Mapping the Landscape of Social Sustainability in Manufacturing-Based MSMEs: A Bibliometric Systematic Literature Review

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Abstract
This study puts together a systematic review of the evolving social sustainability research landscape in manufacturing based MSMEs, with a specific focus on the Indian context, by means of a bibliometric review of 1135 Scopus indexed publications. The paper, adopting PRISMA guidelines and VOSviewer, identifies the main themes related to worker safety, gender equity, fair wages and community engagement. It utilizes emerging model such as Industry 5.0 and green entrepreneurship and addresses how social practices influence economic performance and growth. It is found that there are regional and thematic gaps, particularly in the field of mental health, employment ergonomics and notably in the Northeast India which is underrepresented. This study contributes by consolidating current knowledge and provides tools for practitioners in the context of alignment of local practice with global sustainability goals through proposing implementation frameworks. Based on the findings, future research is proposed for encouraging inclusive, resilient, and digitally empowered MSMEs in various sectors in India.

Keywords: Social Sustainability, MSMEs, Manufacturing, Bibliometric Review, PRISMA, VOSviewer, Labour Rights, Inclusive Growth.

1. Introduction

1.1 Background of Social Sustainability in MSMEs

The social sustainability in micro, small and medium enterprises (MSME) entails ethical practices aimed at the good part of the society besides economic growth. In India specifically, the social sustainability for MSMEs includes corporate social responsibility (CSR), labor rights, workplace safety, and growth. Specifically, these practices deal with fair wages and gender equality, as well as with community engagement – issues of the utmost importance in labor-intensive sectors like textiles and automotive components (Baskaran et al., 2011). Indian MSMEs lack sufficient financial resources to promote sustainability, lack awareness of the benefits of sustainable development in the course of doing business, and have limited institutional support due to the lack of resources in rural areas. Many MSMEs have a certain informal nature whereby it becomes difficult to deal with issues of discrimination and unsafe working conditions, which then requires targeted interventions. With recent advancements like digital tools and human centric frameworks, Industry 5.0, that allow social sustainability to be integrated, there are however, vast gaps in adoption. India's rapidly industrialising economy, along with Make in India, national initiatives like these places great emphasis on aligning with global sustainability goals and with development that is inclusive. Hence a need for understanding these dynamics is felt to support MSME's of India.

1.2 Importance of Manufacturing-Based MSMEs in Sustainable Development

MSMEs based on manufacturing are extremely important for the sustainable development of India as they generate over 30% of GDP and create millions, not only in urban areas but, in fact, over mostly rural and semi urban areas. These enterprises are in the sector of apparel, food processing or automotive that results in economic growth as well as addressing social as well as environmental challenges. MSMEs adopt social sustainability practices like safe workplaces and fair wages, which improve well-being of employees, reduces turnover and increases productivity, thereby supporting long term economic stability (Kotturu & Mahanty, 2019). By practicing ethical behaviors such as community engagement and diversity, local economies are sustained and builds brand loyalty that is compatible within sustainable goals as decent work and reduced inequalities. As such, manufacturing MSME also creates jobs for marginalized groups like women and rural youth in India and contributes to inclusive growth. Resource constraints and regulatory gaps limit their potential, however. The combination of green entrepreneurship and digital innovations by these MSMEs augurs well for India's sustainability agenda, leading to the convergence of economic progress, social equity and environmental stewardship, and thus they remain indispensable to the progress of the nation.

1.3 Rationale for Conducting a Bibliometric SLR

To combine the increasing literature for social sustainability within MSMEs in India, a bibliometric systematic literature review is pivotal. To integrate CSR, labor rights and digital tools in resource constrained settings, there has to be a structured review of past research outcome to identify what trends exist, opportunities and gaps from the past research. Quantitative mapping (mapping research themes, authorship patterns, etc.) is possible with bibliometric methods and gives a broad overview of the field. An SLR is useful in the Indian context where MSMEs operate in varied socio-economic conditions and offers an opportunity to articulate challenges in terms of regions and sectors such as low adoption in rural areas and sectors which have unique needs, for example in textiles ethical sourcing. This approach also responds to the disintegrated nature of the existing research in different niches, not only focused on the industrial diamond hubs but also not looking at the underrepresented regions, such as the northeast (Ansar et al., 2025). This study consolidates insights, identifies underexplored areas like workplace ergonomics, and informs evidence-based policies that Indian MSMEs need to adhere to in order to be aligned with global sustainability standards by systematically reviewing the 76 sources.

1.4 Scope and Aim of the Study

This study examines main factors like worker safety, gender equality, fair wages, and community engagement with respect to the social sustainability in Indian manufacturing based MSMEs. The work covers 76 provided literature sources for India specific challenges and opportunities in such as textile, food processing and automotive. The target group involves urban and rural MSMEs with a focus on regional disparity, especially in disadvantaged regions such as northeast. This paper seeks to synthesize insights on how social sustainability practices are conducive to the growth, economic performance and sustainable development in India. The study identifies the research gaps such as the mental health initiatives and intersectional diversity and offers the actionable recommendations for the policymakers and MSME stakeholders to explore the emerging trends like digitalization and Industry 5.0. In addition, it seeks to put in place frameworks for implementation suitable to India's varied economic terrain for increasing the resilience as well as inclusivity of MSMEs in line with the national sustainability and development agendas.

