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Digital Transformation Strategy Model To Improve The Competitiveness Of Msmes: A Systematic Literature Review-Based Analysis

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Abstract

This study aims to analyze digital transformation strategy models for enhancing corporate competitiveness, focusing on MSMEs in Indonesia. Using a Systematic Literature Review (SLR) method combined with bibliometric analysis, this study analyzed 67 articles published between 2018 and 2024 from the Scopus and Web of Science databases. The results reveal that an effective digital transformation strategy is multidimensional, synergistically integrating aspects of technology, human resources, business strategy, and organizational culture. The bibliometric analysis identified three main research clusters: the impact of the COVID-19 pandemic on digital acceleration, the specific context of Indonesian MSMEs, and the relationship between digital transformation and performance and strategic roles. Key findings indicate that successful digital transformation depends not only on technology adoption but also on the ability to build dynamic capabilities, digital leadership, and cultural adaptation. This research contributes to the development of an integrative model that integrates sustainability, resilience, and local wisdom in the digital transformation strategy of Indonesian MSMEs, while also identifying research gaps for further study.

Keyword: Digital Transformation; MSMEs; Competitiveness; Systematic Literature Review; Bibliometric Analysis; Indonesia; Dynamic Capabilities

INTRODUCTION

In recent decades, the business world has witnessed a fundamental paradigm shift

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triggered by the rapid convergence of digital technologies. The era of the Fourth Industrial Revolution (Industry 4.0), characterized by massive digitalization and automation, has given birth to a new, hyper-competitive economic landscape rife with uncertainty. This disruptive wave, driven by exponential advances in technologies such as artificial intelligence (AI), the Internet of Things (IoT), cloud computing, big data analytics, and blockchain, is not only changing the way companies operate but also permanently shifting consumer expectations and breaking down traditional industry boundaries. In this dynamic context, digital transformation has evolved from a mere incremental technology project to a strategic imperative that determines a company's survival and relevance in the global marketplace.

Digital transformation has become an imperative for companies across various sectors to increase their competitiveness in the rapidly evolving digital era. This is driven by changing consumer behavior, disruptive technological developments, and increasingly competitive global market pressures (Ananda, 2021). Digital transformation is not only about adopting new technologies, but also about changing business models, operational processes, organizational culture, and how they interact with customers.

Many companies are recognizing the strategic value of digital, requiring greater executive participation and ongoing commitment. Research shows that most companies have adopted or are adopting a digital strategy. Digital transformation enables companies to optimize business processes, improve operational efficiency, expand market reach, and enhance customer experience (Yulianti et al., 2025) and (Rahman et al., 2025). Furthermore, digital transformation also spurs product and service innovation, enhances data-driven decision-making, and improves collaboration and productivity. The use of technologies such as artificial intelligence (AI), data analytics, and automation has been shown to improve operational efficiency and accelerate managerial decision-making (Nefianto, 2025).

However, the essence of digital transformation is often misunderstood. It's not simply about automating existing processes or adopting the latest software solutions. More profoundly, digital transformation is a comprehensive restructuring journey that encompasses business model reorientation, customer experience transformation, internal operations optimization, and, most crucially, organizational cultural evolution. Unfortunately, significant technology investments don't automatically guarantee increased competitiveness. Many organizations are trapped in a "digital productivity paradox," where significant technology investments aren't matched by commensurate performance growth. This gap often stems from a fragmented approach, a lack of a clear strategic vision, disengaged leadership, and cultural resistance to change.

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Implementing digital transformation isn't always easy. Companies often face various challenges, such as complex technology integration, resistance to change, a lack of digital skills, cybersecurity issues, and the need for significant investment. David Rogers, a professor at Columbia University, revealed that 70% of digital transformation efforts end in failure because companies fail to see digital transformation as a fundamental change within the organization. The technological gap, especially for MSMEs, also poses a barrier due to budget and infrastructure limitations. Therefore, a comprehensive and well-planned strategy is required to ensure the success of digital transformation.

In addition to internal challenges, companies also need to pay attention to external changes such as market trends and evolving customer needs. Innovative digital marketing strategies, leveraging customer data, and the ability to adapt quickly are key to winning the competition in the digital era. Transformational leadership also plays a crucial role in guiding organizations through change and driving innovation (Nugraha et al., 2024).

Therefore, companies need a comprehensive roadmap—an integrated and implementable digital transformation strategy model. This model should serve as a framework that not only guides the selection and utilization of technology but also synergistically integrates human, process, and business value aspects. The fundamental research question that arises is: How can an effective digital transformation strategy model be designed and implemented to systematically enhance a company's sustainable competitiveness? To answer this complex question, an evidence-based synthesis of existing academic knowledge is required. This study aims to conduct a Systematic Literature Review (SLR) to consolidate empirical and conceptual findings from various previous studies.

