

The Landscape of MSME Research in Developing Countries Based on Bibliometric Analysis and Visualization of Global Collaboration Networks

Loso Judijanto¹, Zainal Arifin²

¹IPOSS Jakarta, losojudijantobumn@gmail.com

²Universitas Islam Indragiri, zainalbdpn@gmail.com

Article Info

Article history:

Received Feb, 2026

Revised Feb, 2026

Accepted Feb, 2026

Keywords:

MSMEs; Bibliometric Analysis;

Developing Countries;

Entrepreneurship; Innovation.

ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in supporting economic growth, employment creation, and poverty reduction in developing countries. Despite their importance, the rapidly growing body of literature on MSMEs has produced a fragmented research landscape that requires systematic mapping to understand its development and emerging directions. This study aims to analyze the landscape of MSME research in developing countries using a bibliometric approach. Data were collected from the Scopus database and analyzed using bibliometric techniques and visualization tools, particularly VOSviewer, to identify publication trends, collaboration networks, and dominant research themes. The results reveal that MSME research has developed into a multidisciplinary field connecting themes such as entrepreneurship, innovation, financial inclusion, sustainability, and digital transformation. Collaboration network analysis shows that several authors and institutions act as key connectors in the research network, while countries such as India and Indonesia emerge as major contributors to global MSME research. Keyword co-occurrence and overlay analyses indicate that earlier studies primarily focused on entrepreneurship and innovation, whereas more recent research emphasizes digital transformation, technology adoption, and sustainable development goals. These findings demonstrate that MSME research is evolving toward addressing contemporary challenges related to digitalization and sustainable economic development. This study provides a comprehensive overview of the intellectual structure and development trends of MSME research and offers insights for future research directions in the field.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

Name: Loso Judijanto

Institution Address: IPOSS Jakarta

e-mail: losojudijantobumn@gmail.com

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) represent a foundational pillar of economic growth, employment generation, and innovation, especially in developing countries. Across

Asia, Africa, Latin America, and parts of Eastern Europe, MSMEs account for a significant proportion of total business activity, often contributing more than half of national employment and GDP [1]. These enterprises, characterized by their small scale

of operations, limited capital base, and high labor intensity, have been widely recognized as catalysts for inclusive economic development and poverty alleviation. Their capacity to absorb labor, adapt to local market needs, and foster entrepreneurial skills makes them indispensable to national development agendas in contexts marked by structural inequalities and constrained formal employment opportunities [2]. Despite their known importance, MSMEs in developing regions face multifaceted challenges that hinder their potential growth, sustainability, and competitiveness in an increasingly globalized market environment.

Research on MSMEs has expanded rapidly over the past two decades, reflecting the global policy emphasis on entrepreneurship, innovation, and small enterprise development [3]. Scholars have examined a broad spectrum of topics including financing constraints, informal sector dynamics, human capital development, market access barriers, technological adoption, policy frameworks, and resilience to economic shocks [3]. This expanding body of literature has generated valuable insights into both the microeconomic behaviors of individual firms and the macroeconomic influences that shape enterprise ecosystems. However, the sheer volume of research has made it difficult to systematically assess knowledge structures, thematic trends, and the evolution of scholarly contributions over time. A bibliometric approach—which quantitatively analyzes publications, citations, authorship patterns, and keyword co-occurrences—offers a robust methodology to map the intellectual landscape of MSME research and to identify dominant trends, gaps, and emergent clusters within the field [4].

Globally, the integration of MSMEs into value chains and innovation networks has become a central concern for policymakers seeking to enhance competitiveness and promote sustainable development. In developing countries, the transition from subsistence entrepreneurship toward more formalized, innovation-oriented MSMEs is often constrained by limited

research attention to context-specific dynamics. For instance, while financing barriers are routinely discussed, less is known about how digital transformation, environmental sustainability, and global value chain participation impact MSMEs in resource-constrained settings. These nuanced aspects require an organized and systematic synthesis of scholarly output that can reveal not just popular topics but also underexplored areas that are critical to policy interventions. Bibliometric methods facilitate this by enabling researchers to visualize scholarly networks and trace the evolution of topics across geographic regions, temporal phases, and disciplinary boundaries [5], [6].

Developing an understanding of global collaboration networks in MSME research is equally essential. Collaboration among researchers, institutions, and nations influences the dissemination of ideas, resource sharing, and innovation diffusion. Bibliometric mapping of international co-authorship networks can illuminate which countries or institutions act as central hubs in MSME research, and where connectivity is weak or fragmented. In the context of developing countries, such analyses help uncover patterns of knowledge production that may reflect broader inequalities in research capacity, access to scientific resources, and participation in global scholarly communities. Identifying collaboration structures thus not only advances academic insight but also supports strategic efforts to strengthen research capacity, build scientific partnerships, and foster equitable participation in the global research ecosystem [7].