1.5 Objectives of the Paper

1.To systematically identify and analyze the existing literature on social sustainability in manufacturing-

based MSMEs using PRISMA guidelines.

2.To map the thematic structure and evolution of key research topics and trends related to social sustainability in MSMEs.

3.To assess the impact of social sustainability initiatives on the growth and economic performance of MSMEs as reflected in the literature.

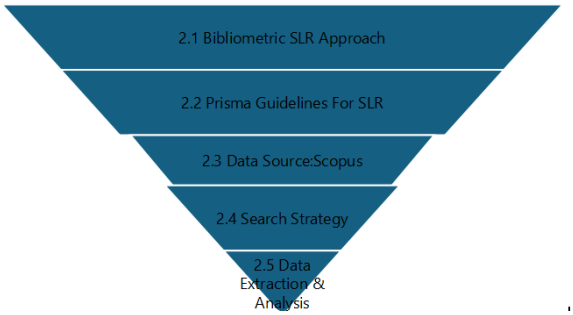
4.To identify research gaps and offer future research directions that can guide scholars and practitioners in the field.

2.Research Methodology

In this study we use an SLR based on bibliometrics to explore the intellectual and thematic landscape, as well as the collaborative landscape of research on social sustainability of manufacturing-based micro, small, and medium enterprises (MSMEs). The idea of the approach is to bring the accuracy of systematic review protocols to the institutions of bibliometric instruments, so as to derive meaningful information from a large corpus of scholarly literature.

The Flow Chart of Methodology is shown in Fig. 1

Part-1



Part-2

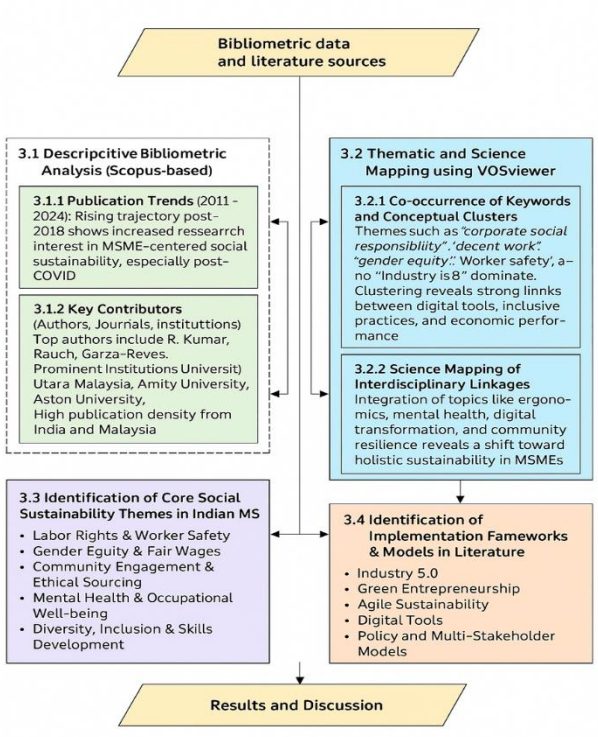


Figure 1: Methodology Flow Chart of the study (Part-1 & Part-2)

2.1 Description of Bibliometric SLR Approach

An SLR based on bibliometric uses quantitative bibliometric means in conjunction with structured literature review process to undergo object analysis on the scope, patterns and trends in the research domain in question. This differs from narrative reviews in that it relies on metadata (author names, keywords, citations, institutions) to identify influencer contributors, collaboration networks and thematic clusters. Since it is particularly well suited to the synthesis of large volumes of data and the assessment of the evolution of knowledge structures

across time, it is of special interest for the niche outlined above.

2.2 Use of PRISMA Guidelines for Systematic Review

The review process was guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure transparency, replicability, and methodological rigor. The process involved four key stages:

- **Identification:** Retrieving records from the Scopus database using a predefined search strategy.
- **Screening:** Removal of duplicates and irrelevant document types (e.g., editorials, notes).
- **Eligibility:** Evaluation based on abstracts and keywords to ensure relevance to the themes of MSMEs, sustainability, and manufacturing.
- **Inclusion:** Final selection of studies for bibliometric analysis.

