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Uncovering the Complexity of Supply Chain in MSMEs: A Systematic Review

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Abstract

Supply chain management (SCM) obstacles frequently impede operations optimization for micro, small, and medium enterprises (MSMEs). Supply Chain Management significantly enhances the competitiveness and operational efficiency of Micro, Small, and Medium Enterprises; nevertheless, its adoption is frequently hindered by resource, financial, and technological limitations. This dilemma must be addressed by MSMEs, which are vital to economic growth, innovation, and job creation globally. This study analyzes the intricacies of SCM implementation in MSMEs via a comprehensive review of the current literature. The PRISMA framework delineates the comprehensive procedures for selecting and accepting pertinent articles. This review utilized a sample of 20 publications in the Scopus database, published between 2014 and 2023. An exhaustive examination of the literature on SCM identifies the most cited papers, journals, and authors. The author's concluding point in this paper posits that, despite considerable research in SCM, it is imperative to modify conditions that can facilitate SMEs, particularly in developing nations.

Keywords: *Supply Chain Management, Msmes, Systematic Literature Review.*

Introduction

Micro, Small, and Medium Enterprises (MSMEs) are fundamental to the majority of global economies, significantly contributing to economic development, innovation, and job creation (Ayyagari et al., 2011; Beck et al., 2005; Berger & Udell, 2006). These firms are intricately integrated within complex networks of suppliers, manufacturers, distributors, and consumers, collectively constituting the elaborate framework of supply chains (Mentzer et al., 2001). Large firms typically have the means and infrastructure to manage supply chain complexities, whereas MSMEs encounter distinct issues stemming from their limited resources, operational limits, and susceptibility to external shocks (Gunasekaran & Ngai, 2004).

Supply chain management (SCM) has become an essential determinant of success for enterprises of all scales, facilitating operational optimization, cost reduction, efficiency enhancement, and customer satisfaction improvement (Mentzer et al., 2001). Even with this, MSMEs frequently encounter difficulties executing efficient supply chain management techniques due to insufficient awareness, competence, financial resources, and technology capabilities (Ahi & Searcy, 2013; Kaynak, 2003). The disparity between the significance of supply chain management and the obstacles encountered by micro, small, and medium enterprises in its adoption underscores the necessity for a thorough comprehension of the intricacies associated with supply chain management in the MSME environment.

A systematic literature review offers a methodical and organized means of synthesizing information and pinpointing research deficiencies within a particular discipline (Tranfield et al., 2003). This research methodology entails a systematic and transparent approach to searching, assessing, and synthesizing pertinent papers, providing a complete and impartial review of the issue (Moher et al., 2009; Petticrew & Roberts, 2008). This research utilizes a systematic review method to explore the complexities of supply chain management in the MSME sector, highlighting the problems, opportunities, and best practices inherent to this field.

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This systematic review examines "Uncovering the Complexity of Supply Chain in MSMEs," delivering a thorough overview of the current literature and pinpointing significant themes, trends, and research deficiencies. This research aims to address the following questions by thoroughly analyzing the existing knowledge on MSME supply chains:

RQ 1. In what ways has the supply chain transformed over the years inside MSMEs?

RQ 2. What are the principal research streams and focal areas within the supply chain literature about MSMEs?

RQ 3. What internal and external factors affect supply chain adoption in MSMEs inside developing nations?

RQ 4. What are the obstacles and results of supply chain implementation in MSMEs in developing nations?

This research seeks to enhance comprehension of the intricacies inherent in MSME supply chains through a rigorous and systematic analysis of pertinent papers. This review's findings will offer critical insights for MSME managers, policymakers, and researchers, facilitating the formulation of effective strategies, policies, and interventions to boost supply chain performance and bolster the competitiveness of MSMEs in the global market.

This systematic review will answer the selected research topics, offering a thorough and current overview of MSME supply chains while pinpointing areas for further investigation to fill existing gaps and enhance the field. The insights derived from this analysis will be essential in directing future research initiatives, informing policy choices, and assisting MSMEs in managing the intricacies of their supply chains to attain sustainable growth and success.

This research aims to enhance the resilience and efficiency of the MSME sector by deepening our understanding of the difficulties and opportunities in supply chain management. It seeks to empower MSMEs by providing them with the knowledge and tools necessary to optimize their supply chain operations, thereby enhancing their long-term sustainability and competitiveness in the global economy.