Furthermore, the intersection of MSME studies with digital technologies, sustainability concerns, and market disruptions triggered by global crises (such as pandemics and economic recessions) has added new dimensions to the research agenda. Emerging themes like digital entrepreneurship, green innovation, and resilience strategies are becoming increasingly relevant for MSMEs navigating uncertain environments. Yet, the dispersion of these themes across journals, regions, and academic

traditions makes it difficult to assess how integrated they are within mainstream MSME research. A bibliometric and network visualization approach provides the analytical tools to identify how these contemporary themes are positioned within the intellectual structure of the field—whether they are central, peripheral, rapidly growing, or fragmented across disparate research communities [8].

Despite the proliferation of MSME research and its recognized importance for economic development in low- and middle-income countries, there remains a lack of comprehensive synthesis that systematically maps the intellectual structure, thematic evolution, and collaborative dynamics of this body of knowledge. While individual studies address specific issues such as finance, innovation, or policy, few efforts have quantitatively assessed how the research field is organized, which topics have gained or lost prominence over time, and how global collaboration networks shape the production and diffusion of MSME scholarship. This gap limits the ability of researchers, policymakers, and practitioners to identify knowledge clusters, under-researched areas, and opportunities for cross-regional collaboration that could strengthen both academic inquiry and practical interventions in developing country contexts. This study aims to provide a comprehensive bibliometric analysis of MSME research with a particular focus on developing countries, using visualization techniques to map the intellectual structure, thematic trends, and global collaboration networks within the field.

2. METHOD

This study employs a quantitative bibliometric research design to systematically analyze the landscape of MSME research in developing countries. Bibliometric analysis is a well-established method for evaluating scientific output, identifying intellectual structures, and mapping collaboration

patterns within a specific research domain. The study adopts a descriptive and exploratory approach, focusing on publication trends, citation structures, keyword co-occurrence, and co-authorship networks. A comprehensive dataset of peer-reviewed journal articles was retrieved from Scopus ensure high-quality and standardized bibliographic information. The search strategy was developed using a combination of keywords related to “Micro, Small, and Medium Enterprises,” “MSMEs,” “SMEs,” and “developing countries,” applied to titles, abstracts, and author keywords. Inclusion criteria were limited to articles and review papers published in English within a defined time span to ensure consistency and comparability of data. Duplicate records and irrelevant subject areas were excluded through a systematic screening process.

Following data retrieval, bibliographic information—including authors, affiliations, publication year, journal source, citations, and keywords—was exported in compatible formats for bibliometric analysis. Data cleaning procedures were conducted to standardize author names, institutional affiliations, and keyword variations to avoid fragmentation in network mapping. The analysis was carried out using VOSviewer, which enable visualization of citation networks, keyword co-occurrence maps, and international collaboration structures. Keyword co-occurrence analysis was used to identify dominant research themes and thematic clusters, while citation and co-citation analyses helped reveal influential publications and intellectual foundations of the field. Network visualization techniques were applied to map relationships among countries and institutions, highlighting central actors, collaborative clusters, and peripheral contributors. Network metrics such as link strength and node centrality were used to interpret the intensity and structure of collaborations.