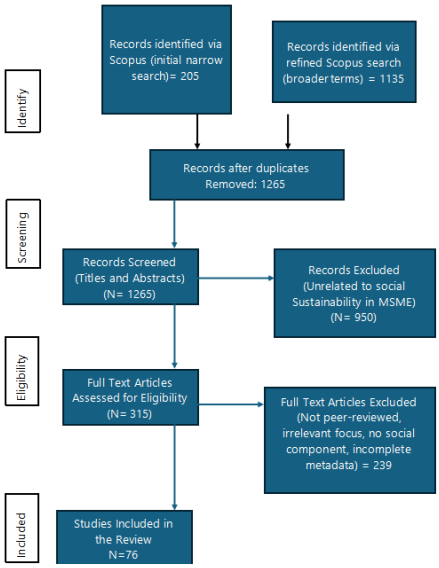


Figure 2: PRISMA Flow Chart

2.3 Data Source: Scopus

A suitable database for this study was the Scopus database, which is best due to its broad coverage of the peer reviewed academic literature over all fields of research, its well structured metadata, as well as being compatible with the bibliometric tools VOSviewer. Scopus maintains the quality of curated contents and gives reliable citation metrics of bibliometric mapping.

2.4 Search Strategy (Keywords, Inclusion/Exclusion Criteria)

The initial search strategy was narrowly focused on combinations like "social sustainability" AND "MSMEs" AND "manufacturing", which yielded only 205 documents. Recognizing the limitations of this strict approach, the search string was expanded to include broader and synonymous terms frequently used in relevant literature, such as:

- Social Terms: “corporate social responsibility,” “CSR,” “decent work,” “employee wellbeing,” “labour standards,” “social practices”
- Enterprise Terms: “SMEs,” “MSMEs,” “small and medium enterprises,” “small business,” “micro enterprise,” “entrepreneurship”
- Sector Terms: “manufacturing,” “industrial sector,” “production firms,” “factory work”

Using Boolean operators (AND/OR) across these clusters and applying filters for language (English), document type (articles, reviews, conference papers), and year (2011–2024), the refined search yielded 1135 relevant documents from Scopus.

Search String:

("sustainability" OR "corporate social responsibility" OR CSR OR "social performance")

AND

("SME" OR "MSME" OR "small and medium enterprises" OR "small businesses")

AND

("manufacturing" OR "industrial" OR "production")

Inclusion Criteria:

- Peer-reviewed studies focused on sustainability practices in MSMEs or small enterprises
- Papers addressing at least one social dimension (e.g., labor, equity, safety, well-being)
- Emphasis on the manufacturing or industrial context

Exclusion Criteria:

- Studies focused solely on environmental or economic sustainability
- Papers unrelated to small enterprise contexts
- Non-English or inaccessible full texts

2.5 Data Extraction and Analysis

The full bibliographic records of the selected 1135 documents were exported in .CSV format for analysis. This included metadata such as author names, affiliations, keywords, titles, abstracts, source journals, and citation counts. Manual screening was conducted to ensure thematic relevance and to refine the dataset by removing peripheral or unrelated works.

The analysis was carried out in two phases:

1. Descriptive Bibliometric Analysis – To determine publication trends, most productive authors, journals, institutions, and countries.

2. Thematic and Conceptual Mapping – To uncover dominant research themes, keyword networks, and intellectual structures.

2.6 Tools Used: VOSviewer

The bibliometric analysis was conducted using VOSviewer, a visualization software widely used for mapping scientific literature. Three core functions were utilized:

- Co-authorship analysis: To identify collaboration patterns among authors, institutions, and countries.
- Keyword co-occurrence mapping: To detect frequently associated terms and thematic clusters in the domain.
- Co-citation and bibliographic coupling: To uncover intellectual linkages and influential studies shaping the discourse on social sustainability in MSMEs.

The visual maps generated via VOSviewer provide a data-driven overview of how the research landscape has evolved over time and where scholarly attention is concentrated.