Methodology

This study examines supply chains' influence on MSMEs in developing nations (Paprotny, 2021). This research has performed a systematic literature review of prior studies concerning supply chains in MSMEs. A systematic literature review seeks to resolve a research issue by identifying, critically evaluating, and integrating all pertinent papers on a specific topic and analyzing one or more unique studies. A systematic literature review differentiates itself from a conventional literature review by prioritizing transparency, evidence, impact, validity, and causation. This method guarantees the reliability of the gathered evidence (Mohamed Shaffril et al., 2021).

The PRISMA statement form delineates the thorough methodology for including and excluding pertinent studies in systematic reviews and meta-analyses (Yuwono et al., 2024). The PRISMA statement assists researchers in enhancing the documentation of systematic literature review articles (Page et al., 2021). This evaluation was based on research publications from the SCOPUS database, covering 2014 to 2023—a literature review. A search for pertinent publications was performed on August 28, 2024, utilizing the Scopus database. The inquiry utilized the "SCM*" and "SME*" search phrases. The search produced 223 items from 2014 to 2023, covering a decade. In light of the substantial surge in publications over the past decade, we have opted to do a comprehensive evaluation of supply chain management (SCM) application in MSMEs, notwithstanding its initial introduction in 1999 by Premkumar and Roberts. A total of 30 publications were selected from the papers published in the business and management sector between 2014 and 2023. Due to the emphasis of our research on business and management, we have excluded papers from other disciplines. After selecting the document type, "Article," 30 documents remained. Upon selecting the publication stage and filtering for papers authored in "English," 30 items were successfully retrieved. This study intentionally chose publications with five or more citations to enhance the reliability

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of the analysis while maintaining quality requirements, resulting in a total of 22 selected articles. Upon the removal of superfluous documents, the remaining total was 20 papers. Figure 1 offers a concise summary of the process for incorporating and excluding specific pieces.

Evaluation of quality The chosen papers underwent a meticulous and stringent screening process to include the most exceptional research in the study. Only publications with a minimum of five citations were chosen to maintain research quality criteria and improve comprehension of the subject. The duplication of articles was meticulously regulated throughout the selection process.

Eligibility & Inclusion Criteria This review paper was based on original published publications. The study excluded conference papers to maintain quality standards. The researchers concentrated solely on analyzing the business and management supply chain perspective, omitting all other sectors from their investigation. The Scopus database was selected for the article search due to its comprehensive collection of papers in the field, exceeding those of other databases like Web of Science (Cordes & Marinova, 2023). Only papers written in English were selected due to the predominance of English in ICT literature. The selection of papers published only in English was based on its global comprehensibility and extensive acceptance. The study encompassed publications that were publicly accessible (open access) as well as those with restricted access.

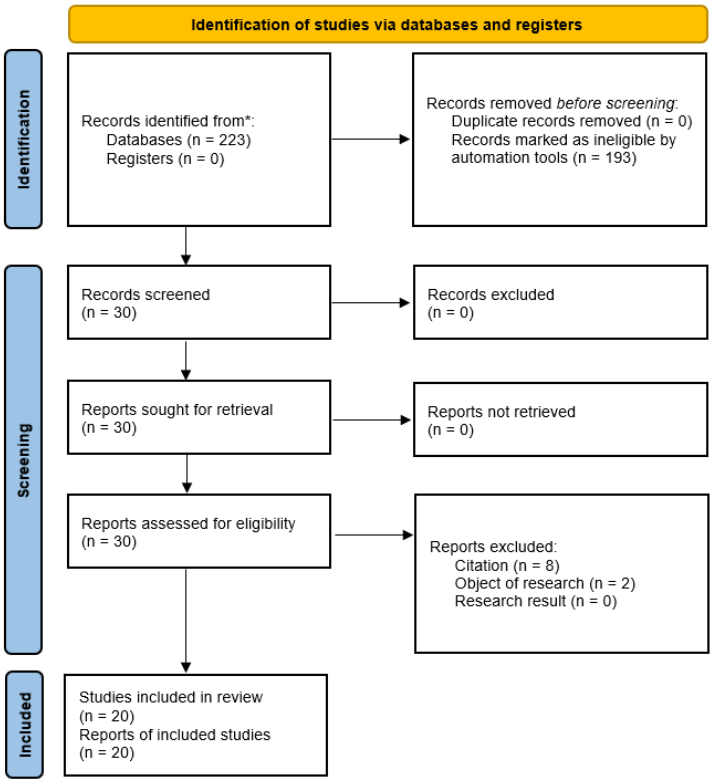

Figure 1. Flowchart of PRISMA Methodology.

