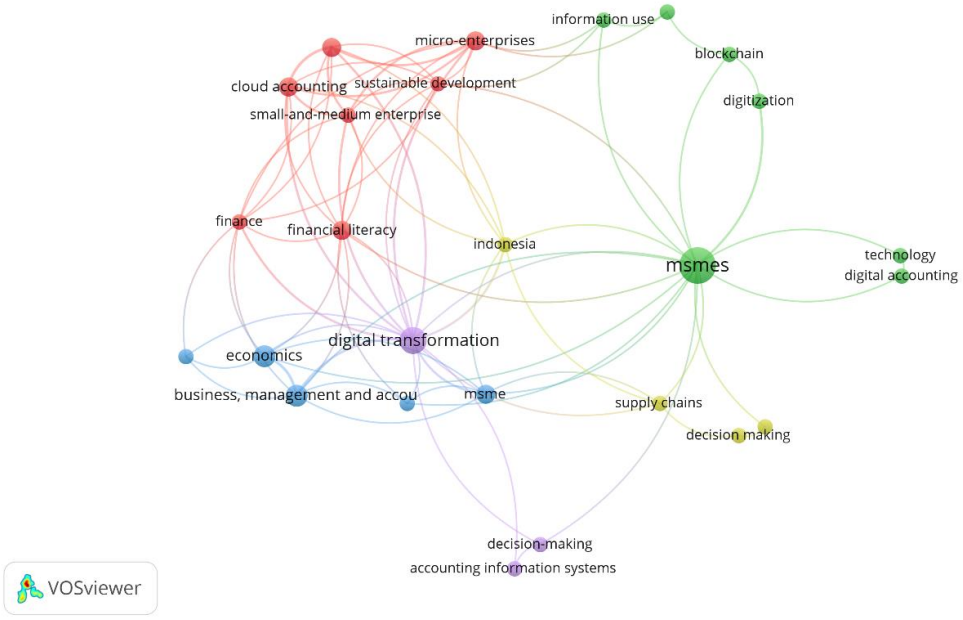


Figure 1. Network Visualization
Source: Data Analysis Result, 2026

Figure 1 reveals a structured and interconnected landscape of research themes in digital accounting for MSMEs. At the center of the network lies the keyword "msmes", which acts as the primary hub connecting multiple thematic clusters. This centrality indicates that MSMEs are the focal point of the research field, with various technological, financial, and managerial dimensions converging around them. The strong links between "msmes" and terms such as "digital accounting," "technology," "digitization," and "blockchain" highlight the growing emphasis on technological integration within MSME financial practices.

The green cluster, which includes keywords such as "digital accounting," "technology," "digitization," "blockchain," and "information use," represents the technological innovation stream. This cluster reflects the shift toward advanced digital tools and systems in accounting practices. The presence of "blockchain" and "digitization" suggests that recent studies are exploring not only basic digital adoption but also emerging technologies that enhance transparency, security, and efficiency in financial reporting. This indicates a transition from traditional accounting systems toward more sophisticated, technology-driven ecosystems.

Meanwhile, the red cluster focuses on financial and developmental aspects, with keywords such as "financial literacy," "finance," "cloud accounting," "micro-enterprises," and "sustainable development." This cluster highlights the importance of financial capability and knowledge in enabling MSMEs to adopt digital accounting solutions. The inclusion of "cloud accounting" suggests that accessibility and cost-efficiency are key considerations, particularly for micro and small enterprises. Furthermore, the link to "sustainable development" implies that digital accounting is increasingly viewed as a tool to support long-term business sustainability and inclusive economic growth.

The blue and purple clusters emphasize managerial and system-oriented perspectives, including "digital transformation," "economics," "business, management and accounting," "accounting information systems," and "decision-making." These clusters indicate that digital accounting is not only a technical issue but also a strategic and organizational one. The connection between "digital transformation" and "decision-making" suggests that the adoption of digital accounting systems plays a crucial role in improving managerial decisions and operational efficiency. This reflects a broader shift in the literature from system adoption to value creation and performance enhancement. The yellow cluster, which includes terms such as "supply chains," "decision making," and "Indonesia," highlights contextual and application-based research. The presence of "Indonesia" indicates a strong geographical focus, suggesting that emerging economies are a significant context for studying digital accounting in MSMEs. The link between supply chains and decision-making further suggests that digital accounting is increasingly integrated with broader business processes.