3.Descriptive Analysis

3.1 Publication trends (year-wise)

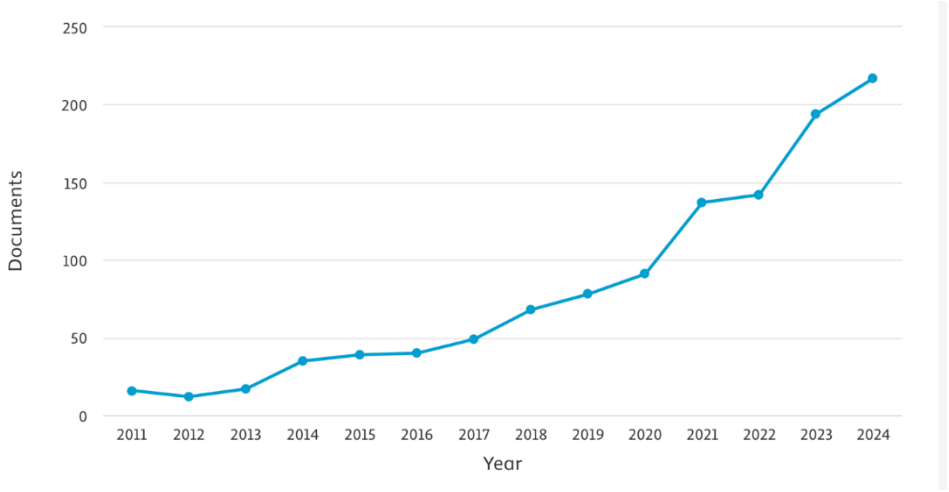


Figure 3: Publication Trends

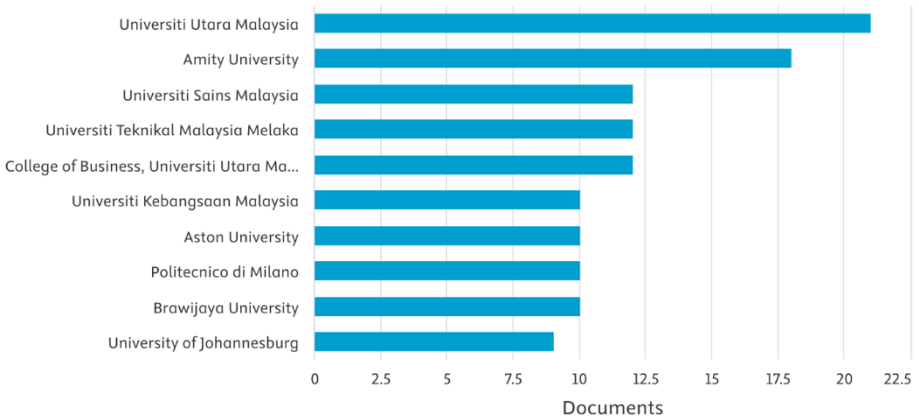
From the figure no. 3, the 2011 to 2024 publication trends show a constant and significant up growth in scholarly in interest in the field of social sustainability in manufacturing based MSMEs(Manufacturing small and medium enterprises). Even so, the figure has grown from 16 in 2011 to 217 in 2024. There were significant spikes after 2019 and we believe it was due to a boosted attention to sustainability, labor rights, and inclusive industrial growth on a global level. The sharp increase from 2020 onwards can also be explained by the importance placed on socially responsible and resilient business practices following the pandemic. The results indicate an emerging movement of recognizing MSMEs as key drivers of sustainable development and requiring social approach to spurred industrial sectors.

Table 1: Year-wise trends in publication

2024	217
2023	194
2022	142
2021	137
2020	91
2019	78
2018	68
2017	49
2016	40
2015	39
2014	35
2013	17
2012	12
2011	16

3.2 Most prolific journals, authors, and institutions

The figure 4 illustrates the top-ranking institutions in research on social sustainability in MSMEs based manufacturing. Universiti Utara Malaysia is topped with over 22 documents, suggesting a strong institutional sustenance of sustainability and MSMEs. Universiti Sains Malaysia and Amity University follow closely because emerging economies are the centres of active research, which we can see. The list features Malaysian universities which reveal the country's strategic focus on the practices that aim to be sustainable. Politecnico di Milano's European institutions like Aston University and University of Johannesburg join, along with Brawijaya University and University of Johannesburg as other global academic engagement. The spread of this research is regional leadership and international collaboration.



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The data is shown in the figure 5, that presents the most prolific authors studied in the field of social sustainability in manufacturing based MSMEs. R. Kumar leads with 10 publications, which represents a continuous and strong feature in the field. Following are 6–7 publications by Rauch, E., Dey, P.K., and Garza-Reyes, J.A., all engaged in research of matters pertaining towards sustainability. Authors such as Mathiyazhagan, K., Rathi, R., Singh, S. have 5 documents with equal contribution, and this points to the increasing geographic spread of interest among the academicians. The distribution of this paper depicts an active and collaborative global research community which is constituted by Indian and European scholars contibuting to the discourse on sustainable pract

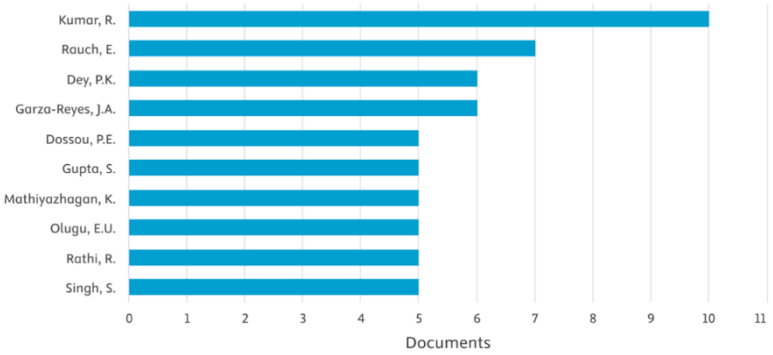

Figure 5: Most prolific Authors

3.3 Countries contributing the most research

Figure 6 presents the top 10 countries contributing to the literature on this subject, measured by the total number of documents published. India emerges as the most prolific contributor, with approximately 172 documents. This dominance underscores the critical importance of MSMEs to the Indian economy and the intense academic focus on aligning these enterprises with global sustainability goals. Following India, the United Kingdom (107 documents) and Malaysia (105 documents) show significant output, suggesting a strong research interest in Commonwealth and emerging Southeast Asian economies. The presence of countries like Italy (79), the United States (55), and Spain (44) alongside Indonesia (93) and South Africa (44) indicates that while social sustainability is a global concern, the research is increasingly driven by nations where MSMEs face unique socio-economic and labor-intensive challenges.