Source: PRISMA Statement 2020

This research employed qualitative synthesis. This study reviewed 20 papers from Scopus-indexed journals published between 2014 and 2023. Following the selection of papers, the process advanced in two successive stages. The preliminary phase entailed extracting pertinent metadata from Scopus to Microsoft Excel to enable a descriptive literature analysis. The investigation concentrated on the annual distribution of publications by field and the utilization of supply chains in emerging nations to improve the

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competitiveness of MSMEs. The analysis examined the number of publications and trends over the past decade, emphasizing a year-by-year assessment. A sector analysis was performed to identify industries within MSMEs that employ SCM. This systematic review emphasized the internal and external factors of SCM adoption that can improve the competitiveness of SMEs. These elements are depicted in Figure 2.

Analytical Framework

The increasing use of SCM in MSMEs in emerging nations is essential for recognizing and overcoming internal and external obstacles to attain sustainable growth and preserve competitiveness. A comprehensive review of 20 papers has developed a valuable analytical framework for future research endeavors.

Internal Factors	Management and Organization • Company characteristics • Organizational structure • Top Management Leadership • Owner Infrastructure and Resources • Employee capabilities • Capacity limitations • Product cycle • Technology implementation • Company size and age Innovation and Learning • Company Experience • Research and development • Knowledge Sharing • Corporate innovation culture	External Factors	Social and Political • Market Conditions • Laws and regulations • Governance policy • Industrial dynamics Economic Challenges • Market conditions • Global competition • Economic uncertainty Technology • Information network • Technology collaboration Business Relations • Collaboration with suppliers • Distribution complexity • Industrial clusters

Figure 2. Internal And External Factors of SCM Implementation to Improve SME Competitiveness.

Source: Author's Findings (Observed from The Literature Review)

The framework emphasizes the complex interconnections among different challenges and provides a strategic approach to practical solutions. As scholars continue exploring SCM in SMEs within developing nations, this foundational framework serves as a guide, facilitating a comprehensive grasp of obstacles and opportunities, hence fostering significant advancements in theory and practice. Figure 3 offers supplementary details regarding the analytical framework.

Out of the 20 publications analyzed, 12 explicitly referenced the theoretical framework, while the remaining articles presented concepts derived from prior research. The following section delineates the theoretical framework employed in the study.

Efficient supply chain management strategies are crucial for small and medium-sized enterprises to maintain competitiveness in the global marketplace. Essential investment priorities for an effective supply chain management implementation encompass quality enhancement, swift responsiveness to client demand, and precise sales forecasting—collaboration among supply chain participants and implementing advanced technology to improve competitive advantage in the global marketplace. SMEs must proactively design their SCM procedures to mitigate bottlenecks and enhance performance by analyzing critical motivational factors, such as minimizing delivery times, lowering product costs, and reducing inventory expenses (Singh & Kumar, 2020). Furthermore, Okoumba et al., (2020) assert that the incorporation of buyer-supplier

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cooperation (BSC), supply chain integration (SCI), total quality management (TQM), and IT adoption (ITA) can enhance the outcome variable, supply chain performance (SCP).

Kumar et al., (2014) illustrate that, depending on the identified challenges and risks, SMEs can prioritize their supply chain strategy, which subsequently guides their coordination strategy. Small and medium-sized enterprises must modify their strategy in reaction to evolving market dynamics and technology progress, which subsequently impacts their supply chain coordination initiatives. Customer input, supplier networking, and frequent interdepartmental meetings enhance supply chain coordination. Supply chain coordination can alleviate risks encountered by MSMEs, such as volatile fuel prices and overdependence on outsourcing, which can affect supply chain stability.