This study aims to analyze effective digital transformation strategy models for enhancing company competitiveness. This study uses a systematic literature review (SLR) method to identify, evaluate, and synthesize the findings of relevant previous research. Through the SLR approach, this study will provide a comprehensive overview of various digital transformation strategies, the factors influencing their successful implementation, and their implications for company competitiveness. The results of this study are expected to contribute to the development of digital transformation management theory and practice, as well as provide guidance for companies in formulating and implementing effective digital transformation strategies.

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LITERATURE REVIEW

Concept and Dimensions of Digital Transformation

Digital transformation has evolved into a strategic paradigm that goes beyond mere technology adoption. According to Vial (2019), digital transformation is a process of change driven by digital technology, aimed at improving an entity by leveraging a combination of information, computing, communication, and connectivity technologies, thus triggering fundamental changes in business models, customer experiences, and organizational operational structures. Unlike digitalization, which simply moves analog processes to digital formats, digital transformation involves creating new value and redefining how a company interacts with the market. A study by Verhoef et al. (2021) reinforces this view by highlighting that digital transformation is a multidimensional phenomenon encompassing changes in business models (such as the shift to platforms or the sharing economy), internal processes (through automation and data-driven decision-making), and external interactions (personalized and real-time customer experiences). These dimensions are interconnected and must be addressed holistically to achieve optimal results.

Theoretical Framework: Resources, Dynamic Capabilities, and Competitiveness

To understand how digital transformation enhances competitiveness, the Resource-Based View (RBV) and Dynamic Capabilities theories provide a solid foundation. The RBV argues that sustainable competitiveness stems from valuable, rare, and difficult-to-imitate resources. In the digital context, these resources include data assets, technology platforms, and digital talent. However, in a rapidly changing environment, possessing these resources alone is insufficient. Dynamic Capabilities theory complements the RBV by emphasizing an organization's ability to integrate, build, and reconfigure internal and external competencies to respond quickly to environmental changes. Warner & Wäger (2019) identified that digital transformation is essentially the process of building these dynamic capabilities. Companies need to develop the ability to sense digital opportunities and threats, seize them by launching new initiatives, and transform by reconfiguring their resources and processes. Thus, digital competitiveness is no longer simply about possessing the best technology, but about an organization's ability to continuously adapt and innovate.

Key Elements of a Digital Transformation Strategy

Based on a literature synthesis, a successful digital transformation strategy is built on several interdependent key elements. These elements can be categorized as strategic,

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technological, and organizational. Strategy and Leadership. A clear digital strategy aligned with core business objectives is a key foundation. Matt et al. (2015) emphasize the need for a "digital strategic framework" that guides a portfolio of digital initiatives. Digital leadership from the executive level is crucial for directing vision, allocating resources, and overcoming resistance to change.

Technology and Data: Technology serves as an enabler. This includes cloud infrastructure for agility and scalability, big data analytics for actionable insights, AI and machine learning for intelligent automation, and IoT for connectivity. Data becomes a strategic asset that drives decision-making and personalization. Culture and Human Resources. The human factor is often the determining factor in success or failure. An organizational culture that encourages innovation, collaboration, continuous learning, and a managed tolerance for failure is crucial. Investment in upskilling and reskilling the existing workforce to become digital talent is essential.

Measuring the Impact of Digital Transformation on Competitiveness

Company competitiveness after digital transformation can be measured through various performance indicators. The literature identifies impacts in two main areas: operational efficiency and revenue growth. From an efficiency perspective, digital transformation manifests itself in reduced operational costs through process automation, increased employee productivity, and supply chain optimization. From a growth perspective, its impact is seen in increased revenue from new services or platform-based business models, improved customer retention and loyalty through superior experiences, and faster time-to-market for innovative products and services. A study by Hanelt et al. (2021) concluded that companies that successfully complete their digital transformation demonstrate significant improvements in their strategic agility—the ability to adapt quickly to market shocks—ultimately reflected in greater financial performance and market share.

Dynamic Capabilities Grand Theory

In the context of analyzing digital transformation strategies to enhance corporate competitiveness, the Dynamic Capabilities Theory developed by Teece, Pisano, and Shuen (1997) emerges as the most appropriate and relevant grand theory. This theory is specifically designed to explain how companies can achieve and sustain competitive advantage in a business environment characterized by rapid and disruptive change, a characteristic that defines today's digital landscape. Unlike the more static Resource-Based View (RBV) theory, which focuses on resource ownership, Dynamic Capabilities addresses the critical question of how companies