Figure 7 visualizes the country co-authorship network, providing insights into how knowledge is shared across borders. The size of the nodes (circles) corresponds to the volume of publications, with India, the United Kingdom, and China acting as central pillars in the global network. The colors represent different research clusters or "communities of practice." The Orange Cluster (featuring India, South Africa, and Egypt) suggests a strong South-South collaboration, likely focused on challenges unique to developing and emerging markets. The Purple Cluster (China, Australia, South Korea) and the Blue/Green Clusters (UK, USA, Italy, Spain, and Germany) highlight established academic corridors between Western and East Asian economies. The lines (links) between countries represent collaborative research efforts. India shows strong links not only within the Asian region (Malaysia, Indonesia, Bangladesh) but also extensive bridges to European and North American institutions. This interconnectedness suggests that the "Indian context" of social sustainability is being studied with both local depth and global perspective, allowing for the cross-pollination of sustainability frameworks and best practices.

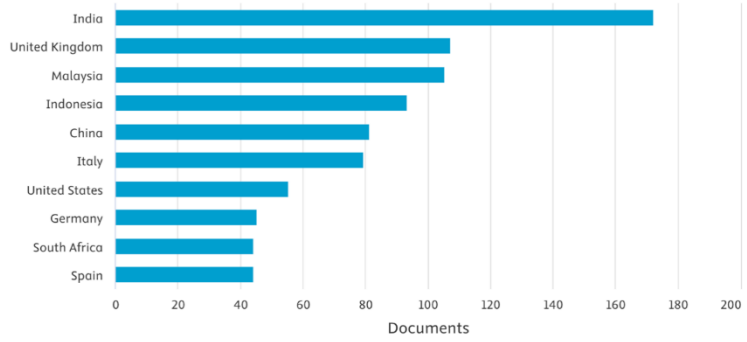

Figure 6: Most prolific Countries

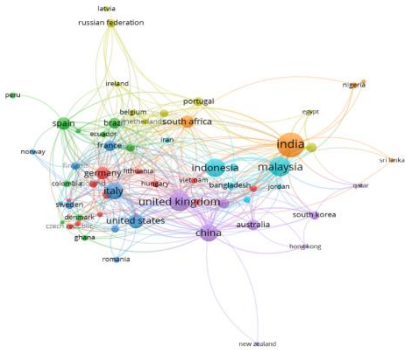

Figure 7: Map of Most prolific Countries

3.4 Keyword co-occurrence and thematic clustering (VOSviewer maps)

The co-occurrence and thematic clustering analysis of the keyword indicates a rich and diverse intellectual landscape relating to social sustainability in manufacturing based MSMEs. These core themes are sustainability (387), sustainable development (317), and small and medium sized enterprises (SMEs) (multiple variants summing to over 300 mentions), indicating their importance. Keywords at the high frequency end of frequency (innovation, decision making, environmental management, corporate social responsibility (CSR)) help demonstrate consistent focus on operational improvements and responsible business practice. Green manufacturing, digital transformation, and Industry 4.0 are the most emphasized parts that emerge clusters indicate the integration of technology and the environmental goals. Terms like barriers, performance, resilience, and strategic approach highlight ongoing challenges and success factors. Terms such as waste management, energy efficiency and social aspects are exhibited as indicators of a balanced concern of both environmental as well as the social dimension. In aggregate, these clustering points suggest that evolution of research agendas is underway as they pertain to the manufacturing of MSMEs that combine sustainability, competitiveness, and digital innovation.

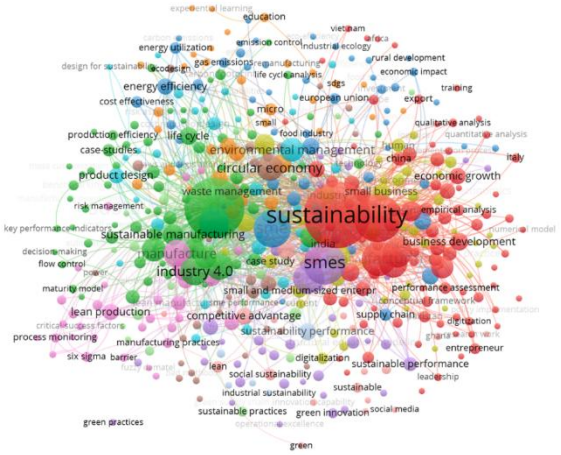

Figure 8: Keyword co-occurrence in papers

This descriptive analysis reaffirms the increasing global importance of social sustainability in manufacturing based MSMEs from 2019 onwards. The sharp increase in publications particularly from developing countries like India and Malaysia is befit of the academic and policy interest after the COVID pandemic in socially responsible business models. A collaborative global research network, India and China are leading institutions and authors. The evolving discourse of sustainability, CSR, Industry 4.0 and digital innovation is disclosed more in target keyword clustering. The findings collectively suggest that MSMEs are becoming a critical source of sustainable development agents where interdisciplinary research and implementation models shall play a big role.