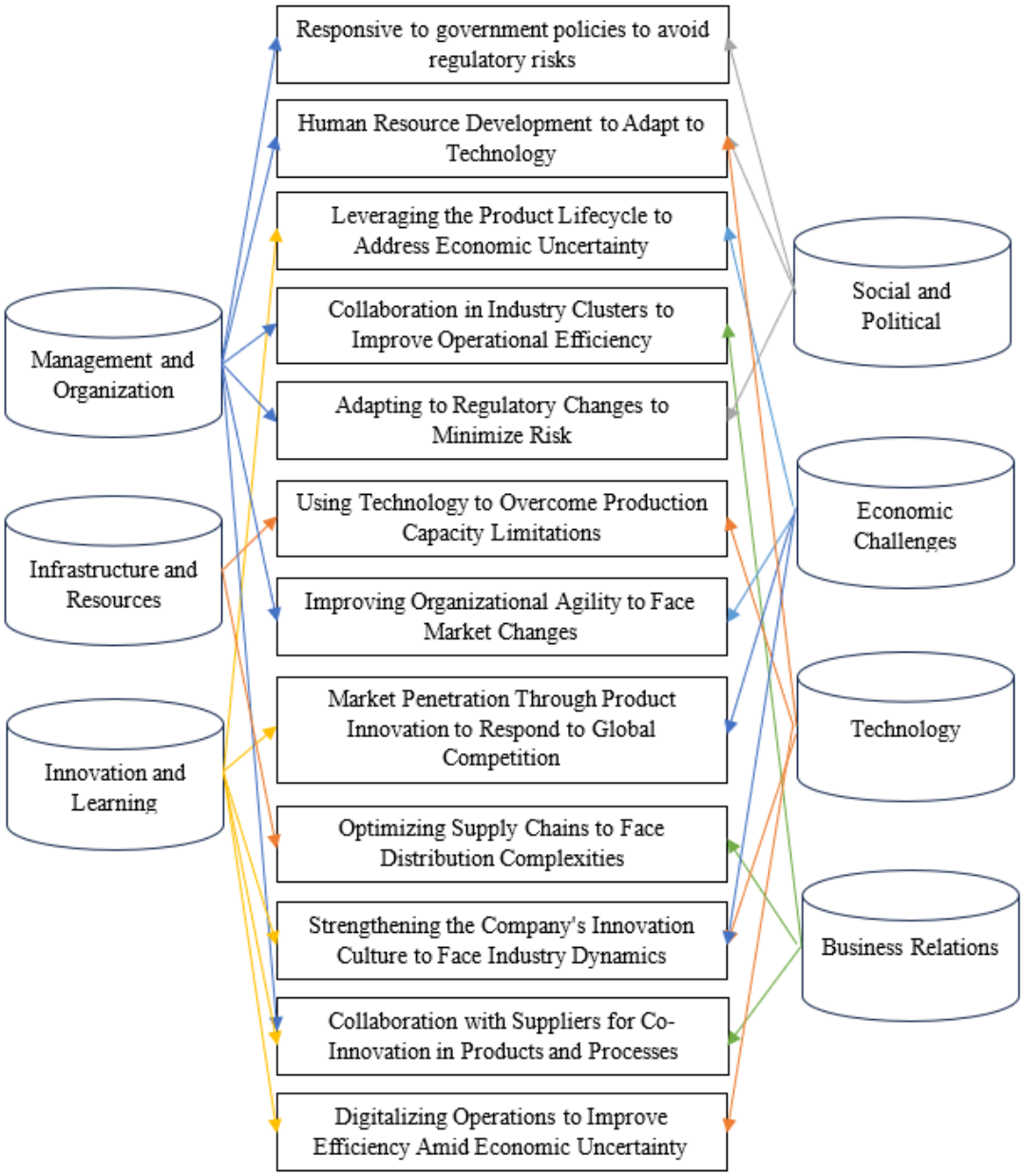

Figure 3. An Analytical Framework That Links Strategies to Overcome Msmes' Barriers To SCM Implementation.

Source: Author's Findings (Obtained From Literature Review)

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Supply Chain Orientation (SCO) is a two-dimensional framework comprising vertical cooperation orientation (VCO) and general purpose orientation (CGO), which elucidates how attitudes toward cooperation and competition influence the execution of Supply Chain Management (Schulze-Ehlers et al., 2014). In executing SCM measures, the influence of perceived power dynamics, the quality of relationships, and the appropriateness of MSMEs objectives must be considered. Long-term connections and strategic collaborative decisions made by managers in SMEs influence the execution of supply chain management. AL-Shboul, (2023) elucidates the significance of structural embedding in network governance, wherein regular interactions between two buyer-supplier dyads foster collaboration and information exchange.