3. RESULTS AND DISCUSSION

Co-Authorship Analysis

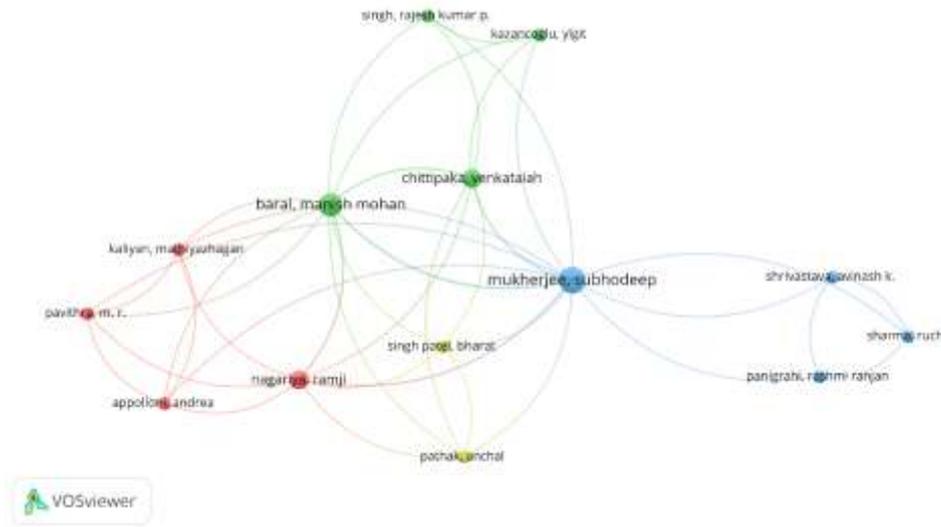


Figure 1. Author Visualization

Source: Data Analysis

Figure 1 illustrates the collaboration structure among scholars researching MSMEs in developing countries. The network shows several clusters of researchers connected through collaborative publications, indicating the presence of distinct research groups. The blue cluster is centered around Mukherjee, Subhodeep, who appears to act as a key bridging author linking different groups of researchers. This position suggests that Mukherjee plays an important role in connecting otherwise separate research communities and facilitating knowledge exchange across the network. On the right

side, authors such as Shrivastava, Avinash K., Sharma, Ruchi, and Panigrahi, Rashmi Ranjan form a tightly connected subgroup, reflecting strong collaboration within this particular research team. Meanwhile, the green cluster led by Baral, Manish Mohan shows connections with several other authors, indicating an active collaborative hub within the field. Additional clusters, including the red and yellow groups, represent smaller collaborative teams that contribute to the broader research landscape.

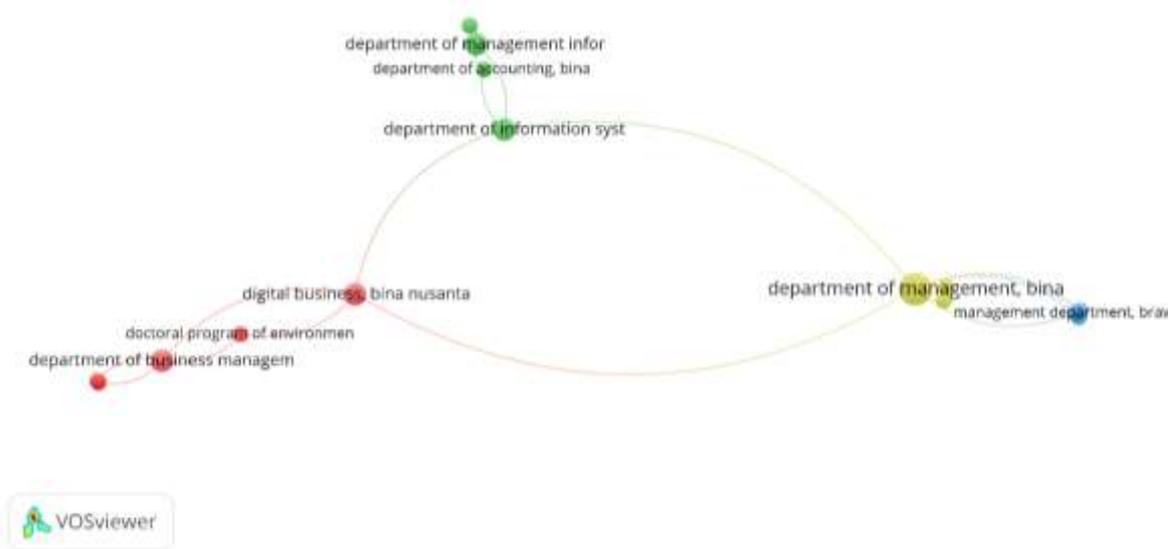


Figure 2. Institution Visualization

Source: Data Analysis

Figure 2 illustrates the relationships among academic departments involved in MSME research in developing countries. The visualization reveals several clusters representing different institutional groups that contribute to the research field. The green cluster, centered around the Department of Information Systems, appears to play a central connecting role, linking other departments such as the Department of Accounting, Bina Nusantara and the Department of Management Information. This indicates that information systems-related research is strongly integrated with MSME studies, particularly in areas related to digitalization

and business technology. Meanwhile, the red cluster includes institutions such as Digital Business Bina Nusantara, the Department of Business Management, and a Doctoral Program of Environment, reflecting interdisciplinary contributions from business and environmental perspectives. On the right side, the yellow cluster led by the Department of Management, Bina Nusantara collaborates with other management-related departments, including a Management Department from another university, suggesting institutional cooperation in management and entrepreneurship research related to MSMEs.

