A Systematic Literature Review of Supply Chain Management Strategies and SME Performance: A Retrospective Analysis, Current Trends and Future Opportunities

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This study conducts a systematic literature review on supply chain management (SCM) strategies and their influence on Small- and Medium-sized Enterprise (SME) performance in emerging economies. Covering 241 Scopus-indexed articles from 2001 to 2024, the analysis utilizes bibliometric and content analysis with tools such as RStudio, VOSviewer, and Microsoft Excel. Three main themes emerged from the analysis: (1) SCM strategies' impact on SME performance, (2) integration and collaboration for enhanced performance, and (3) technology adoption for competitive advantage. Findings reveal notable trends, such as the growing interest in green SCM and supply chain resilience, with the UK and India leading in contributions. This research offers SMEs actionable insights for integrating supply chain strategies, enhancing collaborative planning, and refining supply chain management capabilities. Additionally, the study provides a roadmap for future research into sustainable practices, regulatory compliance, and technology driven SCM strategies to support SMEs in addressing complex market challenges.

Keywords: Supply Chain Management; Small and Medium Enterprises; Bibliometric Analysis; Performance; Green Supply Chain; Technology Adoption; Emerging Economies.

Introduction

Small and medium enterprises (SMEs) are businesses classified by the World Bank according to their number of employees, total assets, and annual sales (Ayyagari et al., 2011). Small enterprises possess total assets or annual sales between 100,000 US dollars (USD) and 3 million USD and employ 10 to 50 workers, while medium enterprises possess total assets or annual sales ranging from 3 million USD to 15 million USD, employing 50 to 300 workers (Rudjito, 2010). SMEs are instrumental in strengthening economies in both domestic and international markets, accounting for over 90 % of enterprises and more than 50 % of employment worldwide (Ayyagari et al., 2011; World Bank, 2020). Furthermore, global SMEs are widely recognized as vital buffers during economic instability and unprecedented conditions due to their localised focus and adaptability (Le & Liu. 2024).

In emerging markets, such as India and China, which typically exhibit lower per capita income and limited infrastructure, yet have similar or higher economic growth rates compared to high-income countries (Roztocki & Weistroffer, 2011), SMEs significantly contribute to employment opportunities, providing approximately 7 out of 10 jobs. This underscores the crucial role of SMEs in global economic development, with a particular emphasis in low- and middle-income countries (LMICs), of which many are considered emerging economies (Blackburn, *et al.*, 2013). Emerging economies, which are characterized by rapid economic growth, industrialization and increasing integration into the global market (World Bank, 2020) have garnered increasing attention in research and industry spheres, primarily due to their integral role in global supply chains driven by market globalization and extensive operations (Rajeev *et al.*, 2017).

A key feature contributing to SMEs' success is their optimal implementation of supply chain management (SCM) strategies, referring to the plans and methods employed to efficiently manage the flow of goods, services and information from suppliers to customers. These strategies encompass logistics, inventory management, procurement and distribution processes (Al-Nazer, 2022).

However, SMEs face several challenges due to heightened global competition coupled with contextual and/or structural limitations (Birkel & Hartmann 2020; Chang, 2017; Cavico et al., 2018; Avgerou and Walsham, 2017; Celik et al., 2018). Despite their substantial contribution to economies, SMEs often deteriorate due to inefficient supply chains, high competition and limited resources (Majumdar et al., 2021; Skipworth et al., 2015; Turner et al., 2018). In particular, SMEs in emerging economies often struggle with fragmented and unproductive supply chains, exacerbating their vulnerabilities to disruptions. Financial constraints and limited access to advanced technologies frequently restrict SMEs operating from within LMICs from adopting and integrating modern SCM practices. Hence, context-specific frameworks are required to navigate uniquely complex market challenges

such as supply chain volatility and environmental uncertainty (Gamage *et al.*, 2020).