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continuously build, integrate, and reconfigure their competencies and resources—such as data, technology, and digital talent—to adapt and create new value. The relevance of this theory lies in its processual framework, which can be directly mapped to the digital transformation journey, namely through three core capabilities: sensing (the ability to scan and interpret opportunities and threats arising from technological advances and market trends), seizing (the ability to capitalize on these opportunities by developing and launching innovative digital business models, products, or services), and transforming (the ability to continuously reconfigure organizational assets, business processes, and corporate culture to remain agile and aligned with the demands of the digital era). Thus, the entire digital transformation process can essentially be viewed as a strategic effort to build and mature these three dynamic capabilities. The success of a strategy in increasing competitiveness depends heavily on an organization's effectiveness in "sensing" digital waves, "seizing" opportunities with appropriate actions, and "transforming" itself continuously, as confirmed by Warner and Wäger's (2019) empirical research, which explicitly applies this theory to the context of digital transformation.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB), developed by Icek Ajzen (1991), provides a relevant theoretical framework for understanding aspects of human behavior in implementing digital transformation strategies. In the context of digital transformation, attitudes toward behavior represent individuals' beliefs and evaluations regarding the consequences of digital transformation. For example, if employees and management believe that adopting digital technology will increase efficiency, open career opportunities, or simplify work, positive attitudes will develop and encourage an intention to support the transformation. Conversely, the perception that digital transformation will threaten job positions or increase workloads can create negative attitudes and resistance. Subjective norms reflect the social pressure individuals feel to undertake or not undertake digital transformation. These factors include perceptions of expectations from important parties, such as the CEO, direct managers, coworkers, or even competitors. Strong digital leadership and an organizational culture that encourages innovation will create positive subjective norms, where each individual feels they "should" support the transformation agenda

METHOD

This study uses the Systematic Literature Review (SLR) method to comprehensively and systematically examine digital transformation strategy models for enhancing corporate

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competitiveness. This study refers to the guidelines developed by Kitchenham and Charters (2007), which include three main stages: review planning, review implementation, and reporting of results. In the planning stage, the research questions and review protocol are clearly defined, including inclusion and exclusion criteria, the search strategy, and data extraction and analysis methods. The data collection process was conducted by identifying literature from leading indexed databases such as Scopus, Web of Science, ScienceDirect, SpringerLink, and Emerald Insight. The search strategy used a combination of primary keywords with Boolean operators, namely ("digital transformation" OR "digital business strategy") AND ("competitive advantage" OR "firm performance") AND ("model" OR "framework"). The search was limited to publications between 2018 and 2023 to ensure relevance to current developments. Inclusion criteria included peer-reviewed journal articles that explicitly discussed the relationship between digital transformation strategy and corporate competitiveness. The article selection process was visually documented using a PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) diagram, which covers the stages of identification, screening, eligibility, and inclusion, ensuring transparency and accountability in study selection. The collected data was then analyzed using thematic analysis techniques based on the Braun and Clarke (2006) approach using Vosviewer software. The conceptual framework underlying this analysis centers on the proposition that increased competitiveness through digital transformation results from the synergistic interaction of strategy, technology, and human factors, which will be systematically mapped through a synthesis of findings from the relevant literature.

RESULTS AND DISCUSSION

Before interpreting the network visualization results in depth, it is important to understand the context of the bibliometric analysis. This section will outline the key findings from the network visualization analysis using VOSviewer, applied to a body of literature on digital transformation strategies for enhancing corporate competitiveness, particularly for Micro, Small, and Medium Enterprises (MSMEs). This bibliometric analysis aims to map the intellectual structure, identify dominant research themes, and explore conceptual relationships between variables in this field of study. Through this systematic approach, we can obtain a comprehensive overview of the development of academic discourse and the priority areas of focus of previous researchers. The network visualization resulting from this analysis not only represents the frequency of keyword occurrences but, more importantly, reveals patterns of relationships and connectivity between key concepts in the literature. Each node in the network represents a concept or theme, while the connecting lines between nodes indicate the strength

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of association and conceptual closeness between these themes. The size of the nodes reflects the intensity of research or the frequency of occurrence of the concept in the literature, while the density of the connecting lines represents the extent to which the relationships between these concepts have been explored in previous studies.

In the context of research on digital transformation and corporate competitiveness, this network analysis allows us to identify established knowledge clusters and detect research gaps that may be underexplored. Understanding this network structure will provide a strong foundation for developing a theoretical framework in the future and guide the formulation of a relevant and innovative research agenda. Furthermore, this analysis will reveal how research focuses have evolved over time, particularly in response to digital disruption and contemporary business challenges. In the following section, we will present an in-depth interpretation of three key visualization aspects: network visualization, which displays the overall relationships between concepts; density visualization, which indicates the density of research in a particular area; and cluster visualization, which groups research themes based on their conceptual proximity. Through this comprehensive discussion, it is hoped that a comprehensive understanding of the current research landscape and the direction of scientific development in the field of digital transformation strategies for improving