3.2 Overlay Visualization

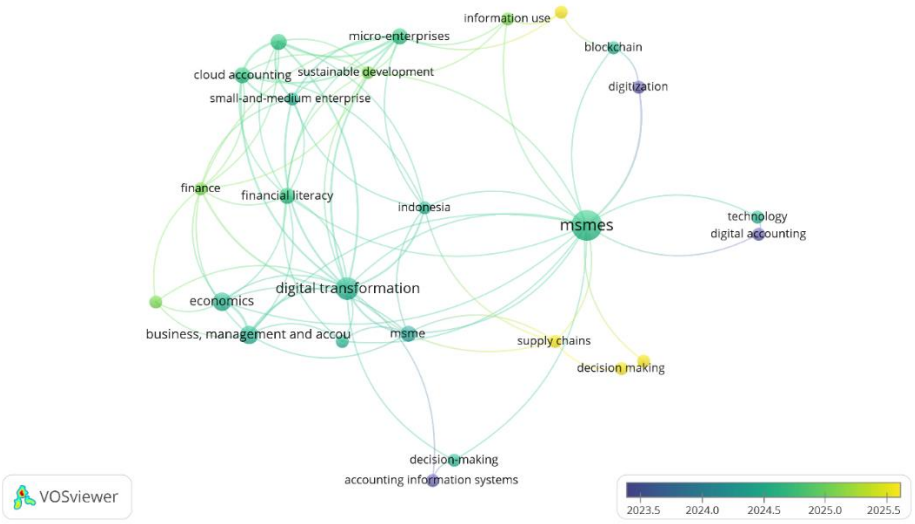


Figure 2. Overlay Visualization

Source: Data Analysis Result, 2026

Figure 2 illustrates the temporal evolution of research themes in digital accounting for MSMEs, where color gradients represent the average publication year of each keyword. The network shows that foundational themes such as "digital transformation," "financial literacy," "cloud accounting," and "micro-enterprises" appear in earlier periods (green to light blue), indicating that initial research focused on basic digital adoption, financial capability, and the transition from traditional to digital accounting systems. These themes form the conceptual backbone of the field and demonstrate how early studies emphasized readiness and capacity-building among MSMEs.

As the research field progresses, more recent themes begin to emerge, particularly those highlighted in yellow tones such as "decision making," "supply chains," and "information use." This shift suggests that the focus of the literature has moved beyond adoption toward the utilization and impact of digital accounting systems. Researchers are increasingly examining how digital accounting supports strategic decision-making, enhances supply chain integration, and improves the use of financial information for business performance. This reflects a maturation of the field, where digital tools are no longer viewed merely as innovations but as critical components of organizational effectiveness.

Interestingly, keywords such as "blockchain," "digitization," and "technology" appear in relatively more recent shades, indicating emerging research directions. These topics signal a transition toward more advanced and disruptive technologies in accounting practices. The presence of these newer themes alongside established ones like "msmes" and "digital accounting" suggests that the research field is evolving toward a more integrated and technologically sophisticated paradigm.

3.3 Citation Analysis

Table 1. Top Cited Research

Citations	Authors and year	Title	Source
14	[15]	The Role of Digital Utilization in Accounting to Enhance MSMEs' Performance During COVID-19 Pandemic: Case Study in Semarang, Central Java, Indonesia	Lecture Notes in Networks and Systems, 278, pp. 495–504
12	[16]	Understanding the role of financial literacy, entrepreneurial literacy, and digital economic literacy on entrepreneurial creativity and MSMEs success: a knowledge-based view perspective	Cogent Business and Management, 11(1), 2433708
11	[17]	Development of Micro Small-Medium Business in Asian Countries (Indonesia, Malaysia, Philippines, and Thailand): A Comparison Accounting Behavior	Journal of Eastern European and Central Asian Research, 10(3), pp. 487–497
8	[18]	The influence of financial bootstrapping and digital transformation on financial performance: evidence from MSMEs in the culinary sector in Indonesia	Cogent Business and Management, 11(1), 236415
7	[19]	Exploring Technological Factors and Cloud Accounting Adoption in MSMEs: A Comprehensive TAM Framework	International Review of Management and Marketing, 15(1), pp. 283–292