To improve the efficiency of supply chain operations, businesses must incorporate innovative techniques (Chen *et al.*, 2023; Chabbouh & Boujelbene 2023; De *et al.*, 2020; Tatoglu *et al.*, 2016). SMEs within emerging economies – given their rapidly evolving business landscapes – must create well-developed supply chains (Mukherjee *et al.*, 2023; Kalyar *et al.*, 2020; Ho *et al.*, 2016), as well as collaborative supply chain systems that unite customers and suppliers for efficient information management, thereby promoting the optimization of business processes and sustainable business performance (Ystrom & Agogue 2020; Lee, 2019). Efficient SCM strategies enable SMEs to overcome hurdles by reducing costs, enhancing performance, and improving customer service (Lu *et al.*, 2021; Rao *et al.*, 2015; Turner *et al.*, 2018).

While existing literature predominantly focuses on SMEs within high-income countries, the rise of global markets has spurred heightened interest in understanding SCM strategies and their implications for performance in emerging economies. Nonetheless, significant gaps persist in this field of research, which has largely neglected the unique operational and strategic realities faced by SMEs in emerging economy contexts, emphasizing the pressing need for further examination. Prior studies, such as those by Anderson et al. (2023) and Stojanovic and Puska (2021), have highlighted a lack of knowledge and empirical evidence on how supply chains influence performance within the SME context in emerging economies. Furthermore, Jia et al. (2018) conducted a systematic review of supply chain management strategies that affect SME performance in emerging economies, emphasizing the pressing need for research on trends and pathways toward sustainability in such markets.

Hence, studying SCM strategies in SMEs is crucial within the current global market to provide insight that enhances operational efficiency, competitiveness and adaptability to market changes. Within the contemporary global business landscape, a company's prosperity significantly depends on how effectively it manages its supply chain amidst dynamic market conditions. As highlighted by Ross (2002), businesses that successfully handle their supply chain operations tend to display resilience and sustainability in competitive markets.

This research is driven by three key objectives aimed at addressing critical gaps in understanding the relationship between SCM strategies and SME performance in emerging economies.

Firstly, there is a critical need for a comprehensive and systematic review of current research to consolidate fragmented findings and provide a clearer understanding of the relationship between SCM strategies and SME performance in emerging economies. This research aims to synthesize current knowledge, addressing overlooked areas such as the challenges SMEs face in adopting advanced SCM practices and the influence of regional economic structures on supply chain dynamics. Given that SMEs are vital drivers of economic growth and innovation but often lack the resources and strategic guidance available to larger enterprises, a systematic analysis of effective SCM strategies tailored to their needs can significantly improve their operational efficiency and competitiveness.

Secondly, this research aims to identify and evaluate the most reliable and effective SCM strategies for enhancing SME performance, with a focus on practices such as green supply SCM, digitalization, knowledge sharing and collaboration for innovation. These strategies align with global trends, including sustainability and digital transformation, which are increasingly critical for ensuring SMEs' competitiveness and resilience in the global market (Melo *et al.*, 2023). By pinpointing these practices, the study provides actionable insights for SMEs navigating challenges such as financial and technological constraints, equipping them with tools to adapt and thrive in an evolving business landscape.

Thirdly, this research aims to develop a forwardlooking agenda that emphasizes integrating sustainability, digital platforms and innovation frameworks to address global trends, thereby offering a valuable roadmap for policymakers, practitioners and researchers navigating dynamic business environments. This prospective research agenda will guide future investigations, guaranteeing that subsequent studies address the most pressing and relevant questions to ensure that SME strategies in emerging economies remain relevant and effective in the long term.

Methodology

Bibliometric methodology has been employed herein, combined with content analysis, offering a systematic and quantitative approach to analysing large volumes of academic literature, thereby revealing patterns, trends, and relationships. This method helps to measure research impact objectively, identify influential studies and scholars, track the evolution of research topics, and pinpoint gaps for further investigation. Its systematic approach enhances the rigor of literature reviews, making bibliometrics essential for advancing scholarly research (Koskinen *et al.*, 2008).

Data Source and Data Collection

The methodology employed in this study is captured in Figure 1, as outlined by Paltrinieri et al. (2020). Well known for its extensive coverage and reliability, the Scopus database serves as the primary data source. To ensure the relevance and robustness of the articles, the study incorporated online refinements and preliminary assessments conducted by two researchers for each article.

