



EMPOWERING MSMEs: A BIBLIOMETRIC STUDY OF FINANCIAL ACCESS, DIGITAL TRANSFORMATION, AND LEADERSHIP STRATEGIES

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ABSTRACT

This study carries out a thorough bibliometric analysis to explore the changing research landscape around MSMEs, particularly focusing on their financial and operational challenges. Using 970 articles from the Scopus database, this study uses co-word analysis, citation analysis, and bibliographic coupling to identify thematic clusters, research trends, and intellectual connections. Key themes are sustainability, digital transformation, innovation, and leadership within the MSME sector. Results show that the research output grew significantly after 2016, and the COVID-19 pandemic played a catalytic role in focusing scholarly attention, especially on issues such as financial resilience and Industry 4.0 adoption. Cluster analysis revealed barriers to the circular economy, enablers of technological innovation, and transformational leadership as critical for driving MSME performance. The study puts together the various areas of interventions--financial incentives and policy frameworks plus capacity building-on systemic challenges; it would enable sustainable growth while digital transformation stood out as necessary, using applications such as analytics and cloud in big data systems to support operability efficiency with market competitiveness. Theoretically, this paper contributes by harmonizing sustainability and innovation in one framework, giving actionable managerial insight into promoting resilience in MSMEs. On the limitation front, there were linguistic and database constraints. Opportunities exist to overcome these in the next stages by exploring mixed-method research designs to reconcile regional disparities. By and large, this analysis should guide researchers, policymakers, and practitioners into unlocking the enormous untapped MSME potential-a strong bastion of economic and social transformation engines.

Keywords :- MSME; Finance; Entrepreneurship; Bibliometrics; India



1. INTRODUCTION

Indian Micro, Small and Medium Enterprises form the unsung heroes of India's economy—these quietly spur employment, innovation, and entrepreneurship. Often characterized as the back and brain of the country, this sector has been significant to India as it contributes remarkably by contributing 30% to its Gross Domestic Product while contributing nearly half of the nation's total exports (PIB, 2023). Beyond the numbers, the MSME sector represents over 111 million livelihoods, touching every corner of the country and forming a vital bridge between rural ingenuity and urban enterprise (Kumar, 2024). Yet, beneath this shining narrative lies a troubling reality—MSMEs face steep challenges that threaten their growth and stability. Chief among these is access to finance, a lifeline for any business but an elusive one for many small enterprises. Without removing the barriers, the rich potential of India's MSMEs may not be harnessed to its genuine advantage.

The MSMEs sector serves as the heart of India's economy, leading industrial growth with the most unequalled employment possibilities. In the year 2023, it accounted for 63 million or more enterprises belonging to manufacturing, services, or trade (MSME, 2023). MSMEs are definitely not just another collection of small and medium-size enterprises; this sector is basically a breeding ground for entrepreneurial ambition while generating innovation from grass roots to its top position (Jindal et al., 2024). However, there exist many systems-related challenges affecting these MSMEs. To date, there are still system imbalances whereby MSME's formal access remains nonexistent to so many small-scale businesses (Maheshkar & Soni, 2021). Majority small-scale industries source their meager capital resources through expensive yet informal credit provision means (Ramachandran & Chandramohan, 2023). Widely, every participant agrees to consider finance an economic lifeline of the industry. As indicated by a report published by the Prakash & Verma (2019), financial distress quickly escalates into operational difficulties in the form of delayed payments, reduced investment, and, worst-case scenario, premature business closures. Such problems are particularly more pronounced in the context of emerging economies such as India where the strict nature of collateral and bureaucratic bottlenecks renders formal credit unavailable (Rao et al., 2024). Such challenges have provided ample fuel for critical examinations of the intricate connections between financial access, the performance



of MSMEs, and the overall entrepreneurial journey in India. Unlocking that potential remains crucial for India's economic aspirations.

MSMEs in India grapple with a host of challenges, many of which are rooted in structural and policy-related issues. Access to finance is widely regarded as the single most significant hurdle (Rajamani et al., 2022). According to a report by the Economic Times, the credit gap for Indian MSMEs stands at approximately \$530 billion (Dewan, 2024). Despite the availability of government schemes such as the Pradhan Mantri Mudra Yojana (PMMY) and Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE), many small businesses remain underfunded due to bureaucratic inefficiencies and lack of awareness among entrepreneurs (The Hindu, 2022).

The COVID-19 pandemic further exacerbated these issues, with numerous MSMEs facing liquidity crises. A report by Sharma and Rai(2023) reported that nearly 90% of MSMEs (out of 250 surveyed) experienced a decline in turnover during the pandemic. These conditions highlighted the urgent need for effective financial strategies tailored to the needs of MSMEs. Beyond finance, MSMEs also face challenges related to regulatory compliance, digital adoption, and market access. The Goods and Services Tax (GST) regime, while streamlining indirect taxation, has imposed additional compliance burdens on smaller enterprises. Similarly, limited digital infrastructure has restricted the ability of many MSMEs to leverage e-commerce platforms or adopt digital payment systems, creating a technological divide that further hampers growth (Monachan et al., 2024).

The challenges that MSMEs in India face, including financial constraints, are compounded by the sector's limited access to institutional support and changing market dynamics. According to Das and Mahapatra(2021), more than 85% of Indian MSMEs depend on informal sources of finance, which have exorbitant interest rates and further cripple their growth potential. Furthermore, the ripple effect of macroeconomic shocks of policy changes and market volatility more specifically impacts MSMEs where smaller firms often suffer disproportionately (Rwigema, 2020). Though the ECLGS by the government during the pandemic eased the situation a little bit, the gaps in its implementation and awareness created hindrances to the proper and equitable distribution of the benefits (kumar Choubey, 2023). Such systemic problems do bring forward an imperative to go deep into a



study related to access of financial sources and performance by MSME. This knowledge in respect to navigating through bottlenecks is, thus crucial both for their survival as well as in promoting the proper entrepreneurship ecosystem within India. Given the importance of MSMEs and the challenges they face, this paper seeks to address the following research questions:

1. How has the scholarly focus on MSMEs and finance evolved over time in the context of India?
2. What are the major themes and trends in research related to MSME performance and financial constraints in India?
3. How does access to finance influence the entrepreneurial journey of MSMEs in India?
4. What policy recommendations can be derived from existing research to bridge the financial gap for MSMEs?

This study has a bibliometric objective to increase the richness in the understanding of the financial and operational challenges within Indian MSMEs. Conducted on a pool of 970 research articles obtained from Scopus, several key contributions follow through this review: it supplies an all-around, systematic study on the nature of the current landscape of literature around MSME performance and their financial issues. With advanced bibliometric tools such as co-word analysis and bibliographic coupling, the paper will illustrate and visualize key themes and trends that characterize how the discourse about MSMEs and finance has evolved over time. This research, therefore, quantitatively maps the trajectory of MSME studies, offering readers a panoramic view of the intellectual structure of this critical domain from 2000 to 2024. The paper identifies thematic clusters and citation networks that highlight the intricate interplay between financial access and MSME growth, particularly in the Indian context. These insights open up avenues for actionable policy recommendations and future research directions to bridge the financial gap and foster entrepreneurial resilience within the MSME sector.

2. REVIEW OF LITERATURE

The Micro, Small, and Medium Enterprises (MSMEs) are widely recognized to play a role in economic development. In developing economies such as India, MSMEs have emerged as engines of growth (Prakash et al., 2021). The contribution of MSMEs is significant in terms of GDP, employment generation, and exports (Singh & Gupta, 2023). MSMEs are crucial for the socio-economic fabric of India. However, these enterprises face a variety of challenges, and the most critical one is access to



finance. Tambunan(2018) have underscored that informal credit lack of access has emerged as the most devastating problem for MSMEs in sustaining and scaling up their operations. This is further complicated through stringent collateral requirements and bureaucratic hurdles within formal institutions into a vicious cycle of financial exclusion and operational inefficiency.

The COVID-19 pandemic and recent studies deepened these financial losses. Goyal(2021) observe that the COVID-19-driven liquidity crisis largely affected MSMEs, in the form of a loss of income, job cut, and ultimately business shutdown for some. While the government schemes of emergency credit line guarantee scheme (ECLGS) only provided temporary relief, their reach and efficacy were limited due to an implementation gap and a lack of awareness among MSME owners, according to Ganguly(2024). Hence, the situation calls for long-term solutions that address systemic financial challenges and improve the resilience of MSMEs against economic shocks. The problem has acquired further dimensions in complexity due to the integration of technology in the financial ecosystem. Digital lending platforms have emerged as alternative financing mechanisms that offer faster and more accessible credit solutions for small enterprises (Balboa et al., 2024). However, the uneven adoption of these platforms, due to digital illiteracy and infrastructural gaps, has been identified as a limiting factor by Sikka & Bhayana(2024). Additionally, high transformation cost in terms of going digital and also non-tailored financial products compound the problems facing MSMEs financially in areas that are rurally located (Mhlanga, 2022).