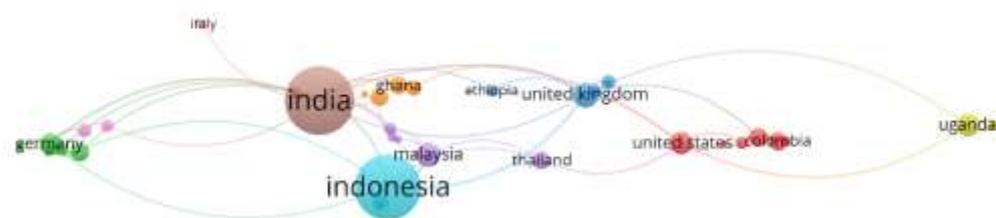


Figure 3. Country Visualization

Source: Data Analysis

Figure 3 shows

that India and Indonesia appear as the most prominent nodes, indicating that these countries have the highest level of publication activity and collaboration in this research field. India acts as a central hub connecting several countries such as Ghana, Ethiopia, Malaysia, the United Kingdom, and Italy, demonstrating its strong international research linkages. Similarly, Indonesia is closely connected with countries such as Malaysia, Thailand, and Germany, suggesting active regional and international collaboration in MSME-related research. The United

Kingdom and the United States also function as important intermediary partners linking research networks between developing and developed countries, reflecting the role of advanced research institutions in facilitating global knowledge exchange. Meanwhile, countries such as Uganda and Colombia appear on the outer part of the network, indicating emerging participation in the MSME research landscape.

Citation Analysis

Table 1. Top Cited Literature

| Citations | Authors and Year | Title |
|-----------|------------------|--|
| 268 | [9] | Identifying enablers of technological innovation for Indian MSMEs using best-worst multi criteria decision making method |

| | | |
|-----|------|---|
| 106 | [10] | Evaluating critical factors to implement sustainable oriented innovation practices: An analysis of micro, small, and medium manufacturing enterprises |
| 90 | [11] | Social Media Marketing and Business Performance of MSMEs During the COVID-19 Pandemic |
| 71 | [12] | The effects of financial literacy on sustainable entrepreneurship |
| 70 | [13] | Barriers and enablers for the integration of industry 4.0 and sustainability in supply chains of MSMEs |
| 67 | [14] | Comparative analyses of competitive advantage using Porter diamond model (the case of MSMEs in Himachal Pradesh) |
| 63 | [15] | The Effects of ICTs As Innovation Facilitators for a Greater Business Performance. Evidence from Mexico |
| 61 | [16] | The relationship between cost leadership competitive strategy and firm performance: A mediating role of quality management |
| 59 | [17] | Women MSMEs in times of crisis: challenges and opportunities |
| 50 | [18] | Intellectual capital and resilience in torn societies |

Source: Scopus

Keyword Co-Occurrence Analysis

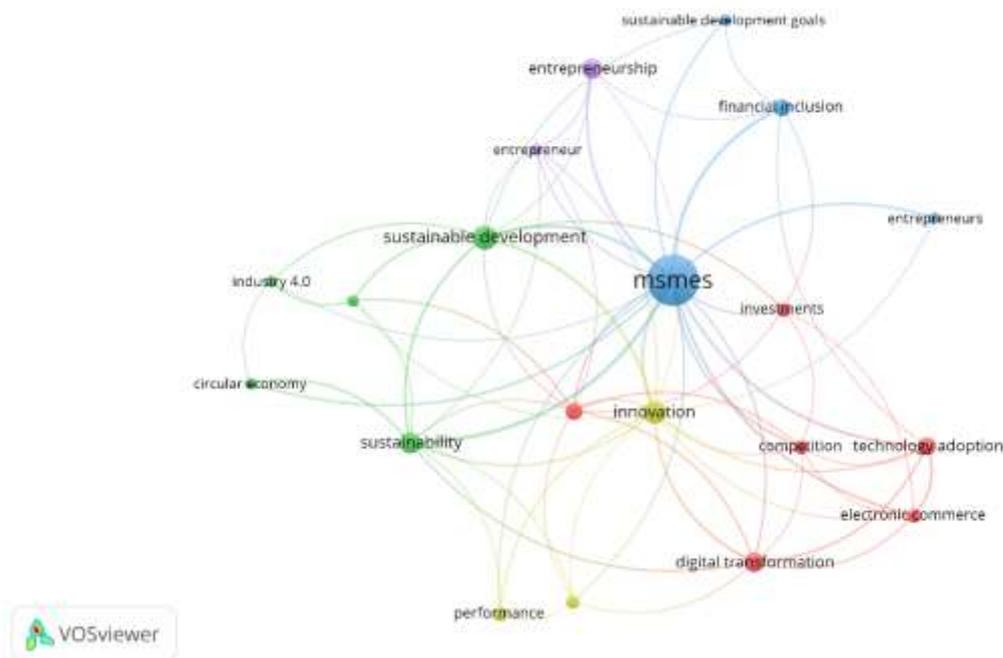


Figure 4. Network Visualization

Source: Data Analysis

Figure 3 illustrates the conceptual structure of MSME research in developing countries. At the center of the network is the keyword "MSMEs," which appears as the largest node and acts as the main hub connecting multiple thematic clusters. Its central position indicates that the concept of MSMEs is closely associated with a wide range of research topics, reflecting the multidisciplinary nature of MSME studies. The connections extending from this central node show that scholars frequently examine