Cluster theory posits that MSMEs can succeed by establishing industry clusters supported by effective SCM. This perspective suggests that combining cluster theory and supply chain management might yield a competitive advantage through resource aggregation and optimization. Ikram et al., (2018) and Kayvanfar et al., (2019) advocate for the adoption of a cluster strategy emphasizing the environment-specific application of the triple helix model, which entails collaboration among government, industry, and academia, thereby enhancing competitiveness through effective supply chain management and resulting in a competitive advantage.

Agile supply chain management (ASCM) in MSMEs can be enhanced by just-in-time (JIT) approaches and technology utilization (TU) methodologies. Supplier relationships are crucial for efficient ASCM since the selection and management of suppliers can significantly influence the quality, cost, and timeliness of goods and services. Effective resource management and robust supplier connections can profoundly influence ASCM's success, enhancing operational efficiency and responsiveness. MSMEs must implement just-in-time (JIT) approaches, leverage technology utilization (TU), and maintain a distinct Entrepreneurial Orientation (EO) to ensure their survival and success (Malakouti et al., 2017).

Incorporating the Resource-Based View (RBV) paradigm into efficient HRM practices is crucial for enhancing the execution of SCM, which influences company performance. This indicates that efficient HRM procedures are crucial for enhancing the advantages of SCM. Small and medium-sized enterprises must use excellent human resource management methods to leverage supply chain management to enhance organizational performance (Kitchot et al., 2021). Using SCM can enhance work satisfaction, employee engagement, and operational performance, which is essential for sustained company success.

Innovation diffusion theory (IDT) and the deconstructed theory of planned behavior (DTPB) emphasize the principal attributes that affect the adoption of predictive supply chain business analytics (SCBA) technology. The obstacles SMEs encounter in developing nations concerning technology adoption highlight the necessity of comprehending the particular settings and variables influencing supply chains. AL-Shboul, (2023) Elucidate the relative advantage (RA) and compatibility (Comp.), which are essential in assessing the intention to adopt SCBA technology among MSMEs in developing nations.

The robust trust between MSME proprietors and their suppliers correlates positively with supply chain performance, resulting in diminished costs, expedited wait times, and enhanced customer happiness. Robust trust is categorized into two types: informal contracts and information exchange. Informal contracts are unwritten agreements establishing expectations, whereas information sharing entails transparent communication of significant information. Small and medium-sized enterprises should prioritize enhancing information dissemination and comprehension of the contracting process to cultivate trust and optimize their supply chain operations (Susanty et al., 2018).

The combination of Total Quality Control (TQC) with Value Stream Mapping (VSM) enhances quality management in MSMEs. TQC seeks to establish a competitive edge in procurement by guaranteeing product conformance via efficient quality control measures. VSM functions as a mechanism to see and assess each internal and external supply chain stage, enabling the discernment of value-added and non-value-added activities. The implementation of VSM has demonstrated enhancements in the efficiency of quality control processes and has aided in optimizing the supply chain from a quality standpoint (Bevilacqua et al., 2014). Table 1 presents the findings about the theoretical framework utilized in the 20 published studies.

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Table 1. Theory Being Used

Theory	Author
Enterprise systems	Ahmad & Mehmood, (2015)
Supply chain management systems	Ahmad & Mehmood, (2015); (Cragg et al., (2020)
Future city logistic theory	Graham et al., (2015)
Urban logistics theory	Graham et al., (2015)
Theory of Planned Behaviour (TPB)	Schulze-Ehlers et al., (2014)
Transaction Cost Theory	Schulze-Ehlers et al., (2014)
Cluster Theory	Ikram et al., (2018); Kayvanfar et al., (2019)
Resource-based view (RBV)	Kitchot et al., (2021)
Innovation diffusion theory (IDT)	AL-Shboul, (2023)
Decomposed theory of planned behavior (DTPB)	AL-Shboul, (2023)
Diffusion of innovation (DOI)	AL-Shboul, (2023)

Source: Author's findings (obtained from literature review)

Descriptive Analysis

This section will examine the descriptive statistics of the chosen papers throughout the review process. This section will analyze criteria including the publishing year, citation count, journal of publication, and research methodology employed in the chosen study. Figure 4 delineates the progression of SCM utilization among small and medium companies (SMEs) from 2014 to 2023. The data is derived from the annual publication count but is restricted to research that garnered substantial citations. In 2014, the highest number of papers received elevated citation reports, characterized by exceeding five citations.