Another very important aspect in determining the financial health of MSMEs is financial literacy or a lack thereof. Alafifi et al. (2019) indicate, many owners of MSMEs lack the required knowledge to tackle the complexities of financial planning and credit management. This deficiency not only restricts them from accessing formal financial systems but also their ability to make well-informed decisions regarding investments and resource allocation. The financial literacy of MSMEs could be enhanced through focused training programs that can empower MSMEs to make better use of available financial tools (Rizki&Hendarman, 2024). Although there are many initiatives taken by the government for MSMEs, the structural issues are still prevailing. Credit gap addressing policies like the Pradhan Mantri Mudra Yojana (PMMY) and Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE) have done their part, but according to John et al. (2023), there has been an uneven impact on these policies because of regional disparities, administrative delays, and a lack of customized solutions for different segments of the MSME sector. These findings suggest that policy interventions are necessary but must be complemented by localized strategies that account for the diverse needs and challenges of MSMEs across different regions and industries.



The increasing trend towards sustainability has made the financial environment even more complex for MSMEs. Moving towards sustainability usually involves upfront investment, which is difficult to incur for most resource-poor businesses. The findings of Mayanj(2023) reveal that although several MSMEs are willing to adapt green technologies, the inability to access cheaper finance is the primary deterrent. This points out a growing gap in the offer of financial products aimed at enabling sustainable development in the MSME sector, which has become ever more crucial against the backdrop of global environmental objectives. Another related area of concern is the narrow scope of studies aimed at ascertaining heterogeneity within the MSME sector. MSMEs are far from being homogeneous. They come in all sizes and industries, not to mention regions (Kumar et al., 2018). According to Koshy(2010), such differences are rarely considered in previous studies, and the solutions arrived at are often generalized and thus do not appropriately address the problems of specific subsets of MSMEs. For instance, the financing requirements of a small rural enterprise in agriculture are much different from that of an urban technology startup (Cuéllar-Fernández et al., 2024). This gap in research is important for developing more targeted and effective financial strategies.

In addition to the challenges, there is a growing recognition of the opportunities that lie in leveraging MSMEs for economic transformation. For example, with the increasing globalization of supply chains, MSMEs have opportunities for accessing international markets (Dewi et al., 2020). However, according to Mukherjee(2018), this will require significant investment in infrastructure, technology, and compliance, which most MSMEs cannot afford. Financial institutions and policymakers must collaborate to create enabling environments that support MSMEs in capitalizing on these opportunities (Putra, 2024). Despite the significant progress made in understanding the challenges facing MSMEs, there are still gaps in the literature. For instance, little research has been done on the long-term impact of alternative financing mechanisms, such as digital lending and crowdfunding, on the sustainability of MSMEs. Second, the issue of financial literacy is still quite unexplored, especially concerning its role in improving MSME performance, but specifically within the Indian context. The third gap requires research that zooms in further and takes a closer look at the way in which gender, geography, and industry interact to structure financial experiences in MSMEs. These gaps are thus important to the sector's fuller understanding and informed crafting of intervention measures that may help unlock full potential.

3. Research Design and Methodology

This study employs a bibliometric analysis to explore the relationship between entrepreneurial finance and MSME performance in India, focusing on the role of financial access in shaping the entrepreneurial journey. Bibliometric analysis provides a systematic approach to evaluating the breadth and depth of scholarly literature, offering insights into the intellectual structure of a



research domain. The primary aim is to identify thematic trends, key contributors, and research gaps in this critical area.

The Scopus database, widely recognized for its extensive collection of peer-reviewed academic literature (Burnham, 2006), served as the primary data source for this analysis. The keywords “MSMEs” and “MSME & Finance” were used to extract relevant articles. The search yielded 970 results spanning from 2000 to 2024, reflecting the growing interest in this field over the past two decades. To ensure the inclusion of high-quality and relevant studies, three criteria were applied to refine the dataset. First, only articles published in English were considered, following the standards set by Cardella et al. (2020). Second, the study included only peer-reviewed journal articles to ensure the reliability and validity of the findings (Podsakoff et al., 2005). Third, the selected articles were required to be categorized under the subject areas of “business, management, and accounting” to align with the research objectives. Given the substantial number of results obtained, no additional narrowing techniques, such as PRISMA (Liberati et al., 2009), were deemed necessary. However, duplicate records and irrelevant studies were manually screened out during the preliminary review process. This ensured that the final dataset represented a robust foundation for bibliometric analysis.

The bibliometric software VOS viewer 1.6.18 was employed to analyze the dataset. This tool is renowned for its ability to generate graphical representations of bibliometric networks, such as co-authorship, keyword co-occurrence, and citation patterns. By visualizing these networks, VOS viewer allows for the recognition and categorization of clusters within the research field (Vallaster et al., 2019). The graphical outputs not only facilitate a deeper understanding of the interactions between variables but also enhance the interpretive depth of the analysis. The analysis included measures such as citation counts, keyword clustering, and bibliographic coupling to uncover patterns and trends. Citation analysis was conducted to identify the most influential papers and authors in the field. Keyword co-occurrence analysis was used to highlight the thematic focus of the literature, revealing key topics such as financial access, MSME performance, and entrepreneurial challenges. Bibliographic coupling helped identify research clusters and intellectual connections, providing a comprehensive view of the research domain. This bibliometric approach provides a clear and objective foundation for understanding the current state of research in this field, offering valuable insights for future studies and policy interventions.

4. Results

*4.1 Publications Over the Years**

* 2025 data is partly available, thus not included in this analysis.

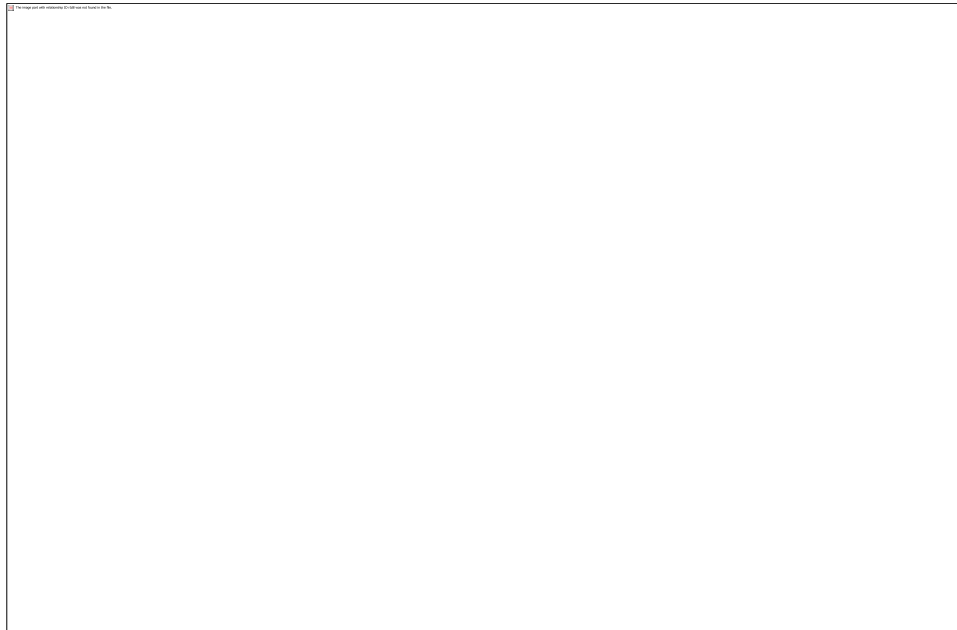


Research on MSMEs and finance has become quite diversified in recent years, with the trend in publications providing very insightful knowledge on the increasing academic interest in this crucial area. The earliest publication documented in the dataset dates back to 1991, indicating the initial attempts to understand the financial dynamics of MSMEs. However, the following years experienced a long period of stagnation with no publication that could be regarded as significant until 2005, when one more article was reported. From 2006 to 2012, the research output was still scattered with some years reporting no publications, such as 2006, 2007, and 2012. This period of low activity may be due to the relatively low global recognition of the economic significance of MSMEs and the lack of focus on their financial issues. A renewed interest started grudgingly in 2013, with six publications, and picked pace steadily in 2014, with 12 publications. This upward trajectory gained momentum, following the intensification of interest by academics and policy circles in MSMEs.