MSMEs in relation to innovation, entrepreneurship, sustainability, digital transformation, and financial inclusion. One major thematic cluster focuses on sustainable development and sustainability issues. Keywords such as sustainable development, sustainability, circular economy, and industry 4.0 appear closely interconnected, suggesting that researchers increasingly explore the role of MSMEs in supporting environmentally sustainable practices and long-term economic resilience. This cluster highlights the growing

interest in integrating MSME development with broader sustainability agendas, particularly within the framework of sustainable economic systems in developing countries.

Another prominent theme in the network relates to digital transformation and technological adoption. Keywords such as digital transformation, technology adoption, and electronic commerce are linked to MSMEs and innovation, indicating that digitalization has become a significant area of research. These connections suggest that scholars are examining how digital technologies, e-commerce platforms, and technological innovation influence the competitiveness and

performance of MSMEs, especially in the context of rapidly evolving digital economies. The network also reveals a cluster centered on entrepreneurship and financial inclusion. Keywords such as entrepreneurship, entrepreneur, financial inclusion, and sustainable development goals are strongly connected with MSMEs. This pattern reflects a growing research interest in understanding how entrepreneurial activities and improved access to financial services contribute to MSME growth and socio-economic development. It also indicates that MSMEs are often studied within the broader framework of entrepreneurial ecosystems and inclusive economic development.

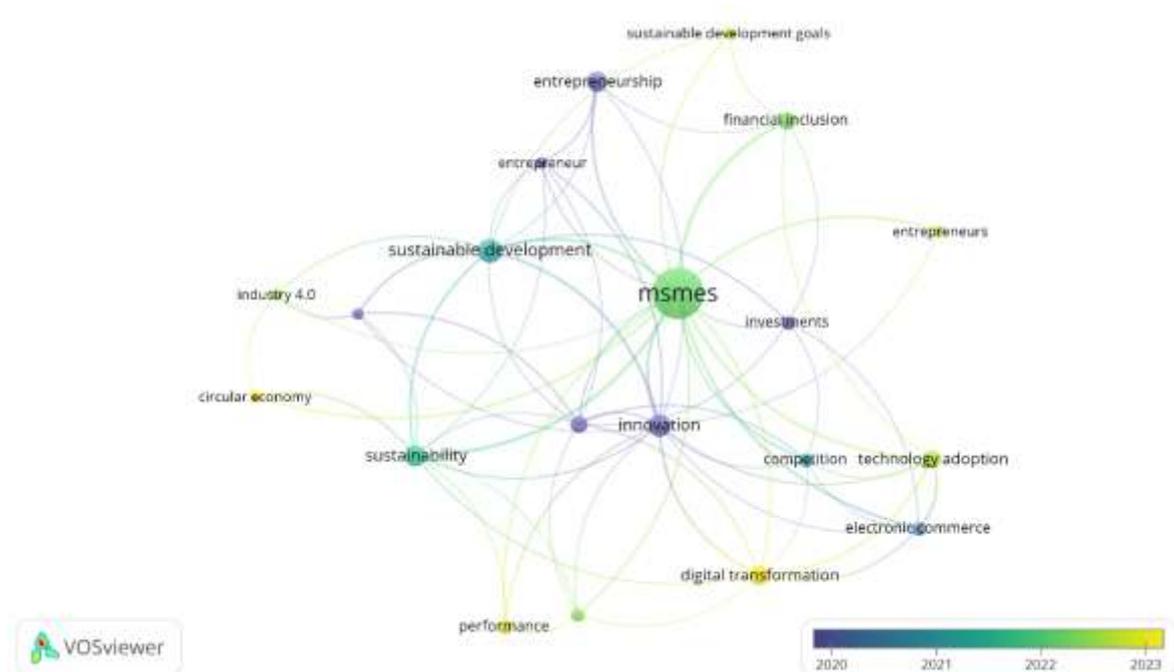


Figure 5. Overlay Visualization

Source: Data Analysis

Figure 5 presents the temporal evolution of MSME research in developing countries. The color gradient—from dark blue (earlier research around 2020) to yellow (more recent research around 2023)—illustrates how research themes have shifted over time. The keyword “MSMEs” appears at the center of the network with a green color, indicating that it remains a consistently studied topic throughout the research period while connecting multiple thematic areas such as innovation, sustainability, entrepreneurship, and digital transformation. Earlier studies,

represented by darker blue tones, were primarily concentrated on foundational themes such as innovation, entrepreneurship, and investments. These topics reflect the initial focus of MSME research on understanding how entrepreneurial activities, financial resources, and innovative capabilities influence the growth and competitiveness of small businesses. During this period, scholars often explored the role of MSMEs in economic development, particularly in relation to entrepreneurial ecosystems and business performance.