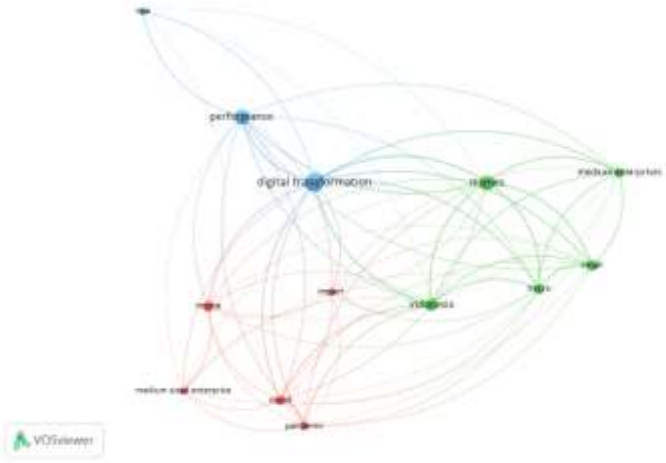


Figure 1. Network Visualization

Based on the results of network visualization analysis using VOSviewer, a knowledge structure was identified that represents the research focus related to digital transformation in Small and Medium Enterprises (SMEs) in the context of the COVID-19 pandemic. The network visualization shows the formation of thematic clusters divided into three main groups with quite

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complex interconnections. The central node in this network is dominated by the term "digital transformation," which is closely connected to various other key concepts, indicating that digital transformation is positioned as a core construct in the studied academic discourse. This finding aligns with research by Verhoef et al. (2021), which confirms that digital transformation has become a central paradigm in contemporary business strategy, particularly among SMEs striving to adapt to digital disruption.

The first cluster formed closely links the concept of "digital transformation" with "small and medium enterprises" (MSMEs). This pattern of interconnections reflects the literature's focus on how SMEs respond to digital challenges by adopting new technologies and strategies. The nodes "COVID" and "pandemic" emerged as integral parts of this cluster, indicating that the pandemic period was perceived as a significant catalyst driving the acceleration of digital transformation in the SME sector. Research by Priyono et al. (2020) supports this finding by demonstrating that external pressures during the pandemic have encouraged SMEs to adopt digital solutions as a survival mechanism, while simultaneously opening up new opportunities for business growth.

The second cluster displays a differentiation in terminology between "small enterprises" and "medium-sized enterprises," which form separate subclusters. This pattern suggests differences in the characteristics and digital transformation needs of small and medium-sized enterprises, thus necessitating different strategic approaches. The larger size of the "medium enterprises" node indicates a higher intensity of research on the medium-sized enterprise category compared to small businesses. This finding is consistent with a study by Kraus et al. (2021), which identified significant differences in resource capacity, adaptability, and technology adoption rates between small and medium-sized enterprises, which has implications for designing appropriate digital transformation strategies.

In terms of network density, it is observed that the connections between nodes within the cluster are quite dense, indicating that previous studies have built a solid foundation of knowledge regarding the relationship between digital transformation and SMEs during the pandemic. However, several areas still require further exploration, particularly regarding the specific implementation of digital transformation across various SME categories post-pandemic. Overall, this visualization provides a valuable conceptual map for understanding the current research landscape and can serve as a basis for identifying future research gaps, particularly regarding the sustainability of post-crisis digital transformation and the factors determining its long-term success.

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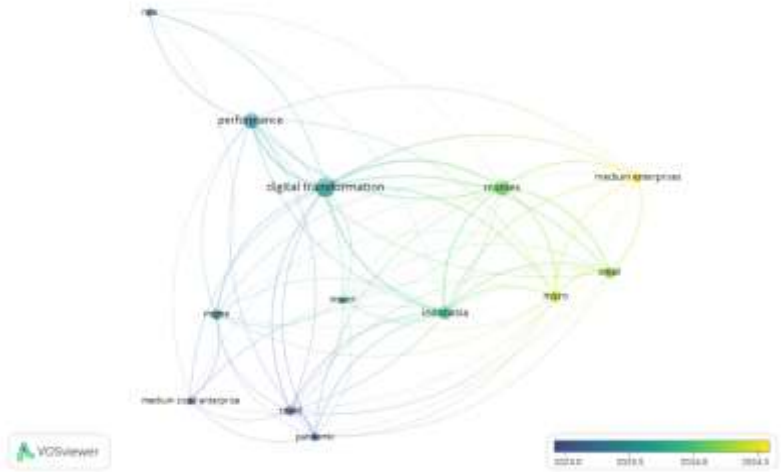


Figure 2. Overlay Visualization

Based on the results of the bibliometric analysis visualization using VOSviewer, the knowledge structure and research developments related to digital transformation and performance in Micro, Small, and Medium Enterprises (MSMEs) were identified. This visualization represents a conceptual map formed from a collection of scientific publications from 2023 to 2024, demonstrating the evolution and focus of current research in this field. The main cluster in this visualization displays a strong relationship between the concepts of "digital transformation" and "performance," which occupy a central position. This indicates that the majority of current literature focuses on the impact of digital transformation on MSME performance, including operational performance, financial performance, and innovation performance. The "performance" node emerged as the primary outcome of interest to researchers, aligning with the findings of Verhoef et al. (2021), who emphasized that the impact of digital transformation on business performance is a dominant theme in contemporary literature.