A notable trend emerged post-2016 when 21 publications were reported, corresponding with demonetization in India, which emphasized the financial vulnerabilities of small businesses. The research output thereafter became stable and grew continuously; in 2018, it was at 40 publications and at 75 in 2019. The most dramatic growth in publication during the period occurred during the COVID-19 period, which highlighted the insecure financial position of the MSMEs and incurred an enormous amount of research work. For 2020, 98 publications were found; 2021 accounted for 105 while 2022 accounted for 120. One reason behind such a boom may be that pandemic-era interest in resilience, financial policies, and policies in support of MSMEs increased dramatically during this time period. Academic publications reached a record high in both 2023 and 2024 with an output of 222 for the years. While the data for the year 2025 are currently incomplete at the time of this analysis, already four articles appeared within the first 10 days of the calendar year, showing an early continued upward trend that probably reflects persistent attention in the same area. Figure 1 below represents this publication trend by using the very evident increase over the years regarding scientific interest into MSMEs and finance. This is evidence of the dynamic and increasingly critical nature of this research domain, which continues to attract both academic and policy-level engagement.



Figure 1: Number of Research Papers Published



4.2 Citations

The citation analysis reveals the most influential research articles on MSMEs and their financial and operational challenges, emphasizing the critical contributions made to the field. Table 1 shows the ten most cited articles, sorted based on their citation count and relevance to MSME performance and financial strategies. Each of these articles has received more than 100 citations, reflecting their significant impact on the academic discourse surrounding MSMEs.

The most cited article is by Shafi et al. (2020), with 406 citations. This study examines the effects of the COVID-19 pandemic on MSMEs in Pakistan, providing insights into the vulnerabilities and resilience of small enterprises during economic disruptions. This is only paper to present more than 400 citations to indicate relevance and timeliness within the scope of understanding challenges experienced by MSMEs amid unexpected global crises. A good portion of articles fell in the citation range of between 200 to 300 citations, as, for instance, in the case of Bauman and Kritikos (2016), who noted 293 citations to highlight aspects on R&D, innovation, and productivity with respect to differences between micro firms. Gupta and Barua (2016) contribute to the above discourse by highlighting enablers of technological innovation for Indian MSMEs. The study has been cited 241 times. These



works point out the need for innovation and technological advancement as being essential for MSME performance.

The table also has sustainability-based studies, including Mohanty and Prakash (2014), which looks into green supply chain management practices in India with 144 citations. Finally, Hernández et al. (2020) discuss the moderator effect of firm size on corporate social responsibility and economic performance, with 140 citations. These studies reflect increasing interest in MSMEs integrating sustainable practices into their operations.

Recent contributions include Martínez-Peláez et al. (2023), which delves into the role of digital transformation in achieving sustainability, accumulating 116 citations within a short period. This highlights the growing recognition of digital transformation as a critical enabler for MSME sustainability. Achi et al. (2022), with 103 citations, emphasizes the role of corporate social responsibility and green process innovation in driving MSME performance, showcasing the field's shift toward integrating environmental and social dimensions. The strong citation counts of the articles indicate their great importance in structuring the intellectual and practical comprehension of MSMEs. The contributions are quite diversified, and the themes included financial resilience, innovation, sustainability, and Industry 4.0 technologies adopted by MSMEs, revealing the diverse challenges and opportunities that they face in the fast-changing economy.

Table 1

Most Cited Articles

S. No.	Author	Title	Year	Citations
1	Shafi et al.	Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan	2020	406
2	Bauman & Kritikos	The link between R&D, innovation and productivity: Are micro firms different?	2016	293
3	Gupta & Barua	Identifying enablers of technological innovation for Indian MSMEs using best–worst multi criteria decision making method	2016	241
4	Mohanty & Prakash	Green supply chain management	2014	144



		practices in India: an empirical study		
5	Hernández et al.	Moderating effect of firm size on the influence of corporate social responsibility in the economic performance of micro-, small- and medium-sized enterprises	2020	140
6	Khanzode et al.	Modeling the Industry 4.0 adoption for sustainable production in Micro, Small & Medium Enterprises	2021	136
7	Singh et al.	Analysis and prioritization of Lean Six Sigma enablers with environmental facets using best worst method: A case of Indian MSMEs	2021	125
8	Martínez-Peláez et al.	Role of Digital Transformation for Achieving Sustainability: Mediated Role of Stakeholders, Key Capabilities, and Technology	2023	116
9	Achi et al.	CSR and green process innovation as antecedents of micro, small, and medium enterprise performance: Moderating role of perceived environmental volatility	2022	103

3.3 Sources of Publications

A critical examination of the sources of publishing studies on MSMEs and their financial and operational challenges was undertaken. Table 2 identifies the journals that have published most in this field, with respect to the number of publications as well as citation counts. For a journal to be considered for this table, it must have at least ten publications. Of the 538 sources analyzed, eight qualify for this consideration, thereby exposing the focused topics of academic debate.

The journal “Quality-Access to Success” led with publications at 20, although its citation count is relatively low at 42, indicating that it is often a journal where studies are published



on MSME but where the impact of these articles is low compared to other journals. “Sustainability (Switzerland)” leads with 13 publications and has a high citation count of 274, which indicates its dual strength in publishing research where it both emphasizes quality of work and impact of research. This journal shows the growing overlap of sustainability practices with MSME operations, a trend that has gained significant momentum in recent years.

Another source is the “Journal of the International Council,” which has 12 publications and 75 citations. Its relatively high citation-to-publication ratio underscores its influence within the academic community. “Benchmarking” is also similar in trend, with 11 publications and 270 citations, showing its contribution to the discussion of comparative assessments and performance improvement in the MSME sector. Interestingly, the “Cogent Business and Management” journal has 10 publications but only 72 citations, meaning that the articles published in the journal are specialized or niche in nature. The “Contributions to Management Science,” also with 10 publications, has a comparatively low citation count of 13, highlighting its limited influence within this research domain.

Similar patterns are seen for the “International Journal of Scientific and Technology Research” with 10 publications and 32 citations, where it appears that the journal emphasizes the publication of research that will impact a broader area but is of relatively low impact. Last, “Revista Venezolana de Gerencia,” with 9 citations for 10 publications, has the least number of citations among the selected journals, where it indicates very minimal reach or significance in the world context of MSME research.

An interesting takeaway from this review is the multiplicity of themes covered by these journals. While journals like Sustainability, Switzerland, and Benchmarking concentrate mainly on sustainability and performance metrics, Quality-Access to Success and Cogent Business and Management seem to address much broader aspects of MSME operations and management practices. The diversity attests to the multidisciplinary nature of research into MSMEs and, thus, points out the variety of lenses with which scholars examine the field.



Table 2

Sources Publishing Papers Pertaining MSME

S.No	Source	Publications	Citations
1	Quality- Access to Success	20	42
2	Sustainability (Switzerland)	13	274
3	Journal of the International Council	12	75
4	Benchmarking	11	270
5	Cogent Business and Management	10	72
6	Contributions to Management Science	10	13
7	International Journal of Scientific and Technology Research	10	32
8	RevistaVenezolana de Gerencia	10	9

4.4 Co-Occurrence (Keywords)

Based on 970 articles on MSMEs, VOS viewer created a network of term co-occurrence. This network is important for comprehending the linked information in the articles. “Author keywords, which the authors carefully select, show the core of the study and the focal point of an investigation.” Oraee et al. (2017). Keyword co-occurrence research reveals the nature and extent of interaction between various knowledge areas. Based on the “minimum number of co-occurrences of a keyword equals ten,” the study selected 76 keywords from a total of 3763. “msmes” occurs the most often (n=713), with a total link strength of 1170. Following that are “micro” (n=72, link strength=218); “covid-19” (n=68, link strength=166); “small-and-medium enterprise” (n=67, link strength=293); “small and medium-sized enterprise” (n=65, link strength=205); “innovation” (n=60, link strength=152); sustainability (n=55, link strength=164); micro-enterprise (n=54, link strength=241); sustainable development (n=53, link strength=188); msme (n=52, link strength=154). Notable keywords on the list include “marketing,” “digitilization,” “msmes performance,” “economics,” and “entrepreneur,” but with fewer than 20 occurrences. Figure 2 shows a diagrammatical presentation of the keywords with their links.