More recent research, shown by green to yellow colors, indicates a growing emphasis on digital transformation, technology adoption, financial inclusion, and sustainable development goals. Keywords such as digital transformation, technology adoption, performance, and sustainable development goals appear in lighter colors,

suggesting that they represent emerging research directions in the most recent years. This trend reflects the increasing attention given to how MSMEs adapt to digital technologies, contribute to sustainability agendas, and respond to global economic challenges.

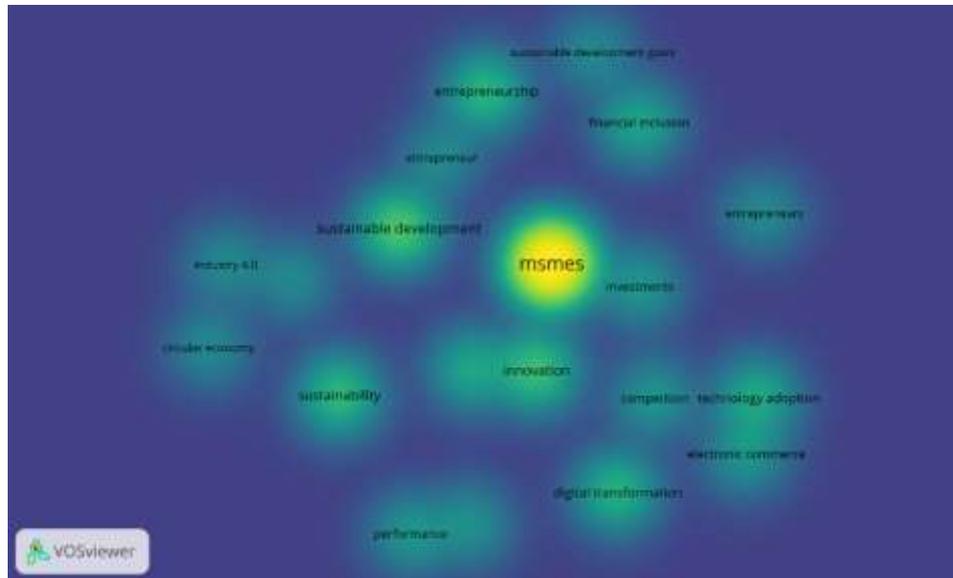


Figure 6. Density Visualization

Source: Data Analysis

Figure 6 highlights the intensity and concentration of research themes within the MSME literature in developing countries. The bright yellow area centered on “MSMEs” indicates that this keyword is the most frequently studied and highly interconnected concept in the research network. Surrounding it are several closely related topics such as innovation, investments, entrepreneurship, financial inclusion, and sustainable development, which appear in green shades, suggesting that these themes are also frequently discussed and strongly associated with MSME research. This pattern reflects that many studies examine MSMEs within the broader context of entrepreneurial activity, access to finance, and economic development. In addition, the visualization shows several emerging but slightly less dense research areas positioned around the central themes. Keywords such as digital transformation, technology adoption, electronic commerce, sustainability, industry 4.0, and circular economy appear in cooler green and blue

shades, indicating moderate research intensity but increasing relevance in recent studies. These topics suggest that the MSME research agenda is expanding toward issues related to digitalization, technological advancement, and sustainable business practices.

Discussion

The findings of this bibliometric analysis provide a comprehensive overview of the intellectual structure and collaborative landscape of MSME research in developing countries. The results indicate that the body of literature on MSMEs has expanded significantly and is characterized by diverse thematic orientations, interdisciplinary approaches, and increasing international collaboration. The centrality of the keyword MSMEs within the co-occurrence network confirms that the concept remains the core focus of the research field, connecting multiple topics such as innovation, entrepreneurship, sustainability, digital

transformation, and financial inclusion. This pattern suggests that MSME research in developing countries is not limited to a single discipline but rather integrates perspectives from management, economics, technology, and sustainability studies.