7	[20]	Priorities for Inclusive Urban Food System Transformations in the Global South	Science and Innovations for Food Systems Transformation, pp. 281–303
6	[21]	Blockchain Utilization in Actions to Empower Digitalization of Accounting Information Systems for Small and Medium-Sized Entities in Indonesia	Journal of Theoretical and Applied Information Technology, 101(17), pp. 7035–7044
5	[22]	Role of business sustainability, patriotism of business actors, and digital transformation in increasing MSME tax compliance	Cogent Business and Management, 12(1), 2459328
5	[23]	Strategic human resource management in the digital economy era: an empirical study of challenges and opportunities among MSMEs and startups in Indonesia	Cogent Business and Management, 12(1), 2528436
5	[24]	Digitization strategies and sustainability benefits in Mexican SMEs: Unveiling the mediating role of innovation	Procedia Computer Science, 242, pp. 1299–1306

Source: Scopus, 2026

3.4 Density Visualization

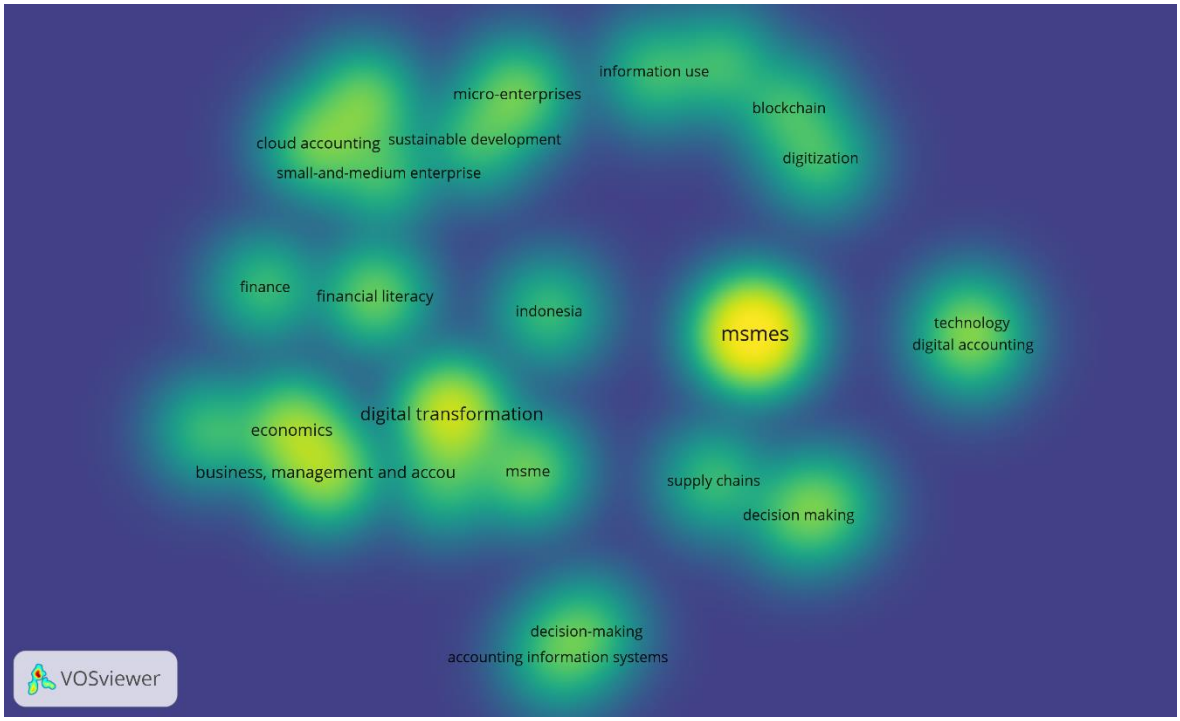


Figure 3. Density Visualization
Source: Data Analysis Result, 2026

Figure 3 highlights the concentration and prominence of research themes in digital accounting for MSMEs. The brightest and most intense area is centered around "msmes," indicating that it is the most frequently studied and highly connected keyword in the literature. Surrounding this core, high-density regions appear around "digital transformation," "business, management and accounting," "financial literacy," and "cloud accounting," suggesting that these topics form the foundational pillars of the research field. This pattern reflects that much of the existing literature has concentrated on understanding how MSMEs adopt digital systems, develop financial capabilities, and integrate accounting technologies into their operations. In contrast,

areas with lower density—such as "blockchain," "information use," "decision-making," and "accounting information systems"—indicate emerging or less-explored research themes. Although these topics are present in the network, their relatively lower intensity suggests that they have not yet been extensively developed in the literature. This reveals important opportunities for future research, particularly in exploring how advanced technologies and data-driven decision-making can enhance MSME performance.

Discussions

The findings of this bibliometric analysis reveal that research on digital accounting for MSMEs has evolved into a multidimensional and increasingly sophisticated field. The dominance of the keyword "msmes" across all visualizations confirms that the literature consistently positions MSMEs as the central unit of analysis, reflecting their critical role in global economic systems. The strong connections between MSMEs and themes such as digital transformation, financial literacy, and cloud accounting suggest that early and foundational research has primarily focused on enabling adoption. This aligns with the broader digital transformation literature, where small businesses are often seen as needing capacity-building before they can fully leverage advanced technologies.