A. Research Questions

- What is the current state of research regarding the relationship between SCM strategies and the performance of SMEs in emerging economies ?
- Which SCM strategies have been extensively studied and proven to be reliable and effective in enhancing SME performance in emerging economies?
- What future research directions does the literature suggest for exploring the relationship between SCM strategies and SME performance in emerging economies?

B. Research Objectives

- To conduct a systematic literature review that analyzes the current state of research regarding SCM strategies and SME performance in emerging economies.
- To identify and evaluate the most researched, reliable, and effective supply chain strategies aimed at enhancing SME performance in emerging economies.
- To develop a prospective research agenda to provide insights and guidance for future research directions in the field of SCM strategies and SME performance in emerging economies.

C. Meta Literature Review

• Source: Scopus Database

- Keywords: Detailed in Table 1
- Manual Article Filtration: Resulted in 241 articles.
- General Performance Analysis: RStudio
- Citation Analysis: VOSViewer
- Bibliometric and Content Analysis: RStudio, VOSViewer, Excel

D. Findings & Conclusions

- Identification of influential countries, institutions, sources, documents, topics, and authors.
- Research Findings and Conclusions:
- 1. Impact of SCM Practices on SME Performance,
- 2. Integration and Collaboration for Enhanced
- Performance,
- 3. Innovation and Technology Adoption for Competitive Advantage.
- 4. Identification of Future Research Directions.

Figure 1. Methodological Process

The keyword selection process is demonstrated in Table 1, providing insights into the criteria employed. All papers indicated by a preliminary comprehensive search of the Scopus database were extensively reviewed, resulting in 241 papers being deemed relevant to this study.

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| Search Description | | | | | |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--|--|--|
| Desc- ription | Desc- iption Exclusion brief | | | | |
| Query and Online refinem ent | ((TITLE-ABS-KEY("SME Innovative Performance" OR "Supply chain") AND TITLE-ABS- KEY("Collaborative Innovation" OR "Knowledge Sharing" OR "Supply Chain Integration" OR "Supply Chain Resilience" OR "Supply Chain digitization" OR "Green Supply Chain" OR "Environmental Uncertainty") AND TITLE-ABS- KEY("SME" OR "smes" OR "small & | 241 | | | |

| Desc- | Evolution brief | Total |
|-----------|------------------------------------|---------|
| ription | Exclusion brief | refined |
| | medium enterprises" OR "small and | |
| | medium enterprises")) AND (LIMIT- | |
| | TO (SUBJAREA,"BUSI") OR | |
| | LIMIT-TO (SUBJAREA,"SOCI") | |
| | OR LIMIT-TO (| |
| | SUBJAREA,"ECON")) AND (| |
| | LIMIT-TO (DOCTYPE,"ar") OR | |
| | LIMIT-TO (DOCTYPE,"re")) AND | |
| | (LIMIT-TO (SRCTYPE,"j")) AND | |
| | (LIMIT-TO (LANGUAGE,"English" | |
| |))) | |
| Manual r | (0) | |
| document | s ** | (0) |
| Final doc | 0.41 | |
| in Scopus | 241 | |

Analysis and Tools

A combination of RStudio, VOSviewer, and Microsoft Excel was employed to address the research questions. RStudio facilitates general performance analysis, unveiling trends in literature growth, identifying influential actors, analyzing citation structures, and conducting topic trend analysis. Utilizing VOSviewer revealed network patterns among literature actors and created keyword cartography. Microsoft Excel served as a tool to validate the outcomes derived from the final dataset and to generate editable graphs and tables, ensuring accuracy and reliability in the findings.