Figure 2: Keywords Co-Occurrence



After keeping a filter of “minimum number of occurrences of a phrase at 10.” a further examination of keyword co-occurrence reveals six clusters of 76 items. Amongst six clusters, the cluster title “Technology and MSME Performance” has the maximum number of keywords. The said clusters give a snapshot of upcoming trends in marketing, i.e., digitization. Cluster two is more traditional, having keywords suggesting the consumer’s attitude and behaviour. Cluster three highlights the role of the consumer in building a brand, e.g., loyalty and satisfaction. The last cluster is the smallest in showing the buying attitude of the consumer.

Using a threshold filter of at least ten keyword occurrences, the co-occurrence analysis identified six distinct clusters showing specific thematic areas in MSME research (Table 3). Thus, these clusters give a cross-sectional view of emerging trends as well as specific focal points and provide insights to diverse dimensions under which MSME operations, challenges, etc., are located.



The first theme is Technology and MSME Performance, which represents 18 keywords. Its emphasis is upon the role of technology in driving performance. Keywords including “Digitization,” “E-Commerce,” “Technology Adoption,” and “Innovation” indicate leverage upon digital tool utilization and usage of technology acceptance models to maximize business performance along with competitive advantages. The second cluster, Resilience and Market Adaptation, includes 17 keywords and revolves around the resilience of MSMEs, especially during crises like the COVID-19 pandemic. Terms like “Resilience,” “Market Orientation,” and “Entrepreneurial Orientation” highlight adaptive strategies employed by MSMEs to navigate market challenges and sustain operations.

The third cluster, Digital Transformation and Sustainability, is associated with 16 keywords. This cluster focuses on the inter-linkage of advanced technologies like “Artificial Intelligence,” “Industry 4.0,” and “Digital Transformation” with MSMEs. This group also emphasizes the pursuit of “Sustainable Development” in terms of enhanced organizational performance and knowledge management. The fourth cluster, Marketing and Profitability, covers 10 keywords related to MSMEs' marketing strategies and the financial outcomes. Examples of such terms are “Digital Marketing,” “Competitiveness,” and “Profitability,” representing the significance of marketing activities in driving successful businesses within regions like tourism.

The fifth grouping of Financial Inclusion and Fintech carries nine keywords, all focused on financial technologies and inclusion. Examples of such terms include “Financial Technology,” “Fintech,” and “Financial Inclusion,” focusing on increasing access to capital and financial inclusion using digital financial tools to meet MSMEs' financial challenges. The sixth and final cluster, Economic Growth and Productivity, is the smallest, with six keywords. It underlines the importance of MSMEs to “Economic Growth,” “Manufacturing,” and “Productivity,” demonstrating the importance of these sectors in national economic development and supply chain sustainability.



Table 3

Cluster Wise Items (Keywords)

Cluster	Cluster Title	Items	Keywords
1	Technology and MSME Performance	18	Business Performance, Competitive Advantage, Competitive Advantage, Digitization, E-Commerce, Electronic Commerce, Financial Literacy, Financial Performance, Government, Indonesia, Innovation, Micro Small And Medium Enterprises (MSMEs), MSMEs Performance, Structural Equation Modelling, Surveys, Technology, Technology Acceptance Model, Technology Adoption
2	Resilience and Market Adaptation	17	And Medium Enterprises (MSMEs), Covid-19 Pandemic, Entrepreneurial Orientation, Entrepreneurship, Firm Performance, Market Orientation, Medium Enterprises, Micro, Micro, Small And Medium Enterprises, msmes, Nigeria, Resilience, Small, Small And Medium Enterprises, Small And Medium Enterprises (Msmes), SMEs, Social Media
3	Digital Transformation and Sustainability	16	Artificial Intelligence, Barriers, Commerce, Competition, Decision Making, Developing Countries, Digital Transformation, Employment, Factor Analysis, Industrial Research, Industry 4.0, Knowledge Management, Organizational Performance, Sales, Small And Medium Enterprise, Sustainable Development
4	Marketing and Profitability	10	Business, Competitiveness, Covid-19, Digital Marketing, Entrepreneur, Marketing, Performance, Profitability, Small And Medium-Sized Enterprise, Tourism
5	Financial Inclusion and Fintech	09	Economics, Enterprise Is, Finance, Financial Inclusion, Financial Technology, Fintech, Micro-Enterprises, Msme, Small-And-Medium Enterprise
6	Economic Growth and Productivity	06	Economic Growth, India, Manufacturing, Productivity, Supply Chain Management, Sustainability

3.4Country Wise Publication

Of the 94 countries covered in the sample, 17 have more than ten documents for shortlisting. Table 3 shows the top ten countries contributing to the research on MSMEs, financial performance, and related challenges. Indonesia tops the list with 347 documents,



and India ranks next with 277 publications but excels Indonesia more than ten times in terms of citations, that is, 2815 against 1192. This shows the massive impact of India and its fast-growing importance in MSME research, highlighting its important position in worldwide discussions on the subject.

Third is Malaysia, with 48 publications and 226 citations. Interestingly, South American countries such as Colombia (41 documents, 84 citations) and Mexico (36 documents, 317 citations) feature prominently, and the focus of research on MSMEs has been increasing as a result of the emerging economy context. Likewise, Ecuador accounts for 24 publications and 61 citations that support this trend. European and North American countries also show significant contributions, with the United Kingdom producing 24 documents and garnering 486 citations, and the United States with 18 documents and 262 citations. China, with 18 publications and 781 citations, shows the significant impact of research despite a lower number of documents.

The Philippines completes the list with 20 publications, 119 citations, and the role of playing an important position in Southeast Asia's MSME research landscape. It is significant that eight out of ten countries are from Asia or Latin America, demonstrating growing importance for those regions in determining the academic discussion around MSMEs.

Table 4

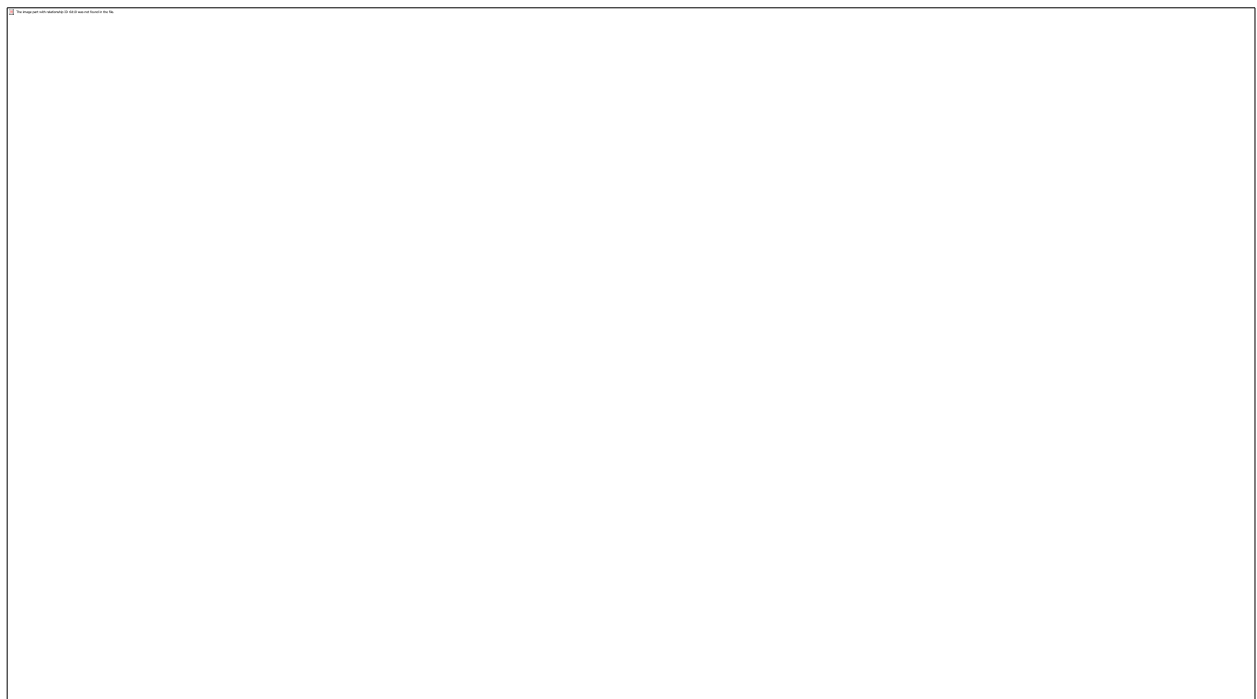
Country Wise Publications

S.No.	Country	No. of Documents	Citations
1	Indonesia	347	1192
2	India	277	2815
3	Malaysia	48	226
4	Colombia	41	84
5	Mexico	36	317
6	Ecuador	24	61
7	United Kingdom	24	486
8	Philippines	20	119
9	China	18	781
10	United States	18	262



3.5 Bibliographic Coupling

Citation analysis is used in this approach to assess the likelihood of two publications. It occurs when two articles in their bibliographies simultaneously refer to the same third publication. The “coupling strength” of two papers grows in proportion to the number of citations to other papers in which they are referenced (Martyn, 1964). Using quantitative network analysis approaches, collecting the links between all publications in a field of study aids in creating a research field map and identifying research subgroups (clusters) (Donthu et al., 2021; Zupic&Čater, 2015). The study obtained a pictorial depiction of 22 publications after applying this technique to the entire dataset of 970 articles and ensuring a minimum citation of 50 per document. Figure 3 depicts a graphical illustration of the same.