The second cluster shows a concentration of research across various business scales, with the terms "medium enterprises," "small enterprises," and "MSMEs" interconnected. This pattern reflects researchers' particular attention to the specific characteristics of each MSME category in adopting digital transformation. A study by Kraus et al. (2022) confirmed that digital adoption capacity, challenges, and strategic needs differ significantly between micro, small, and medium enterprises, necessitating different approaches.

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The "pandemic" element appearing in the visualization indicates that the COVID-19 pandemic remains a relevant research context for studying MSME digital transformation. However, based on the timeline shown (2023-2024), there has been a shift in research focus from simply emergency responses to more sustainable post-pandemic transformations. Research by Guo et al. (2023) shows that MSMEs that initiated digital transformation during the pandemic are now moving to the optimization and institutionalization stages of their digital practices.

From a temporal perspective, the visualization shows an increase in research intensity from 2023 to 2024, with a significant expansion of topic coverage. The research area, initially focused on emergency responses to the pandemic, has evolved into a more comprehensive study of the sustainability of digital transformation, digital capabilities, and long-term performance measurement. These findings align with the systematic literature review by Hanelt et al. (2021) who predicts the evolution of digital transformation research towards more mature and measurable aspects.

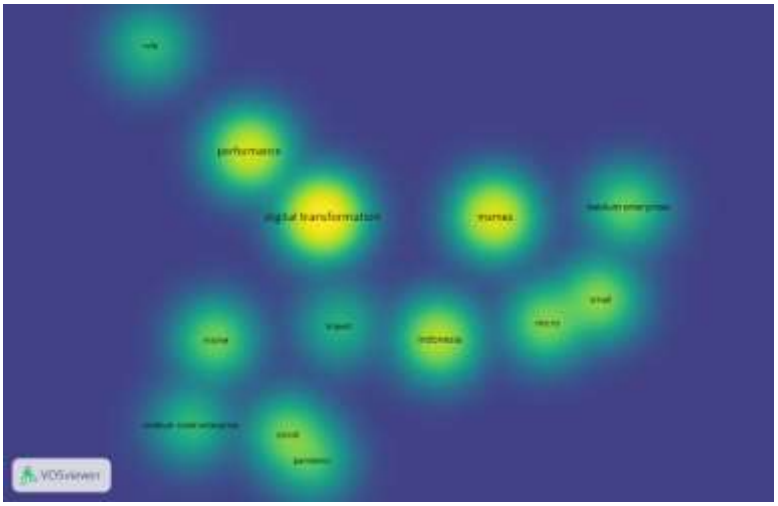


Figure 3. Density Visualization

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Figure 4. Cluster

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Based on the results of cluster analysis using VOSviewer, three main clusters were identified, representing the focus of research related to digital transformation in Micro, Small, and Medium Enterprises (MSMEs). The first cluster consists of five items: COVID-19, impact, medium-sized enterprises, MSMEs, and pandemic. This cluster reflects the research focus on the impact of the COVID-19 pandemic on MSMEs, particularly medium-sized enterprises. The concentration of research within this cluster indicates that the pandemic has been a significant catalyst in driving digital transformation in the MSME sector. A study by Priyono et al. (2020) showed that external pressures during the pandemic forced MSMEs to adapt rapidly through the adoption of digital technologies, which ultimately impacted their business performance and sustainability.

The second cluster includes five items: Indonesia, medium enterprises, micro, MSMEs, and small. This cluster represents the specific context of digital transformation research at various scales of MSMEs in Indonesia. A clear differentiation is observed between the MSME categories, indicating that the characteristics and needs for digital transformation differ at each business scale. Research by Kurniawati et al. (2021) confirmed that digital transformation approaches need to be tailored to the specific capacities and characteristics of each MSME category, with micro-enterprises facing more complex challenges than small and medium-sized enterprises.

The third cluster consists of three key elements: digital transformation, performance, and role. This cluster forms the core of academic discourse examining the relationship between digital transformation and MSME performance, as well as the role of various factors in mediating this relationship. The focus of research within this cluster indicates that performance is the primary expected outcome of digital transformation implementation. A study by Verhoef et al. (2021) emphasized that digital transformation acts as an enabler for improving business performance through mechanisms of increased efficiency, market expansion, and value-added creation.