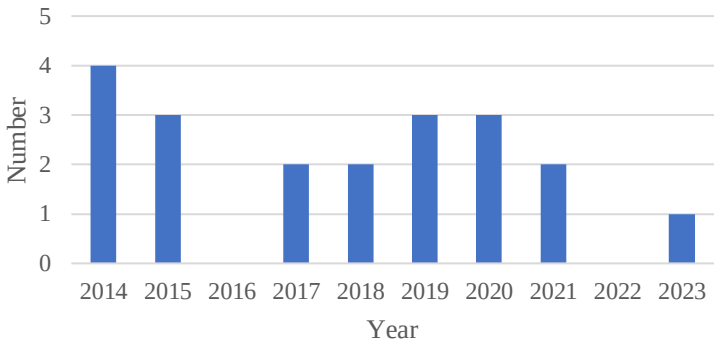

Figure 4. Supply Chain Publications in Smes Per Year

Source: Author's Findings (Obtained From Literature Review)

Journal foundation. In the past decade, "Supply Chain Management" had the most publications, with four articles released from 2014 to 2023. Additionally, the Business Process Management Journal released three articles. Table 2 presents the preeminent journals and the articles published within a specified timeframe.`

Table 2. Top Cited Journals and Their Publications

Journal	No. of publications
Supply Chain Management	4
Business Process Management Journal	3
Benchmarking	2

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Competitiveness Review	1
Asia Pacific Journal of Marketing and Logistics	1
Journal of Small Business and Enterprise Development	1
Management Research Review	1
Measuring Business Excellence	1
International Business Management	1
Prabandhan: Indian Journal of Management	1
Total Quality Management and Business Excellence	1
Journal of Applied Business Research	1
Africa Journal of Management	1
International Journal of Integrated Supply Management	1

Source: Author's findings (obtained from literature review)

Geographical allocation. A notable discovery from this investigation is the proliferation of SCM studies in India. Figure 5 illustrates the outcomes of item identification by area. Research from nations including the UK, Italy, Germany, China, Malaysia, Thailand, the United Arab Emirates, and France each accounted for 5%, indicating a modest yet significant contribution. Indonesia and South Africa each contribute 10%, making them more prominent. These statistics indicate that publications are distributed across several countries, with relatively minor discrepancies in contributions.

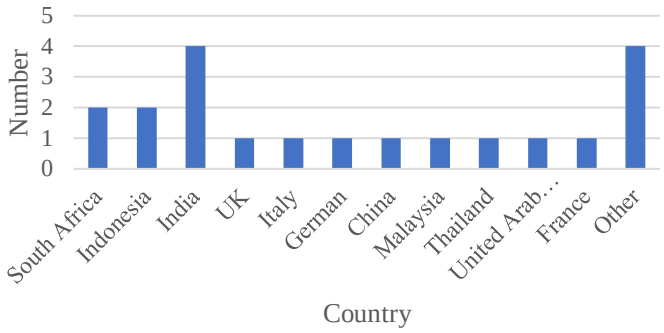

Fig. 5 Geographical Allocation of Articles

Source: Author's findings (obtained from literature review)

This review's minimum criterion for paper selection is five citations per manuscript. The paper by Singh & Kumar, (2020) garnered the most significant citation count among the articles in the selected column, totaling 77 citations. The work authored by Ahmad & Mehmood, (2015) and Kumar et al., (2014) possesses the second-highest citation count, totaling 53 citations each. Table 3 summarizes the five papers with the most significant citation counts, detailing the authors and publication years.