3.5 Major Themes Emerging in Literature

3.5.1 State of Social Sustainability in MSMEs

However, MSMEs problem of social sustainability is due to insufficient resources, low awareness and weak institutional support (Baskaran et al. 2011). By investing money, CSR boosts PR for a brand but is usually unaffordable for small companies (Hsu & Cheng, 2012). Difficult to address issues of

discrimination and child labor, and all within informal structures (Baskaran et al., 2011). However, compliance costs of workplace safety affect the already stretched budgets (Rebelo et al., 2014), and employees' well-being is in check. Diversity is a source of innovation, but awareness is low (Adeniji et al., 2024). Adoption of sustainable practices is restricted due to financial constraints, therefore, subsidies (Kocmanova et al., 2011). However, progress is hindered by lack of awareness of sustainability benefit, which gives rise to the need of educational initiatives (Tantalo et al., 2012). Challenges (Hoogendoorn et al., 2015) are exacerbated by weak institutional support such as the absence of a policy framework(s). The adoption barriers for these digital tools like ERPs, method of tracking sustainability (Adam et al., 2011). Capacity can be enhanced through multi stakeholder collaboration and derive from policy support with the aim to scale (Kazantsev et al., 2024). The adoption of social sustainability by MSMEs creates a sense of community trust in spite of systemic barriers (Madhavan et al., 2024), which goes with global goals.

3.5.2 Factors

The social sustainability in manufacturing MSMEs includes safety in work, gender equality, wages, training, working well and relationship with the community. Retaining and productivity can be increased through worker safety and occupational health (Arrieta Quiñones et al., 2023; Ji et al., 2022). Innovation is fueled by gender equality and diversity, and as diversity exists, so does higher performance (Adeniji et al., 2024; Basu et al., 2024). Fair wages and job security ensures equity, stimulating workers and not the turnover (Martzopoulou & Firfiris, 2019). Empowerment of employees in training and skill development is consistent with Industry 5.0's focus on people (Nazarejova et al., 2024; Kotturu & Mahanty, 2019). This results in a great morale in production settings (Sutarto & Izzah, 2022). Ethical sourcing leads to community engagement that helps to build social ties which may lead to reputation building (Hofmann et al., 2022; Olubiyi et al., 2024). Risks are mitigated through the safety compliance, yet there is an investment (Thaba & Mbohwa, 2016). Cultural barriers exist towards diversity initiatives that require awareness campaigns (Baskaran et al., 2011). Financial constraints of fair remuneration struggle (Hyder & Sundström, 2018). Access (Ud Din & Paul, 2023) limited the upskilling via digital platforms. Cultural changes are required for well-being programs (Manzoor et al., 2019). Given the need of strategic planning to balance the costs and benefits, ethical practices are paramount (Seraj et al., 2022). Such factors require specific responses for social sustainability.

3.5.3 Impact on Growth

MSMEs' growth through employee loyalty, resilience and market expansion is a main reason adopted to foster social sustainability. Fair wages and worker safety increase worker commitment, as does ethical behavior such as in job turnover (Huang et al., 2022; Wright & Thorpe, 2015). The well-being initiatives, which focused on the mental health, boosts productivity, and supporting long term growth (Sutarto & Izzah, 2022). Local hiring is a component of community engagement, which is a cornerstone of process involving communities, building trust, enhancing brand reputation and customer retention (Ashton et al., 2017; Fatoki, 2019). Such human centered innovation (as ergonomic designs) allows for sustainability of scaling by improving efficiency (Darmandieu et al., 2022; Adeyeri et al., 2018). Ethical consumers are attracted to CSR initiatives and market share is therefore expanded (Manzoor et al., 2019). Innovation, therefore, is promoted by diversity which offers new opportunities (Adeniji et al., 2024). The resilience finds its basis in transparent practices: against economic shocks (Ahn et al., 2023). For instance, apparel MSMEs with the implementation of ethical sourcing win customer loyalty (Hofmann et al. 2022). ERP system provides digital tools that streamline operations for growth (Adam et al., 2011). Since resource limitations and low awareness hamper adoption, policy support (Sendawula et al., 2024; Meirelles et al., 2014) is needed. Competitive advantage comes from social sustainability and generates sustainable growth based on loyalty and reputation (Ansar et al., 2025).