The co-authorship network further demonstrates that MSME research is supported by several collaborative clusters of scholars, with certain authors acting as key connectors across research groups. Scholars such as Mukherjee, Subhdeep and Baral, Manish Mohan appear as important nodes linking different collaboration clusters, indicating their role in facilitating knowledge exchange within the field. The existence of multiple research clusters reflects the fragmented yet dynamic nature of MSME research, where different groups focus on specific themes such as entrepreneurship, technology adoption, or sustainability. At the same time, the presence of bridging authors suggests increasing integration among these thematic areas, which contributes to the development of a more cohesive research landscape.

Institutional collaboration analysis also reveals that MSME research is supported by interdisciplinary institutional partnerships. Departments related to management, information systems, digital business, and accounting appear prominently in the institutional network, indicating that MSME research increasingly involves technological and managerial perspectives. The role of information systems departments as connectors within the network suggests that digitalization has become an important dimension in MSME studies. This trend aligns with the growing importance of digital platforms, e-commerce, and technology adoption in enhancing MSME competitiveness in developing economies.

The country collaboration network highlights the global nature of MSME research. Countries such as India and Indonesia emerge as major contributors and central collaboration hubs in the research network. Their prominent roles indicate that these countries have become important centers for MSME-related research, reflecting

the economic significance of MSMEs within their national development agendas. In addition, collaboration with countries such as the United Kingdom, the United States, Germany, and Malaysia suggests the existence of strong international partnerships that facilitate knowledge exchange between developed and developing economies. Such collaboration is essential for advancing research quality and addressing global challenges related to MSME development.

From a thematic perspective, the keyword co-occurrence analysis reveals several dominant research clusters. One major cluster centers on entrepreneurship and financial inclusion, highlighting the importance of entrepreneurial activity and access to financial resources for MSME development. Another cluster focuses on innovation and business competitiveness, emphasizing the role of technological innovation and investment in improving MSME performance. Meanwhile, a third cluster revolves around sustainability and sustainable development, indicating increasing scholarly interest in how MSMEs contribute to sustainable economic growth and environmental responsibility. The overlay visualization further demonstrates the evolution of MSME research themes over time. Earlier studies tended to focus on traditional issues such as entrepreneurship, innovation, and business performance. However, more recent research increasingly emphasizes topics such as digital transformation, technology adoption, financial inclusion, and sustainable development goals. This shift reflects broader global trends in economic development, where digital technologies and sustainability considerations are becoming central components of business strategy and policy frameworks. For MSMEs in developing countries, these emerging themes highlight the need to adapt to rapidly changing technological and environmental conditions.

The density visualization supports these findings by showing that the highest concentration of research occurs around core themes such as MSMEs, innovation, entrepreneurship, and sustainable

development. These topics represent the foundational pillars of MSME research. At the same time, the presence of emerging topics such as digital transformation, industry 4.0, circular economy, and technology adoption suggests that the research agenda is gradually expanding toward new areas related to technological advancement and sustainability transitions. This evolution reflects the changing challenges faced by MSMEs in developing countries, including the need to adopt digital technologies and participate in sustainable economic systems.

4. CONCLUSION

This study provides a comprehensive overview of the global research landscape on MSMEs in developing countries through bibliometric analysis and visualization techniques. The findings reveal that MSME research has grown into a multidisciplinary field that integrates themes such as entrepreneurship, innovation, financial inclusion, sustainability, and digital

transformation. The collaboration networks indicate that several key scholars and institutions play an important role in connecting research communities, while countries such as India and Indonesia emerge as central contributors to the global MSME research network. The thematic analysis further shows that traditional topics such as entrepreneurship and innovation remain dominant, but recent studies increasingly emphasize digital transformation, technology adoption, and sustainable development goals. These trends reflect the evolving challenges and opportunities faced by MSMEs in developing economies, particularly in adapting to technological change and sustainability demands. This study contributes to the literature by mapping the intellectual structure, collaboration patterns, and emerging research directions in MSME studies, thereby providing valuable insights for scholars and policymakers to guide future research and development strategies related to MSMEs in developing countries.