Table 3. Most Often Referenced Publications

No.	Authors	Source title	Cited by
1	Singh & Kumar, (2020)	Benchmarking	77
2	Ahmad & Mehmood, (2015)	Supply Chain Management	53
3	Kumar et al., (2014)	Competitiveness Review	53
4	Graham et al., (2015)	Supply Chain Management	40
5	Schulze-Ehlers et al., (2014)	Supply Chain Management	36

Source: Scopus

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We have delineated four distinct research streams to identify certain study focus areas in the current literature. This section seeks to classify the literature and summarize the primary study domains in supply chain management (SCM) inside small and medium-sized organizations (SMEs).

Subject 1: Instruments and methodologies. The analysis indicates that quantitative research methods constitute 50% of the manuscript. The case study approach and the mixed method constituted 20% of the total. The qualitative method constitutes merely 10% of the overall article, as depicted in Figure 6.

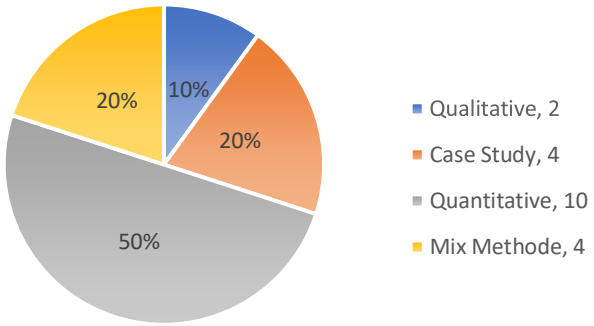

Fig. 6 Articles Categorized by Research Methodology Distribution

Subject 2: The impact of internal and external factors on implementing supply chain management in small and medium-sized firms. The congruence between internal variables and external demands significantly affects the successful implementation of SCM in MSMEs. Successful supply chain management necessitates synchronizing internal capabilities with prevailing external opportunities or obstacles (Khoja et al., 2019). An essential external component is the implementation of information technology (IT) systems, which improve the integration of practices and facilitate collaboration among supply chain participants (Okoumba et al., 2020). Conversely, internal variables like technology adoption and organizational reorganization also enhance corporate success (Dubihlela & Omoruyi, 2014). Additional external aspects encompass collaboration and coordination with supply chain partners, which seek to guarantee efficiency and adaptability to environmental changes (Manville et al., 2021).

Internal alignment between organizational operations and strategies is crucial for attaining a competitive advantage in supply chain management. Moreover, the capacity of managers to reconcile constrained internal resources with significant external complexity is a critical factor influencing the efficacy of supply chain management (Cragg et al., 2020). Small and medium-sized enterprises frequently face internal and external obstacles, primarily owing to constrained resources, which might impede the effectiveness of supply chain management (Alon et al., 2019). Technology is a vital internal component in supply chain management, especially in the digital era, where information systems facilitate dispatch scheduling, customer support, and vehicle tracking (Malakouti et al., 2017).

The dynamic interplay between internal capabilities and external market conditions is crucial for sustaining a competitive advantage (Ikram et al., 2018). The efficacy of SMEs in supply chain management is also impacted by external economic conditions, which can influence resource availability and market access (Kumar et al., 2014). Consequently, internal and external factors significantly influence the goals and tactics SMEs must implement to enhance the coordination and overall efficacy of their supply chains. The implementation of enterprise systems (ES) can assist firms in addressing internal and external challenges, hence enhancing SCM performance and sustainability (Ahmad & Mehmood, 2015).

Subject 3: Outcomes of SCM Implementation. The effectiveness of supply chain management (SCM) in enhancing SMEs' competitiveness and operational efficiency is contingent upon the degree of integration and utilization of the process in daily business operations. Supply chain management in small and medium-sized enterprises frequently involves information exchange, informal agreements, and trust among business

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proprietors, enhancing collaboration throughout the supply chain (Susanty et al., 2018). An exemplary implementation is the Supply-Demand Hub Integrated Cluster (SDHIC) model, which integrates logistics activities across the supply chain, thereby minimizing overall logistics costs through batch consolidation, centralized storage, and the management of raw materials and finished products at a single location (Kayvanfar et al., 2019).

The efficacy of supply chain management in small and medium-sized enterprises is significantly influenced by the informal network engaging firm managers in global supply chain governance (Cragg et al., 2020). Implementing technology in adopting supply chain predictive analytics (SCBA) in developing SMEs enhances the efficacy of supply chain management (AL-Shboul, 2023). Essential practices that facilitate the execution of SCM in MSMEs encompass information sharing, the adoption of internal lean methodologies, management leadership, and engagement with customers and suppliers, all of which are vital for effective supply chain management (Kitchot et al., 2021).