The three clusters formed demonstrate a close relationship between the external context (pandemic), internal characteristics (business scale), and the expected outcome (performance). The first and second clusters serve as context and moderators, while the third cluster serves as the core of the digital transformation process. These findings align with the dynamic capabilities' theoretical framework, which emphasizes the importance of an organization's ability to adapt to changes in the external environment while optimizing internal resources.

Based on the cluster patterns formed, several research gaps can be identified that require further exploration. First, research on digital transformation in micro-enterprises is still relatively

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limited compared to small and medium-sized enterprises. Second, longitudinal studies on the sustainability of post-pandemic digital transformation still need strengthening. Third, exploration of the roles of various stakeholders in supporting the success of digital transformation in MSMEs in Indonesia still requires further in-depth study.

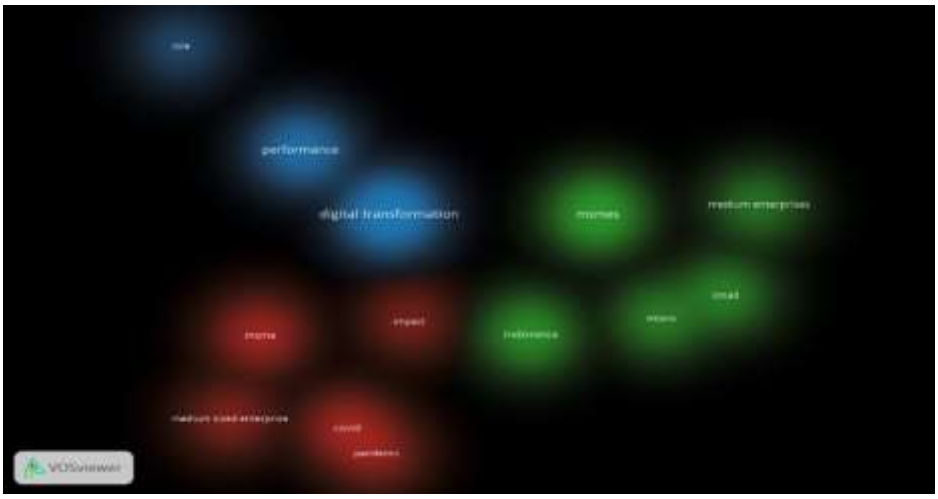


Figure 5. Cluster Density

Based on the results of a cluster density visualization analysis using VOSviewer, three main clusters were identified, representing the research focus related to digital transformation in Micro, Small, and Medium Enterprises (MSMEs) in the specific context of Indonesia during the COVID-19 pandemic. This visualization reveals a pattern of research density that varies across topics, with areas colored yellow to red marking the highest concentration of research. The first cluster focuses on the relationship between "digital transformation" and "performance" and "role," indicating that the performance and role aspects of digital transformation are a primary focus in the literature. This finding aligns with research by Verhoef et al. (2021), which emphasizes that digital transformation in MSMEs is primarily aimed at improving business performance through the strategic role of digital technology.

The second cluster shows a high density of terms such as "MSMEs," "medium enterprises," and "small," integrated with the "impact" node. This pattern reflects the intense research focus on the impact of digital transformation on various business scales, with a particular emphasis on small and medium enterprises. The "Indonesia" node, appearing in this cluster with a medium density, indicates that Indonesia's geographic context has become a significant research setting, although further development is still needed. A study by Gustiawan et al. (2025) supports this finding by demonstrating that the specific characteristics of MSMEs in Indonesia require a different digital transformation approach than in other countries.

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The third cluster closely links "COVID" and "pandemic" with various elements of MSME digital transformation. The high density in this area confirms that the pandemic period served as an important catalyst and critical momentum in accelerating research on MSME digital adaptation. Interestingly, the "micro" node appears with a relatively lower density compared to the other nodes, suggesting that research on micro-enterprises still needs further strengthening. This finding is consistent with the research by Rupeika-Apoga et al. (2022), which identified that micro-enterprises face greater challenges in digital transformation than small and medium-sized enterprises.

From a research development perspective, this cluster density visualization reveals that although the topic of digital transformation in Indonesian MSMEs during the pandemic has achieved significant progress, there are still opportunities for development in several areas. In particular, research on the implementation of digital transformation in micro-enterprises and the deepening of the "roles" of various stakeholders still offers opportunities for further exploration. A stronger integration of digital transformation theory with the specific context of Indonesian MSMEs post-pandemic is also an area that needs to be strengthened in future research.