Cluster 1: Sustainability and Industry 4.0

This cluster focuses on the integration of sustainability and Industry 4.0 technologies in MSMEs, addressing barriers and enablers critical to their adoption. Khanzode et al. (2021) investigate the challenges MSMEs face in implementing Industry 4.0 for sustainable production. The study classifies barriers using the DEMATEL method into an “influencer” group and an “influenced” group; key issues were workforce readiness, access to credit, and such other important concerns. The present study has thus highlighted the critical



importance of taking up these issues to enhance the technological upgradation and policy-making process, integrating MSME's operations with a sustainable production base. Singh et al. (2021) build upon this by considering enablers for environmental Lean Six Sigma (LSS) in MSMEs. Through the use of Best Worst Method and tools of analytical validation, strategic and environmental enablers were central for integration towards sustainability. From their results, implementation of effective LSS helps mitigate waste and cost optimization to boost compliance in a bid for betterment towards sustainability in growth. Both studies within this cluster put emphasis on how advanced technologies and structured methodologies have been used in overcoming barriers to sustainability, and thus position Industry 4.0 as a transformative force for MSMEs.

Cluster 2: Barriers to Circular Economy Practices

It provides a solution regarding the barriers MSEs face during the adoption process of CE practices. Mishra et al. (2022) contributes largely by developing and validating an instrument to measure barriers, identifying seven key dimensions-these include, among others: resource constraints; operational inefficiencies; and inadequate awareness. Employing exploratory factor analysis as well as structural equation modeling for the study purposes, it was possible to produce a comprehensive framework to understand all these obstacles against MSME operation in better detail. CE practices adoption would allow MSMEs to achieve resource efficiency, waste reduction, and ultimately, long-term sustainability. The resource and technological constraints often become the barriers that impede such transition. Additionally, operational inefficiencies point towards optimizing workflows that will integrate the sustainable production method.

Structured interventions in the form of government incentives and educational programs play a pivotal role in bridging these gaps. Financial support and regulatory frameworks can encourage MSMEs to adopt CE practices, while capacity-building initiatives can raise awareness about the benefits of CE. By addressing these challenges, MSMEs can shift from a linear production model to a regenerative one, unlocking new opportunities for innovation, market competitiveness, and environmental stewardship. This cluster shows that policy support and systemic interventions are necessary to help MSMEs shift towards sustainable and economically viable business models.



Cluster 3: Technological Innovation for MSME Competitiveness

This cluster looks at the critical role of technological innovation in ensuring competitiveness in a globalized economy for MSMEs. Gupta and Barua (2016) identified the enablers of technological innovation, such as government policies, technical know-how, and resource availability. Applying a multi-criteria decision-making approach, the study emphasizes how these enablers push MSME innovation and enable their adaptation to fast-changing markets. Khurana et al. (2021) continue the story by exploring SOI practices. The authors concluded that top management support and financial resources are significant enablers for the implementation of SOI. This again implies that innovation needs to be aligned with sustainability objectives. The authors conclude that maintaining competitive advantage through innovation is vital for MSMEs and solving global problems.

Cluster 4: Lean and Green Practices

The studies in this cluster focus on the adoption of lean and green practices as a pathway to sustainability for MSMEs. Mohanty and Prakash (2013) focuses on GSCM practices; it is indicated that MSMEs face internal and external pressures to adopt environmentally sustainable operations. Internal pressures include on-the-job training, and external pressures from stakeholders, drive the adoption of GSCM practices, thereby making sustainability efforts very interconnected. Raut et al. (2019) also discuss the determinants of cloud computing adoption in MSMEs. Through DEMATEL, the authors identify some of the critical factors that would act as enablers for the effective implementation of CCA: cost, hardware scalability, and quality of service. The results suggest that innovative technologies should be utilized to increase sustainability and operational efficiency. This cluster points out the interplay between lean and green practices, demonstrating how technological and managerial innovations can drive sustainability in MSMEs.

Cluster 5: Digital Transformation and Performance Enhancement

This cluster captures the potential of digital technologies to enhance MSME performance. Martínez-Peláez et al. (2023) report that digital transformation is a means to sustainability as big data and stakeholder engagement are deemed necessary for attaining competitive advantage. Their paper describes a way forward for MSME managers regarding how to



develop a digital transformation project, mapping technological progress against sustainability objectives.

Achi et al. (2022) investigated the nexus between Corporate Social Responsibility, green process innovation, and the performance of MSMEs. Results of this study revealed that the adoption of green innovations undergirded by CSR has an impressive effect on business outcomes especially in turbulent environments. This research confirms the contribution of CSR toward the development of sustainability and resilience of MSMEs. The studies in this cluster illustrate the critical role of digital tools and sustainable practices in enhancing MSME performance, highlighting the importance of integrating innovation with strategic management.

Cluster 6: Cross-Functional Themes in MSME Research

This cluster encompasses a variety of interrelated themes in MSME research, such as leadership, competitiveness, and socio-economic impacts, which highlights the need for integrated approaches to deal with the challenges of MSMEs.

Leadership and Strategy: Rojero-Jiménez et al. (2019) investigate the impact of transformational leadership on MSME performance. Their findings highlight how leadership styles, especially transformational approaches, influence organizational outcomes by fostering a culture of innovation and adaptability within enterprises.

Competitive Advantage: Kharub and Sharma (2017) employ Porter's Diamond Model to examine competitiveness among MSMEs. It shows sectoral variations and underlying determinants like demand conditions and firm strategies. For example, pharmaceuticals have a greater degree of competitiveness compared to textiles because the latter has weak supporting industries and resources.

Women Entrepreneurship: The authors of this paper, Amrita et al. (2018), probed critical success factors pertaining to women entrepreneurs in MSMEs. It focused on individual capabilities, management practices, and supportive government initiatives for women-led enterprises. Therefore, the paper identifies these factors, which then provides actionable insights that would contribute to enhancing women's role in the MSME ecosystem.

These studies reflect the multifaceted nature of MSME research together. Through insights into leadership, strategy, and innovation, they focus on addressing challenges in an



integrated manner. Such approaches are critical to the enhancement of MSME resilience, competitiveness, and sustainable socio-economic development.

4. Discussion

MSMEs constitute the very essence of economic growth and innovation, especially in emerging economies such as India (Kumar, 2023). While their importance is by no means debatable, their myriad challenges, from financial barriers to technological adoption and sustainability issues, are by far the prime concerns. This bibliometric analysis reveals how important MSME research has been by bringing to light the critical gaps that need to be addressed to unlock its full potential.

The increasing output of publications specifically on the theme of MSME-related research, especially over the past few years, speaks to the increased interest in this sector among academics as well as policymakers. This is a reflection of the urge to tackle issues such as post-pandemic recovery, Industry 4.0 adoption, and the integration of sustainability practices in MSME operations. Countries as significant as India and Indonesia have dominated much of this research landscape, but there are still significant gaps to be filled from other regions, especially those as vital as Africa and Latin America, to address region-specific challenges and opportunities in MSMEs.