Entrepreneurial mindset, strong supplier relationships, resource management, and the implementation of just-in-time approaches are determinants that propel agile supply chain management (ASCM) in the manufacturing-related service industry (Malakouti et al., 2017). Furthermore, cooperative initiatives among cluster participants and industries enhance the efficacy of marketing and distribution channels, generating synergies that yield mutually beneficial outcomes for the company (Ikram et al., 2018). Nevertheless, issues that include consumer demand uncertainty, insufficient knowledge of supply chain management, and intermediary involvement frequently pose significant barriers for small and medium-sized enterprises (Kumar et al., 2014).

The effective execution of supply chain management in small and medium-sized enterprises significantly influences cost reduction, diminishes cycle times, enhances productivity, improves quality, and elevates customer service (Ahmad & Mehmood, 2015). The primary emphasis of SMEs on cost reduction and lead time underscores the need for efficient supply chain management in enhancing the competitiveness of small enterprises (Singh & Kumar, 2020). Furthermore, collaboration between buyers and suppliers (BSCs) enhances supply chain agility (SCA) in SMEs, hence augmenting the efficiency and responsiveness of enterprises (Okoumba et al., 2020).

Subject 4: Obstacles to Supply Chain Management Adoption. The primary barrier to implementing SCM in MSMEs arises from constraints in resources and infrastructure. These constraints impede the comprehensive execution of SCM, influencing the integration of sustainable practices within the supply chain (Ganeshan & Suresh, 2017; Adawiyah et al., 2015). Moreover, financial limitations provide a considerable obstacle, hindering SMEs from investing in the technology required to facilitate supply chain management (Kitchot et al., 2021). The absence of coordination among supply chain participants further diminishes the overall efficacy of supply chain management (Susanty et al., 2018).

Cost-related challenges, such as production expenses, transportation of materials and products, and storage, further intensify the situation (Kayvanfar et al., 2019). The power imbalance between MSMEs and their supply chain partners and an aversion to collaborative strategies complicates supply chain management (Cragg et al., 2020). Additional challenges SMEs encounter comprise insufficient proficiency in employing contemporary technology, which is essential in the current global supply chain (Kumar et al., 2014).

Restricted human and financial resources impede MSMEs' capacity to deliver after-sales service and cultivate client connections, diminishing their agility and competitiveness (Alon et al., 2019). More efficient organizational frameworks and adequate technological use impede the effective execution of supply chain management (Dubihlela & Omoruyi, 2014). In addition, uncertainties in developing sustainability policies at the national and organizational levels provide additional hurdles for MSMEs in adopting sustainable supply chains (Ahmad & Mehmood, 2015; Khoja et al., 2019).

Geographical barriers such as supplier and customer locations also limit SMEs' flexibility in SCM (Singh & Kumar, 2020). Limited innovation and lack of involvement with key business partners significantly decrease MSMEs' capacity to realize the full benefits of collaboration in boosting technical knowledge and

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operational flexibility (Okoumba et al., 2020; Bevilacqua et al., 2014). A participatory management approach is essential for effective agile supply chain management; however, MSMEs frequently implement it suboptimally (Malakouti et al., 2017).

Conclusions and Future Directions

This study thoroughly analyzed the intricacies of SCM in MSMEs. The analysis indicates that MSMEs encounter considerable obstacles in implementing SCM methods owing to resource restrictions, financial constraints, and insufficient technology capabilities. Despite the vital significance of supply chain management for operational efficiency and competitive advantage, micro, small, and medium enterprises frequently need help integrating and optimizing supply chain activities. Obstacles like inadequate coordination among supply chain participants, regional constraints, and insufficient trust and engagement with supply chain partners were recognized as primary reasons impeding SCM adoption.

Moreover, the research indicates that effective SCM implementation can benefit MSMEs by lowering costs, decreasing lead times, increasing customer satisfaction, and raising overall performance. Nevertheless, MSMEs must surmount considerable internal and external obstacles to effectively capitalize on SCM's advantages. The review indicates an increasing trend in utilizing innovative technology, predictive analytics, and collaborative networks to facilitate supply chain management success in micro, small, and medium enterprises.

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