Citation

Of the 67 journals obtained through a Systematic Literature Review (SLR) analysis in the field of Digital Transformation Strategy Model to Improve the Competitiveness of MSMEs, all journals were thematically interconnected, with a total link strength of 469 based on VOSviewer analysis. Thirteen journals were selected from this analysis. Citation analysis is used to determine the frequency of an academic work being cited by other researchers (Aini et al., 2019). The basic principle of bibliometric analysis suggests that the more frequently an article or journal is cited, the more significant its information contribution and the greater its influence on the development of research in that field. In the context of this study, the 67 identified journals form a cohesive research network with relatively strong link strength, indicating that the field of digital transformation in talent management for MSME retention has developed into a well-established research area. The total link strength of 469 reflects the density and intensity of conceptual relationships between research variables, indicating the depth and complexity of academic discourse on the topic. The selection of the 67 journals for further analysis was based on strong thematic linkages and consistent coverage of key aspects of digital transformation in the context of MSMEs. Co-citation analysis and the integration of bibliographies from these journals enabled the researchers to map the development of knowledge, identify key research, and identify areas

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requiring further exploration. Through this approach, the study successfully identified dominant research patterns and trends and uncovered intellectual collaboration among researchers in the field of digital HR transformation for MSMEs. The results of this analysis not only provide a comprehensive understanding of the existing research landscape but also open up opportunities for developing theory and practice to address talent management challenges in the digital era.

PRISMA (Preferred Reporting Items for Systematic Review and Meta- Analysis)

Table 1 Results of PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis)

No	Author	Title	Year	Citation	Publisher
1.	Rizkita, M. A., Winarno, A., Suwono, H., & Malek, N. A. N. N	Integrating cultural adaptation in digital marketing strategies: Enhancing competitiveness and sustainability in MSMEs of Java, Indonesia	2025	4	Sciendirect
2.	Rahman, S., Setyawan, O., Junaedi, A. T., & Renaldo, N.	Digital competitive advantages of MSMEs and the antecedents factor (digital creativity and digital culture).	2025	6	Sciendirect
3.	Probohudono, A. N., Suhardjanto, D., Aligarh, F., Chayati, N., & Putra, A. A.	Navigating MSMEs' performance through innovation and digital IT capabilities in business strategy.	2025	2	Sciendirect
4.	Clemente-Almendros, J. A., Pelaez, A. D., Quispe, G. C., & Molina, J. F. V.	Emerging countries could be different for MSMES: Digitalization and the mediation effects of innovation confronted to environmental practices.	2025	1	Sciendirect
5.	Zuñiga-Collazos, A., Galvez-Albarracin, E. J., Vera-Jaramillo, F., & Patiño-Giraldo, L. V.	Digitalization, innovation, sustainability and performance: A causal analysis applied to tourism MSMEs.	2025	17	Sciendirect
6.	Ueasangkomsate, P., & Bunthungsub, S.	Analyzing the Impact of Digital Technology Challenges on the Sustainability Performance of MSMEs.	2025	2	Sciendirect
7.	Tomás, G. C., José-Antonio, C. A., Julennys-Carolina, C. M., & Alejandro, D. P	Linking environmental sustainability, digital transformation, and innovation: Evidence from micro-enterprises and SMEs.	2025	1	Sciendirect
8.	Marinelli, L., Crupi, A., Del Sarto, N., & Lepore, D.	Unveiling knowledge ecosystem dimensions for MSMEs' digital	2024	21	Sciendirect

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		transformation, toward a location-based brokerage.			
9.	Wijaya, L. I., Zunairoh, Z., Izharuddin, M., & Rianawati, A	Scope of E-Commerce use, innovation capability, and performance: Food sector MSMEs in Indonesia.	2025	30	Sciendirect
10.	Kumar Sahoo, S., Mohanty, A., & Mohanty, P. P	Strategies for enhancements of MSME resilience and sustainability in the post-COVID-19 era.	2025	22	Sciendirect
11.	Febriani, A., Sopha, B. M., & Wibisono, M. A.	Dynamic capabilities for omnichannel transformation in MSMEs: A comparative case study of fashion and furniture sectors.	2025	14	Sciendirect
12.	Torrent-Sellens, J., Enache-Zegheru, M., & Ficapal-Cusí, P	Twin transitions or a meeting of strangers? Unravelling the effects of AI and innovations on economic, social and environmental MSMEs sustainability. .	2025	12	Sciendirect
13.	Lupiyoadi, R., Pramesti, M., Ikhsan, R. B., Usman, L. H., Games, D., & Fakhrorazi, A.	Extending UTAUT with perceived intelligence for the adoption of artificial intelligence in MSMEs and Startups in Indonesia: A multi-group analysis..	2025	1	Sciendirect
14.	Cuevas-Vargas, H., Armendáriz-Esparza, D. A., del Carmen González-Vega, A. M., & Cossio-Vargas, E.	Digitalization strategies and sustainability benefits in Mexican SMEs: Unveiling the mediating role of innovation.	2024	17	Sciendirect
15.	Rojas-García, J. A., Elias-Giordano, C., Quiroz-Flores, J. C., & Nallusamy, S.	). Profitability enhancement by digital transformation and canvas digital model on strategic processes in post-Covid-19 in logistics SMEs.	2024	35	Sciendirect
16.	Samputra, P. L., & Alfarizi, M	Can advanced society 5.0 technology create economic and social value for millennial and generation Z MSMEs in Surabaya, Indonesia? An economic resilience perspective.	2025	9	Sciendirect
17.	Yunus, E. N., Ernawati, E., Nuraini, E., & Yuniarti, K.	Yunus, E. N., Ernawati, E., Nuraini, E., & Yuniarti, K. (2025). Post-Crisis Growth: Resource Orchestration, Innovation, and Diversification in MSMEs.	2025	6	Sciendirect