The most repeated theme in the literature was that Industry 4.0 technologies can support the transformation of MSMEs; however, the road to technological transformation is quite paved with obstacles. Studies show that one of the critical barriers to digitalization and automation of MSMEs is workforce readiness and credit access (Mohammed Shebeen et al., 2024). Policies alone cannot deal with these; it calls for a cultural shift in organizations as well as worker upskilling to be fit for a world of technology. Future researches should explore deeper into the long-run effects of such technologies on the growth and resilience of MSMEs. Sustainability also emerges as another cornerstone of MSME research with the increasing emphasis on integrating circular economy practices and green innovations (Gupta&Rashika, 2024). However, the results indicate that there are persistent operational inefficiencies and resource constraints that prevent MSMEs from making a transition towards sustainable models. Circular economy practices have immense benefits such as waste reduction and resource efficiency but are not accessible to many MSMEs because of



limited financial and technical resources. This gap, therefore, underlines the necessity of structured policy support, financial incentives, and collaborative efforts that will facilitate the adoption of sustainable practices. Further studies should examine how emerging technologies, such as blockchain and IoT, can be used to make the implementation of circular economy principles in MSMEs easier.

The theme of innovation and competitiveness dominates the researches on MSMEs (Civelek et al., 2023). The results show that technological innovation is a critical driver of competitiveness, allowing MSMEs to adapt to rapidly changing markets and sustain global competition. However, resource constraints, lack of technical expertise, and inadequate government support continue to hinder innovation in MSMEs. Policymakers must focus on initiatives that foster innovation ecosystems, such as public-private partnerships and innovation hubs, to provide MSMEs with the resources and mentorship they need to innovate effectively. Further research is needed to establish how MSMEs can use cutting-edge technologies such as artificial intelligence and machine learning to further enhance their innovation capabilities.

No discussion of MSME performance can be complete without considering the role of leadership and strategic management (Gezahegn et al., 2022). Transformational leadership styles, according to the literature, are an important aspect in creating a culture of innovation and adaptability in MSMEs. Leaders who focus on sustainability, digital transformation, and inclusivity can drive tremendous organizational change and ensure that their enterprises are competitive and resilient. Leadership studies should be extended to explore how leadership training programs and knowledge-sharing platforms can enable MSME leaders to embrace forward-looking strategies. Digital transformation is another recurring theme in MSME research (Elsa et al., 2025), with findings indicating its critical role in enhancing operational efficiency and market competitiveness. However, the journey toward digitalization is far from uniform. While some MSMEs have successfully adopted digital tools and platforms to streamline operations and reach new markets, others struggle with limited access to affordable digital technologies and infrastructure. Governments and technology providers must collaborate to create accessible digital solutions tailored to the unique needs of MSMEs. Future studies should also look into the digital platforms' role in



enhancing market access and customer engagement for MSMEs in remote and underserved regions.

The bibliometric analysis also highlights the importance of inclusivity in MSME development, especially in the context of women entrepreneurship and socio-economic impacts. Women entrepreneurs face unique challenges, including limited access to finance, societal biases, and insufficient government support (Rahman et al., 2023). Through these barriers and the enabling environment for women-led enterprises, MSMEs can leverage a largely underutilized resource, thus informing broader economic and social development goals. Future studies should explore the intersectionality of gender, entrepreneurship, and MSME performance, offering actionable insights to policymakers and practitioners.

Whereas findings in the preceding chapter offer value-added insights regarding MSME research, the findings reveal remarkable gaps that warrant further research. For example, there are few longitudinal studies that assess long-term effects of digital transformation, sustainability practices, and leadership strategies on MSME performance (Cerchione et al., 2018; Kurniasari et al., 2023). Further, the interconnection between various thematic areas, like the nexus of innovation and sustainability or the leadership effect on the adoption of technology, is hardly explored. The interdisciplinary research approaches can give more holistic understanding of these dynamics and offer an integrated solution for MSME-related challenges.

Thus, the analysis underscores that MSME research is dynamic and constantly evolving with the progress that has been achieved and the challenges that remain. The identified gaps can be used to address, and the findings of this study can be utilized by researchers, policymakers, and practitioners to co-create a resilient and sustainable MSME ecosystem. A path forward requires innovation, policy support, and strategic management, and should be done in a collaborative and inclusive approach, which unlocks the immense potential of MSMEs as engines of economic growth and social development.

5. Implications

Understanding the intricate dynamics of Micro, Small, and Medium Enterprises requires not only tackling their operational challenges but also seeing them as important drivers of economic transformation. This study has found multidimensional challenges and



opportunities that are interwoven into the MSMEs, such as sustainability, innovation, and leadership. These implications extend beyond theoretical advancement to offer critical managerial insights, shaping strategies that can redefine MSME performance and resilience in evolving global landscapes.

Theoretically, this study enriches the discourse on sustainability and innovation within MSMEs by uncovering the nuanced relationships between technological adoption and organizational growth. Past research, for example, Mishra et al. (2022), had identified barriers to circular economy practice adoption; this research expands on the foundation of the previous study and illustrates how the barriers interact with digital transformation and leadership. Through a mapping of the key research clusters, the study provides a framework for an overarching exploration of how MSMEs can meet all three environmental, economic, and social goals at once. The findings also contribute to leadership theory, especially transformational leadership, as a critical enabler of innovation and adaptability within resource-constrained enterprises (Rojero-Jiménez et al., 2019). These insights encourage the development of integrated theoretical models that address sustainability and innovation as intertwined rather than isolated constructs.

From a managerial perspective, the study underscores the critical role of leadership and strategic foresight in driving MSME success. Leaders in this industry must navigate a complex terrain marked by limited resources, technological disruptions, and evolving customer expectations. The findings suggest that transformational leadership, characterized by vision, adaptability, and stakeholder engagement, is essential for fostering a culture of innovation and sustainability. Managers must prioritize building organizational capacities that align short-term operational goals with long-term sustainability strategies, ensuring resilience in volatile market conditions.

The study also emphasizes the transformative power of digital technologies for MSMEs. Digital transformation is not only a technological upgrade but also a strategic imperative that transforms the way MSMEs operate, engage with customers, and compete in the market. Managers must take proactive steps to integrate digital tools into their operations- from big data analytics to streamlining supply chain processes. Whereas there is a need to overcome challenges like digital illiteracy and the cost of implementation, joint efforts with



technology providers and government-led initiatives can provide MSMEs with necessary resources and support to embrace and enjoy the benefits of digitalization. In addition to digital transformation, the study shows that sustainability is a strategic priority for MSMEs. MSMEs can achieve resource efficiency while reducing waste through circular economy practices and thus position themselves as leaders in sustainable business practices. Instead of treating sustainability as a cost, managers should treat it as a rich source of opportunities to innovate and differentiate in increasingly competitive markets. Supporting MSMEs include structured interventions such as green financing options, industry-specific benchmarks on sustainability, and the like.

Policymakers will be key in making sure that such information is converted into actionable policy strategies. For example, this research highlights systemic issues such as the lack of credit access and insufficient readiness of the workforce. This research will point out incentives related to financing that may involve, for instance, grants in using green technology or subsidies on digital tools that would help the MSME. Targeted training programs can also assist in building technical and managerial capacity to address challenges related to sustainability and innovation. Industry associations and academic institutions need to contribute as well by setting up knowledge sharing platforms and preparing training modules targeted at the MSME sector.

In essence, the implications of this study transcend traditional boundaries, offering a holistic perspective on how MSMEs can harness innovation, leadership, and sustainability to thrive in an increasingly complex global economy. By integrating these insights into practice, both researchers and practitioners can contribute to building a more resilient, competitive, and sustainable MSME ecosystem.

6. Limitations and Scope of Future Study

While this study sheds light on the research landscape on MSMEs, several limitations must be stated. The analysis is based solely on data drawn from the Scopus database. Although comprehensive, it may not be all-inclusive of relevant literature in other databases such as Web of Science or Google Scholar. This limited scope could have excluded some pertinent studies, especially those that are published in non-indexed regional or industry-specific journals.



Second, the study predominantly focuses on publications in English, missing other important contributions to knowledge outside of this medium. This linguistic bias limits cross-regional views, where non-English-speaking countries with much MSME development activity are underrepresented. This also limits the methodological approach, since the study depends on bibliometric tools like VOS viewer, which are robust but cannot capture qualitative nuances or the broader context of research findings. Therefore, more in-depth analyses of causal relationships or longitudinal impacts of themes such as digital transformation or sustainability on MSMEs fall outside the scope of this study. Future research could overcome these limitations by expanding the database sources to include multilingual studies and using mixed-method approaches that combine bibliometric analysis with qualitative methods. Longitudinal studies of how innovation, sustainability, and leadership are affecting MSMEs in different geographic regions would provide richer, context-specific insights.