Furthermore, the co-occurrence network highlights that financial literacy and cloud accounting are key enablers of digital accounting adoption among MSMEs. This indicates that technological readiness alone is insufficient; human capital and financial capability play equally important roles. The integration of financial literacy into the core research cluster suggests that scholars recognize the importance of knowledge, skills, and awareness in ensuring effective use of digital accounting systems. In this context, cloud accounting emerges as a practical and scalable solution for MSMEs due to its affordability, accessibility, and flexibility, particularly in resource-constrained environments.

The overlay visualization provides deeper insights into the temporal evolution of the field, showing a clear transition from adoption-oriented research to impact-driven studies. Earlier research phases were largely concerned with understanding how MSMEs adopt accounting information systems and digital tools. However, more recent studies emphasize outcomes such as decision-making, supply chain integration, and information use. This shift reflects a maturation of the research domain, where digital accounting is no longer viewed merely as a technological innovation but as a strategic resource that enhances organizational performance and competitiveness.

In addition, the emergence of keywords such as blockchain, digitization, and advanced technology signals a new wave of research that explores cutting-edge innovations in accounting practices. Although these themes currently appear with lower density, their presence indicates a growing interest in integrating disruptive technologies into MSME accounting systems. This suggests that future research will likely focus on how these technologies can improve transparency, security, and real-time financial reporting. However, the relatively low density of these topics also highlights a gap between technological advancement and practical implementation, particularly among MSMEs in developing economies.

This study contributes to the literature by mapping the intellectual structure and thematic evolution of digital accounting research within the MSME context. The findings suggest that while the field has developed a strong foundation in adoption and capability-building, there is a clear shift toward value creation and strategic

application. Future research should therefore focus on bridging the gap between emerging technologies and MSME readiness, as well as exploring contextual factors such as regulatory environments, cultural differences, and digital infrastructure.

4. CONCLUSION

This study provides a comprehensive bibliometric mapping of digital accounting research within the MSME context over the period 2005–2026, revealing a clear evolution from foundational themes of adoption, financial literacy, and accounting information systems toward more advanced topics such as digital transformation, decision-making, and emerging technologies like blockchain. The findings highlight that MSMEs remain the central focus of the literature, with increasing emphasis on how digital accounting contributes to organizational performance and strategic value creation. While the field has established a strong conceptual and empirical base, there remain significant opportunities for future research, particularly in bridging the gap between technological innovation and practical implementation in resource-constrained environments.

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