REFERENCES

- [1] R. Raihani, "Determinant Factor Analysis Of Financial Performance Of Micro , Small And Medium Enterprises With Social Capital As A Moderating Variable During Covid-19 In Aceh , Indonesia," vol. 19, no. 19, pp. 176–198, 2024, doi: 10.2478/sbe-2024-0032.
- [2] M. Maswin and O. Y. Sudrajad, "Analysis of Financial Indicator Literacy Determinants on The Performance of Bandung City SMEs," *Int. J. Curr. Sci. Res. Rev.*, vol. 06, no. 06, pp. 3792–3804, 2023, doi: 10.47191/ijcsrr/v6-i6-68.
- [3] S. Nordhagen, U. Igbeka, H. Rowlands, R. S. Shine, E. Heneghan, and J. Tench, "COVID-19 and small enterprises in the food supply chain: Early impacts and implications for longer-term food system resilience in low- and middle-income countries," *World Dev.*, vol. 141, May 2021, doi: 10.1016/j.worlddev.2021.105405.
- [4] Y. M. Berniz, A. Susanto, and L. Krisnawati, "The Effect of Education Levels of Micro, Small and Medium Enterprises (SME) On Financing Preferences in the Banyumas Regency," *J. Bus. Manag. Stud.*, vol. 5, no. 1, pp. 110–121, 2023, doi: 10.32996/jbms.2023.5.1.11.
- [5] Z. D. Khaq, V. K. Subroto, and E. Susanto, "AI-driven Strategies for Enhancing MSME Sales and Business Communication: A Case Study," *J. Manag. Informatics*, vol. 3, no. 2, pp. 180–194, 2024.
- [6] C. M. Reinamah, M. Y. Siahaan, and S. Samadara, "Design of Accounting Information Systems of Cash Receiving and Expenditure in Improving Internal Control of Income of Weaving Tie MSME in the District South Central Timor," in *International Conference on Applied Science and Technology on Social Science (ICAST-SS 2020)*, Atlantis Press, 2021, pp. 527–530.
- [7] A. W. Wibowo, A. Kusmintarti, and N. Eltivia, "ANALYSIS AND DESIGN OF INVENTORY ACCOUNTING INFORMATION SYSTEM APPLICATIONS TO IMPROVE INTERNAL CONTROL IN MSMEs FILO CR MALANG," *Int. J. Multidiscip. Res. Lit.*, vol. 1, no. 6, pp. 660–669, 2022.
- [8] J. A. Putritamara, B. Hartono, H. Toiba, H. N. Utami, M. S. Rahman, and D. Masyithoh, "Do Dynamic Capabilities and Digital Transformation Improve Business Resilience during the COVID-19 Pandemic? Insights from Beekeeping MSMEs in Indonesia," *Sustainability*, vol. 15, no. 3, p. 1760, 2023.
- [9] H. Gupta and M. K. Barua, "Identifying enablers of technological innovation for Indian MSMEs using best-worst multi criteria decision making method," *Technol. Forecast. Soc. Change*, vol. 107, pp. 69–79, 2016.

- [10] S. Khurana, A. Haleem, S. Luthra, and B. Mannan, "Evaluating critical factors to implement sustainable oriented innovation practices: An analysis of micro, small, and medium manufacturing enterprises," *J. Clean. Prod.*, vol. 285, p. 125377, 2021.
- [11] J. Syaifullah, M. Syaifudin, M. U. Sukendar, and J. Junaedi, "Social media marketing and business performance of MSMEs during the COVID-19 pandemic," *J. Asian Financ. Econ. Bus.*, vol. 8, no. 2, pp. 523–531, 2021.
- [12] A. Burchi, B. Włodarczyk, M. Szturo, and D. Martelli, "The effects of financial literacy on sustainable entrepreneurship," *Sustainability*, vol. 13, no. 9, p. 5070, 2021.
- [13] E. Machado, L. F. Scavarda, R. G. G. Caiado, and A. M. T. Thomé, "Barriers and enablers for the integration of industry 4.0 and sustainability in supply chains of MSMEs," *Sustainability*, vol. 13, no. 21, p. 11664, 2021.
- [14] M. Kharub and R. Sharma, "Comparative analyses of competitive advantage using Porter diamond model (the case of MSMEs in Himachal Pradesh)," *Compet. Rev. An Int. Bus. J.*, vol. 27, no. 2, pp. 132–160, 2017.
- [15] H. Cuevas-Vargas, S. Estrada, and E. Larios-Gómez, "The effects of ICTs as innovation facilitators for a greater business performance. Evidence from Mexico," *Procedia Comput. Sci.*, vol. 91, pp. 47–56, 2016.
- [16] M. Kharub, R. S. Mor, and R. Sharma, "The relationship between cost leadership competitive strategy and firm performance: A mediating role of quality management," *J. Manuf. Technol. Manag.*, vol. 30, no. 6, pp. 920–936, 2019.
- [17] S. Sultan and W. I. M. Sultan, "Women MSMEs in times of crisis: challenges and opportunities," *J. Small Bus. Enterp. Dev.*, vol. 27, no. 7, pp. 1069–1083, 2020.
- [18] A. Daou, J. Joseph, D. S. Yousif, R. Fathallah, and G. Reyes, "Intellectual capital and resilience in torn societies," *J. Intellect. Cap.*, vol. 20, no. 4, pp. 598–618, 2019.