References

- Achi, A., Adeola, O., & Achi, F. C. (2022). CSR and green process innovation as antecedents of micro, small, and medium enterprise performance: Moderating role of perceived environmental volatility. *Journal of Business Research*, 139, 771-781.
- Alafifi, A., Hamdan, A., & Al-Sartawi, A. (2019, September). The impact of financial literacy on financial operating decision makers in MSMEs. In *Proceedings of the European Conference on Knowledge Management, ECKM* (Vol. 1, pp. 1-9).
- Amrita, K., Garg, C. P., & Singh, S. (2018). Modelling the critical success factors of women entrepreneurship using fuzzy AHP framework. *Journal of Entrepreneurship in Emerging Economies*, 10(1), 81-116.
- Balboa, E., Ladesma, M., & Manguerra, A. N. (2024). Digital Financing Innovations and Their Impact on the Financial Performance of SMEs in the Digital Economy Era. *JMM17: Jurnal Ilmiah Ekonomi dan Manajemen*, 11(1), 88-98.
- Baumann, J., & Kritikos, A. S. (2016). The link between R&D, innovation and productivity: Are micro firms different?. *Research Policy*, 45(6), 1263-1274.
- Burnham, J. F. (2006). Scopus database: a review. *Biomedical digital libraries*, 3(1), 1-8.



- Cardella, G. M., Hernández-Sánchez, B. R., & Sánchez-García, J. C. (2020). Women entrepreneurship: A systematic review to outline the boundaries of scientific literature. *Frontiers in psychology*, 11, 1557.
- Cerchione, R., Centobelli, P., & Shabani, A. (2018). Sustainability orientation, supply chain integration, and SMEs performance: a causal analysis. *Benchmarking: An International Journal*, 25(9), 3679-3701.
- Civelek, M., Krajčík, V., & Fialova, V. (2023). The impacts of innovative and competitive abilities of SMEs on their different financial risk concerns: System approach. *Oeconomia Copernicana*, 14(1), 327-354.
- Cuéllar-Fernández, B., Fuertes-Callén, Y., & Serrano-Magdalena, A. (2024). Factors behind the resilience of rural startups. *Technological Forecasting and Social Change*, 206, 123521.
- Das, K. K., & Mahapatra, R. (2021). Financial performance analysis of MSME sector: An empirical study. *International Journal of Financial Engineering*, 8(01), 2150011.
- Dewan, N. (2024). Budget 2024: MSME data stack, alternative credit assessment models can bridge \$530 bn credit gap, says industry. *The Economic Times*. Retrieved from <https://economictimes.indiatimes.com/small-biz/sme-sector/budget-2024-msme-data-stack-alternative-credit-assessment-models-can-bridge-530-bn-credit-gap-says-industry/articleshow/111745366.cms?from=mdr>
- Dewi, M. U., Mekaniwati, A., Nurendah, Y., Cakranegara, P., & Arief, A. S. (2020). Globalization challenges of micro small and medium enterprises. *Eur. J. Mol. Clin. Med*, 7(11), 1909-1915.
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, 133, 285-296.
- Elsa, D., Indrawati, H., & Caska, C. (2025). Digital transformation in SMEs: global maps and trends of research. *Strategy & Leadership*.
- Ganguly, S. (2024). Small Firms and Covid-19 Disruptions: Survey-based Evidences and Policy Implications. *VOL. LXVI NO. III September 2024*, 66(3), 279-300.



- Gezahegn, M., Woldesenbet, K., & Hailu, K. (2022). The Role of Entrepreneurial Leadership on MSMEs' Effectiveness: A Systematic Literature Review. *Journal of Entrepreneurship & Management, 11*.
- Goyal, A. (2020). Post COVID-19: recovering and sustaining India's growth. *Indian Economic Review, 55*(Suppl 1), 161-181.
- Gupta, H., & Barua, M. K. (2016). Identifying enablers of technological innovation for Indian MSMEs using best-worst multi criteria decision making method. *Technological Forecasting and Social Change, 107*, 69-79.
- Gupta, P. K., & Rashika, T. P. (2024). Circular Economy in India-Shifting from Environmental Mitigation to Creating Value and Sustainable Growth. *Sustainable Development Goals & Business Sustainability, 71*.
- Hernández, J. P. S. I., Yañez-Araque, B., & Moreno-García, J. (2020). Moderating effect of firm size on the influence of corporate social responsibility in the economic performance of micro-, small-and medium-sized enterprises. *Technological Forecasting and Social Change, 151*, 119774.
- Jindal, M., Khatkar, S. K., & Gambhir, J. M. (2024). *Introduction To Entrepreneurship*. Abhishek Publications.
- John, J., Jacob, M., & Thomas, N. J. (2023). Financing micro and small enterprises in India through mutual credit guarantee schemes. In *BUSINESSES: RESILIENCE AND SUSTAINABILITY: Evidence from Emerging Market Developing Economies* (pp. 157-177).
- Khanzode, A. G., Sarma, P. R. S., Mangla, S. K., & Yuan, H. (2021). Modeling the Industry 4.0 adoption for sustainable production in Micro, Small & Medium Enterprises. *Journal of Cleaner Production, 279*, 123489.
- Kharub, M., & Sharma, R. (2017). Comparative analyses of competitive advantage using Porter diamond model (the case of MSMEs in Himachal Pradesh). *Competitiveness Review: An International Business Journal, 27*(2), 132-160.
- Khurana, S., Haleem, A., Luthra, S., & Mannan, B. (2021). Evaluating critical factors to implement sustainable oriented innovation practices: An analysis of micro, small, and medium manufacturing enterprises. *Journal of Cleaner Production, 285*, 125377.



- Koshy, P. (2010). Diversity And Multiculturalism As A Strategy For Strengthening MSMEs In The Global Market. *ERENET Profile*, 4.
- kumar Choubey, B. (2023). Evaluating The Role Of Policy Interventions In Enhancing Msme Access To Bank Financing. *Journal of Namibian Studies: History Politics Culture*, 34, 7411-7426.
- Kumar, G. (2023). A Comprehensive Study of Micro, Small and Medium Enterprises (MSMEs) and their Role in Fostering Inclusive Economic Growth in India. *International Journal of Education and Management Studies*, 13(3), 338-343.
- Kumar, H. (2024). MSMEs contribute 62% to employment in India: McKinsey Global Institute. *Business Standard*. Retrieved from https://www.business-standard.com/economy/news/msmes-contribute-62-to-employment-in-india-mckinsey-global-institute-124050301240_1.html
- Kumar, Y., Pandey, G., William Wordsworth, A. P., & Chauhan, J. S. (2018). Regional Imbalances in MSME Growth in India. *Reflecting on India's Development: Employment, Skill and Health*, 17-44.
- Kurniasari, F., Lestari, E. D., & Tannady, H. (2023). Pursuing long-term business performance: Investigating the effects of financial and technological factors on digital adoption to leverage SME performance and business sustainability—Evidence from Indonesian SMEs in the traditional market. *Sustainability*, 15(16), 12668.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., et al. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *Ital. J. Public Health* 7, 354–391.
- Maheshkar, C., & Soni, N. (2021). Problems faced by Indian micro, small and medium enterprises (MSMEs). *SEDME (Small Enterprises Development, Management & Extension Journal)*, 48(2), 142-159.
- Martínez-Peláez, R., Ochoa-Brust, A., Rivera, S., Félix, V. G., Ostos, R., Brito, H., ... & Mena, L. J. (2023). Role of digital transformation for achieving sustainability: mediated role of stakeholders, key capabilities, and technology. *Sustainability*, 15(14), 11221.