3.5.4 Impact on Economic Performance

MSME economic performance is improved through social sustainability, in that productivity, profitability, and risk reduction are increased. Supposing fair wages and safe workplaces enhance morale and the output (Martzopoulou & Firfiris, 2019; Arrieta Quiñones et al., 2023). Accident costs are reduced and the efficiency is increased as safety compliance is achieved (Thaba & Mbohwa, 2016). Such practices inspire the customers as those practices are ethical and they will stick to your business (Tetrevova, 2018). Sustainability reporting more transparent is believed to prompt investor confidence so as to lower capital charges (Schwab et al., 2019). It was demonstrated that diversity leads to improved decision making and it makes profitability better (Basu et al., 2024). As a result, sector specific outcomes are various. Apparel MSMEs benefit from ethical branding while tech firms obtain from innovation (Hofmann et al., 2022; Pozo et al., 2012). Supply chain stabilizing, it reduces risks (Awan & Sroufe, 2022). Digital tools, for example, digital twins reduce costs (Ud Din & Paul, 2023). Particularly, MSMEs (Gani et al., 2022) encounter compliance costs and resource constraints. Firms that are socially sustainable, get higher returns because of reputation (Canto-Cuevas et al. 2019). Policy incentives, like tax breaks, ease financial burdens (Hou & Fang, 2023). Profiting is balanced with social consequences; social sustainability (Suriani et al.,

2024) gives rise to economic resilience.

3.5.5 Models/Frameworks for Implementation

For instance, social sustainability in MSME is based on models such as Human centric Industry 5.0, Green Entrepreneurship, and Agile sustainability frameworks. Industry 5.0, on the other hand, puts the emphasis on the on-worker well-being and eco-innovation, including the safety and employee centered approach (Madhavan et al., 2024; Nazarejova et al., 2024). The main focus of Green Entrepreneurship is to obtain ethical sourcing and meet the sustainability goals (Tekala et al., 2024). Adaptive strategies, that can be conducted by means of agile frameworks work well when it comes to addressing resource constraints (Ali & Wasim, 2022; Yongliang & Sharon, 2022). ERP systems and digital twins provide the additional tools of transparency and efficiency (Adam et al., 2011; Ud Din & Paul, 2023). Benchmarks for the sustainability indices to comply are provided (Gani et al., 2022). Policy incentives (Kazantsev et al., 2024) are supported through multi stakeholder collaboration of governments and NGOs. Safety and diversity integration fosters resilience (Rebelo et al., 2014). Yet, there are cost and expertise barriers to digital adoption (Rahnama et al., 2022). As stated in Ferrer-Blas et al. (2024), Ferrer-Blas et al. (2024), sector specific frameworks, i.e. eco design in food factory, are developed to tackle a specific set of needs (Favi et al., 2018). As for scalability, Murakami et al. (2015) rather point out that policy support like subsidies are very important. Kane (2012) said these models gave MSMEs ability to balance between human and economic priorities through innovation and collaboration.

4.Research Gaps and Future Directions

4.1 Unexplored areas and geographic gaps

Social sustainability research for MSMEs in India brings out large gaps, both in the unexplored areas and geographical reach. This is because of the importance of workplace ergonomics in labor intensive sectors in textiles and automotive components, but its research impact remained to be addressed. These mental health initiatives, strongly needed for addressing stress in manufacturing works are not adequately explored empirically, particularly so for the casual workers that are characteristic of Indian MSMEs. However, gender equality is addressed but intersectional issues such as the problems faced by local women or those of caste discrimination are not. Locally speaking, research that takes into account industrial hubs such as Gujarat and Tamil Nadu fails to include northeastern states and rural areas where most MSMEs are found. For example, studies regarding sustainable practices in artisanal or tribal based enterprises are rare, even though they both contribute to culture and to the economy. Less research exists in the sector specific studies, especially in the emerging sector like renewable energy industry, or organic food processing, while the majority of research is in the traditional industries such as apparel. Future research should focus on these underrepresented regions and sectors and explore the segments utilizing regional barriers such as poor infrastructure or lifestyle resistance to the adoption of the sustainable value. Informal labor practices along with their impact on social equity could be pursued as a longitudinal study of MSMEs, which has a rich diversity within itself in India.

4.2 Emerging trends and interdisciplinary linkages

The research on Indian MSME social sustainability seeks to integrate the digital technologies, and interdisciplinary perspectives. Digital tools such as sustainability indices and ERP systems have been used as tools to track social and environmental metrics but are not used in small firms due to cost and technical expertise. India's MSMEs, being labor intensive, are relevant in the shift to the human centric Industry 5.0, that revolves around worker well-being and ethics and has limited practical framework for implementation. There are emerging but underexplored interdisciplinary linkages with psychology to improve employee mental health or with data science for real time sustainability monitoring. Scalability is one of the main shortcomings of green entrepreneurship in sectors like eco-friendly packaging, as they bring alignment of social and environmental goals potential. Despite this, there is a need to further study the integration of social factors such as fair wages or diversity with agility in these frameworks. There are also research questions regarding the relevance of circular economy models in reducing waste and job creation, especially in the urban MSMEs. In the future, mixed methods approach that combine technology with social sciences should be used to develop more cost effective, scalable solutions that are tailored to India's very heterogeneous MSME ecosystem that will be inclusive and resilient.