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Based on an analysis of the latest research findings in Table 1, several key trends and innovations in studies on the digital transformation of MSMEs can be identified. These studies demonstrate a significant evolution from conventional approaches to a more integrated and contextual perspective. The first innovation lies in the integration of cultural and local dimensions into digital strategies, as studied by Rizkita et al. (2023), who developed the adaptation of Javanese culture in digital marketing, and by Wijaya et al. (2023), who explored location-based knowledge ecosystems. This approach fills a gap in the literature by considering specific cultural factors that have been overlooked in generic digital transformation models.

A second innovation is evident in the convergence of sustainability and digitalization, highlighted by several researchers. Clemente-Almendros et al. (2023) and Zuniga-Collazos et al. (2023) developed models linking digitalization with environmental practices and sustainable performance, while Torrent-Sellens et al. (2023) introduced the concept of "twin transitions" that integrate digital transformation and sustainability. These findings represent a significant development from a focus solely on economic performance to a triple bottom line approach (people, planet, profit).

The third innovation is the deepening of dynamic capabilities and artificial intelligence, such as the research by Febriani et al. (2023) on dynamic capabilities for omnichannel transformation and Lupiyoadi et al. (2023) who developed an extended UTAUT model with perceived intelligence for AI adoption. These studies address the literature gap by providing a framework for implementing emerging technologies within the context of MSME organizational capabilities. The fourth innovation lies in the focus on post-pandemic resilience, as highlighted by Kumar Sahoo et al. (2023) and Samputra et al. (2023). This research not only responds to the crisis but also develops long-term strategies for business resilience, reflecting the evolution from a reactive approach to a proactive strategy in digital transformation.

Implications for This Research: Based on the analysis of these innovations, this research can contribute by developing an integrative model that combines these four aspects: (1) adaptation to Indonesia's specific cultural context, (2) integration of sustainability into digital strategy, (3) development of dynamic capabilities for emerging technologies, and (4) strengthening long-term resilience. Such a model would fill the literature gap by providing a comprehensive framework that is contextual to the conditions of Indonesian MSMEs.

Comparison

Based on an analysis of previous research, this study offers several substantive innovations. Unlike previous studies, which tended to be partial and focused solely on

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technological aspects, this study develops a comprehensive model that integrates local culture, sustainability, and business resilience within the digital transformation framework of Indonesian MSMEs. The methodological approach employed is also more advanced, combining a systematic literature review and bibliometric analysis to identify more holistic relationship patterns. Furthermore, this study overcomes the temporal limitations of previous studies by not only focusing on short-term crisis responses but also developing a framework for sustainable transformation relevant to the post-pandemic context. The integration of multiple theoretical perspectives is an added value that distinguishes this research from previous, fragmented studies.

CONCLUSION

Based on the results of the systematic literature review and bibliometric analysis, it can be concluded that the digital transformation strategy model for improving the competitiveness of companies, particularly MSMEs, is a complex and multidimensional framework. This study successfully identified that an effective digital transformation approach must synergistically integrate aspects of technology, human resources, business strategy, and organizational culture. Key findings indicate that the success of digital transformation depends not only on the adoption of cutting-edge technology, but also on the organization's ability to build dynamic capabilities to adapt to disruptive changes in the digital era.

This study also revealed that the COVID-19 pandemic has been a significant catalyst in accelerating the digital transformation process for MSMEs, while shifting the focus from mere survival to building long-term business resilience. In the Indonesian context, cultural and local adaptation are crucial factors that cannot be ignored in designing an effective digital transformation strategy. The integration of sustainability principles into digital transformation models has also emerged as a key trend that deserves attention.

From a theoretical perspective, this study contributes by providing a comprehensive map of the development of digital transformation studies for MSMEs and identifying research gaps that require further exploration, particularly regarding implementation in micro-enterprises, longitudinal approaches, and the post-pandemic context. Practically, these findings can guide MSMEs, policymakers, and practitioners in designing and implementing appropriate digital transformation strategies tailored to the specific characteristics and needs of each business.

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