- Martyn, J. (1964). Bibliographic coupling. *Journal of documentation*, 20(4), 236-236.
- Mayanj, S. N. (2023). SDGs, the Green Economy and Finance, and the Role of MSMEs. *International Journal of Small and Medium Enterprises and Business Sustainability*, 8(1), 70-100.
- Mhlanga, D. (2022). Prospects and challenges of digital financial inclusion/Fintech innovation in the fourth industrial revolution. *Digital financial inclusion: Revisiting poverty theories in the context of the Fourth Industrial Revolution*, 163-182.
- Mishra, R., Singh, R. K., & Govindan, K. (2022). Barriers to the adoption of circular economy practices in micro, small and medium enterprises: instrument development, measurement and validation. *Journal of Cleaner Production*, 351, 131389.
- Mohammed Shebeen, T., Shanthi, R., & Mathiyarasan, M. (2024). Navigating Industry 4.0: Skill Development Strategies for Empowering MSMEs in the Digital Age. In *Anticipating Future Business Trends: Navigating Artificial Intelligence Innovations: Volume 2* (pp. 453-462). Cham: Springer Nature Switzerland.
- Mohanty, R. P., & Prakash, A. (2014). Green supply chain management practices in India: an empirical study. *Production Planning & Control*, 25(16), 1322-1337.
- Monachan, S., Hameed, A., Babu, T., Nair, R. R., Sharma, R., Chinnaiyan, R., & Sungheetha, A. (2024, February). Challenges and Opportunities: Assessing the Impact of GST on MSMEs and the Need for Ongoing Support. In *2024 4th International Conference on Innovative Practices in Technology and Management (ICIPTM)* (pp. 1-7). IEEE.
- MSME. (2023). Annual Report 2023-24. MSME. Retrieved from <https://msme.gov.in/sites/default/files/FINALMSMEANNUALREPORT2023-24ENGLISH.pdf>
- Mukherjee, S. (2018). Challenges to Indian micro small scale and medium enterprises in the era of globalization. *Journal of Global Entrepreneurship Research*, 8, 1-19.
- PIB. (2023). Contribution of MSMEs to the country's GDP. PIB. Retrieved from <https://pib.gov.in/PressReleaselframePage.aspx?PRID=1985020>
- Podsakoff, P. M., MacKenzie, S. B., Bachrach, D. G., and Podsakoff, N. P. (2005). The influence of management journals in the 1980s and 1990s. *Strategic Management Journal*, 26, 473-488.



- Prakash, B., & Verma, J. K. (2019). Magnitude of Financial Distress in Micro, Small and Medium Enterprises (MSMES) in Bihar, India: A Test of Altman Z'Score. *Journal of Advanced Research in Law and Economics*, 10(4 (42)), 1227-1239.
- Prakash, B., Kumar, I., & Verma, J. K. (2021). Barriers and potential solutions for MSMEs in developing economies: Evidence from India. *Problems and Perspectives in Management*, 19(4), 325-337.
- Putra, A. H. P. K. (2024). Harnessing Community Potential: Financial Inclusion Strategies for SME Empowerment. *Golden Ratio of Community Services and Dedication*, 4(1), 24-36.
- Rahman, M. M., Dana, L. P., Moral, I. H., Anjum, N., & Rahaman, M. S. (2023). Challenges of rural women entrepreneurs in Bangladesh to survive their family entrepreneurship: a narrative inquiry through storytelling. *Journal of Family Business Management*, 13(3), 645-664.
- Rajamani, K., Jan, N. A., Subramani, A. K., & Raj, A. N. (2022). Access to finance: challenges faced by micro, small, and medium enterprises in India. *Engineering Economics*, 33(1), 73-85.
- Ramachandran, S., & Chandramohan, B. P. (2023). Problems in availing Institutional Finance by Informal MSMEs in India with special reference to MUDRA Loans and Udyam Registration. *The Indian Economic Journal*, 5, 255-268.
- Rao, S., Satya Nandini, A., & Zachariah, M. (2024). Predicting Indian SME financial distress: an ex-ante approach. *Vilakshan-XIMB Journal of Management*, 21(2), 281-292.
- Raut, R. D., Gardas, B. B., Narkhede, B. E., & Narwane, V. S. (2019). To investigate the determinants of cloud computing adoption in the manufacturing micro, small and medium enterprises: A DEMATEL-based approach. *Benchmarking: An International Journal*, 26(3), 990-1019.
- Rizki, A., & Hendarman, A. F. (2024). Empowering financial and digital literacy to build resilience of MSMEs: Proposed implementation in Bandung City. *International Journal of Current Science Research and Review*, 7(10).



- Rojero-Jiménez, R., Gómez-Romero, J. G. I., & Quintero-Robles, L. M. (2019). Transformational leadership and its influence on the attributes of the followers on Mexicans MSMEs. *Estudios Gerenciales*, 35(151), 178-189.
- Rwigema, P. C. (2020). Effect of covid-19 on micro, small and medium enterprises (MSMEs) in Rwanda. *The Strategic Journal of Business & Change Management*, 7(4), 1630-1655.
- Shafi, M., Liu, J., & Ren, W. (2020). Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. *Research in Globalization*, 2, 100018.
- Sharma, A. K., & Rai, S. K. (2023). Understanding the impact of Covid-19 on MSMEs in India: Lessons for resilient and sustained growth of small firms. *Journal of Small Business Strategy*, 33(1), 70-83.
- Sikka, V., & Bhayana, P. (2024). Barriers to Comprehensive Financial Inclusion Across the Globe: From Sociocultural Norms to Systemic Challenges. In *E-Financial Strategies for Advancing Sustainable Development: Fostering Financial Inclusion and Alleviating Poverty* (pp. 89-126). Cham: Springer Nature Switzerland.
- Singh, M., Rathi, R., & Garza-Reyes, J. A. (2021). Analysis and prioritization of Lean Six Sigma enablers with environmental facets using best worst method: A case of Indian MSMEs. *Journal of cleaner production*, 279, 123592.
- Singh, N., & Gupta, D. O. P. (2023). Growth of Micro, Small and Medium Enterprises (MSMEs) in India and its Role in Indian Economy. *Int. J. Multidiscip. Res*, 5(4), 1-5.
- Tambunan, T. T. (2018). MSMEs and access to financing in a developing economy: The Indonesian experience. In *Financial entrepreneurship for economic growth in emerging nations* (pp. 148-172). IGI Global.
- The Hindu. (2024). MSMEs continue to face challenges in formalisation and accessing credit: Economic Survey. *The Hindu*. Retrieved from <https://www.thehindu.com/business/msmes-continue-to-face-challenges-in-formalisation-and-accessing-credit-economic-survey/article68432203.ece>
- Vallaster, C., Kraus, S., Nielsen, A., and Merigo Lindahl, J. M. (2019). Ethics and entrepreneurship: a bibliometric study and literature review. *J. Bus. Res.* 99, 226–237.



- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational research methods*, 18(3), 429-472.
- Economic Survey (2022). **Ministry of Finance, Government of India**. Retrieved from <https://www.indiabudget.gov.in/>
- FICCI (2023). **Annual Report on MSMEs in India**. Federation of Indian Chambers of Commerce and Industry.
- IFC (2020). **MSME Financing in India: Status and Recommendations**. International Finance Corporation.
- India Today (2023). **Digital Transformation of MSMEs: Challenges and Opportunities**. Retrieved from <https://www.indiatoday.in/>
- Reserve Bank of India (2022). **Report on MSME Credit and Financial Inclusion**. Retrieved from <https://rbi.org.in/>
- The Economic Times (2022). **MSME Sector Struggles with Financial Bottlenecks Amid Policy Push**. Retrieved from <https://economictimes.indiatimes.com/>
- Chatterjee, P., & Basu, R. (2022). Financing Sustainability in MSMEs: Challenges and Opportunities. *Journal of Small Business and Enterprise Development*.
- Das, S. (2022). Evaluating the Impact of Government Schemes on MSME Financial Health. *Economic and Political Weekly*.
- Deshmukh, V., & Rao, S. (2020). The Role of Financial Literacy in Enhancing MSME Performance. *Indian Journal of Finance*.
- Gupta, A., & Jain, R. (2021). Barriers to Finance for Women Entrepreneurs in MSMEs. *Journal of Entrepreneurship Studies*.
- Kumar, R., & Singh, A. (2021). Impact of COVID-19 on Liquidity in Indian MSMEs. *Journal of Business Economics*.
- Mundra, P., Sharma, N., & Verma, K. (2021). Policy Interventions for MSME Growth: A Regional Analysis. *Asian Journal of Economics and Finance*.
- Patel, D., & Mehta, K. (2021). Exploring Sectoral Diversity in MSMEs: Implications for Financial Policies. *Global Business Review*.



Ranjan, P., Mukherjee, S., & Banerjee, A. (2021). Digital Lending as a Catalyst for MSME Growth. *Financial Innovation Journal*.

Sharma, K., & Goyal, R. (2020). The Financial Exclusion of MSMEs: Causes and Consequences. *Indian Journal of Economic Studies*.

Singh, P., Kumar, R., & Gupta, A. (2022). Globalization and MSME Supply Chains: Challenges and Opportunities. *Journal of Global Trade and Business*.