4.3 Policy and practice implications

Social sustainability in Indian MSME is dependent on policy and practice interventions. Policies that provide subsidies or low interest loans for compliance with safety and diversity standards are needed due to the presence of financial constraints, which is a major barrier. By having awareness campaign on social sustainability with regional languages and cultural contexts, MSMEs owners can be made aware on economic benefits which are of social sustainability and can bridge the gap of low adoption rates (Ansar et al., 2025). Digital training and ethical practices can be provided from a multi stakeholder collaboration which includes the government bodies like the Ministry of MSME, NGOs and industry associations. In practice, MSMEs should consider the lean implementation to improve efficiency, and to protect their workers' safety and well-being. Different policies, sector specific for example eco design standards for food processing, or

ethical sourcing mandates for textiles can cater to India's wide spectrum of industrial needs. An example of this could be that social equity and employment could be increased to incentives green jobs in renewable energy MSMEs. Future work includes the development of policy framework tailored to state at particular region that would address a significant inequality at an underdeveloped region like northeast. In the era of indelible change, India's unpredictable market demands that practitioners adopt agile frameworks to remain flourished in the long term. Situating these interventions within India's own socio-economic context, they can help MSMEs play an important role in aligning the national needs and associated sustainability goals with those of societal growth and impact in a more inclusive way.

5.Conclusion

5.1 Summary of Key Insights

Indian MSMEs' social sustainability are necessary for the balance between economic growth and societal well-being thus focused on CSR, labor rights, working space, and equitable growth. Factors that contribute to this are worker safety that helps in employee retention and productivity and gender equality that fosters innovation through a diverse team. Wages are fair and workers are trained, and also well-being initiatives are worked for workers employed in labor intensive sectors such as textiles and automotive. Ethical sourcing creates strong bonds among members of the community, and in turn the brand's reputation is built. These practices help to grow a business with loyal employees who stand up resilient to the elements and helps them to attract the wills of ethical consumers and scalable them. Socially responsible MSMEs also bring benefits to their economics, society, and the investor, especially in apparel and food processing sector. Despite resource constraints alike human-centric Industry 5.0 and green entrepreneurship, which are implemented with the help of digital tools like ERP systems. Nevertheless, problems of limited finances, low awareness and weak institutional support are still ongoing, especially in rural and northeastern India. Ocean research gaps suggest that there are still underdeveloped areas such as workplace ergonomics and mental health, which have geographical focuses on industrial hubs. Digitalization and interdisciplinary approaches provide Indian MSMEs with an opportunity to support their national sustainability goals in emerging trends.

5.2 Limitations of the Study

This study, while comprehensive, faces several limitations in the Indian context. The 76 sources provided undermine the scope to something as wide as unpublished or grassroots level insights from Indian MSMEs, particularly when the latter are concentrated in the informal sectors in rural areas. Kotturu and Mahanty (2019) point out that this places a certain level of skew to the geographic focus, leaving out much of northeastern or tribal types of regions and, therefore, limits the generalizability of findings. Most sector analyses are sector specific and largely pertain to traditional industries such as fashion and automotive, and there is little on such new sectors as renewable energy or skilled crafts. Finally, the study does not have longitudinal data on its data and therefore the long-term impact of social sustainability practices on the MSME growth and performance do not enable insights. Women, caste-based minorities and more intersectional perspectives, such as their compounded challenges, are not adequately addressed and depth of diversity related finding is reduced. Moreover, there is a presumption of technological access with digital tools such as digital twins that few small Indian MSMEs, especially in rural areas, have. While the nature of limited data is a limitation of many of these studies, broader and context specific research for MSME's has never been more important as India's MSMEs reflects an incredibly diverse reality.

5.3 Practical Contributions and Recommendations for Policymakers and MSME Stakeholders

This study brings practical contribution for Indian MSMEs in terms of highlighting economic and the social benefits of the sustainability practices including increased productivity and increased customer loyalty. For policymakers, it can help with financial barrier that prevent companies from adopting safety standards or digital tools, like subsidies or loans at low interest. Knowledge gap can be bridged, though awareness campaigns especially in rural regions, with knowledge counsels in regional languages adapted to cultural context (Ansar et al., 2025). Policies at the state level should encourage green jobs in underdeveloped regions, including the northeast, which will also result in inclusive growth. Some NGOs as well as industry bodies can be partnered with for training in lean methodologies and sustainability indices, thereby improving the operational effectiveness. MSME stakeholders will benefit from integrating mental health programs like worker well-being programs into high pressure sectors which will increase morale and retention of workers. Deciding on the framework of agility in terms of sustainability helps firms to swim in the winds of market volatility, while sector specific frameworks, for example, eco design in the food processing sector, are tailored to specific needs. Community engagement should be a priority for the stakeholders to build trust and market presence. It is time for future efforts to center around scalable, low-cost solutions for sustainability that leverage India's digital infrastructure to democratize the use of such tools. These recommendations are aligned with national initiatives such as Make in India, thereby putting MSMEs on a path for becoming the drivers of

sustainable, inclusive economic development.

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