Results

General Information and Performance Analysis

Table 2 offers a comprehensive overview of the collected data, providing insights into various aspects of the research landscape, as indicated below. Table 2

General Information

| Description | Results |
|---------------------------------|-----------|
| KEY DATA | |
| Timespan | 2001:2024 |
| Sources (Journals, Books, etc.) | 119 |
| Documents | 241 |
| Annual Growth Rate % | 4.5 |
| Document Average Age | 4.89 |
| Average citations per doc | 25.62 |
| References | 15548 |
| DOCUMENT CONTENTS | |
| Keywords Plus (ID) | 552 |
| Author's Keywords (DE) | 719 |
| AUTHORS | |
| Authors | 699 |
| Authors of single-authored docs | 15 |
| AUTHORS COLLABORATION | |
| Single-authored docs | 16 |
| Co-Authors per Doc | 3.26 |
| International co-authorships % | 30.71 |
| DOCUMENT TYPES | |
| article | 228 |
| Systematic review | 4 |

Table 1

The data spans from 2001 to 2024 and encompasses 119 sources, including journals and books. With a total of 241 documents collected, the average annual growth rate stands at 4.5%, indicating a steady increase in research output over time. The document's average age is 4.89 years, suggesting that the collected documents represent recent contributions to the field. Furthermore, the average number of citations per document is 25.62, indicating the impact and significance of the research within the academic community.

The varied document contents reflect the breadth and depth of topics covered within the field of SCM strategies impacting SME performance in emerging economies, with the dataset encompassing a considerable 699 authors. While only 15 authors have singly authored documents, the collaboration index stands at 3.26, indicating a high trend of collective scholarship within the field. Furthermore, international co-authorships account for 30.71 % of collaboration, highlighting the global nature of research collaboration within this domain. In terms of document types,

articles constitute the majority, with 228 articles and 13 reviews, indicating a predominance of original research contributions and critical evaluations within the dataset. Table 2 also illustrates the distribution of the 228 articles and 13 reviews published during this period. According to the Scopus database classification, there are only 4 systematic reviews covering this study's research theme. This low number indicates that more contributions and research endeavours in this area are required to synthesize and review existing information.

Figure 2 presents data concerning journal productivity, indicating that the annual production of articles and reviews on the research topic has demonstrated a significant growth trend from 2001 to 2024. This growth has been consistent, with a notable increase observed between 2018 and 2023. It is important to acknowledge that the analysis ended in March of 2024, hence the apparent drastic drop in publications that year. It is presumed that by the end of 2024, publications would have risen in line with the previously noted trend.



Figure 2. Annual Production

The significant rise in publications regarding SCM strategies and their impact on SME performance over the five consecutive years from 2018 to 2023 observed in Figure 2 could be due to several factors, as follows: SMEs have become increasingly vital to global economies, driving innovation and job creation; the globalization of markets has highlighted the need for effective SCM strategies to enhance SME competitiveness; the rise of emerging economies has brought new opportunities and challenges, prompting a focus on SCM to navigate these dynamic environments; and lastly, technological advancements and sustainability concerns have further spurred research to optimize SCM practices for SMEs, ensuring their growth and resilience in

a rapidly evolving marketplace. This sustained growth underscores the ongoing relevance and importance of this research topic.

Citation Analysis

Research impact is often measured through citation analysis, which reveals networks between scholarly documents and is a crucial tool for assessing the influence of scientific actors despite potentially misrepresenting the quality of papers (Seglen, 1989). Figure 3 illustrates the citation pattern spanning 23 years, from 2001 to 2023, revealing a total of 1,701 citations.



Figure 3. Citations Pattern

An upward trend in accumulated citations is observed, particularly between 2018 and 2023, during which timeframe approximately 61 % of the total citations of articles concerning SCM strategies affecting SME performance in emerging economies occurred. This further corroborates the notion of a rising interest and acknowledgment of the research topic, as evidenced in figure 2, suggesting its growing relevance and impact within the academic community.

Articles

Table 3 demonstrates a comprehensive analysis of the most cited papers concerning SCM strategies affecting SME performance and reveals the trend of citation influence and the average number of references per year.

Table 3

| Paper | DOI | Total Citations (TC) | TC per Year |
|----------------------------------------------|-------------------------------|-------------------------|-------------|
| MATHIYAZHAGAN K, et al., 2013, J CLEAN PROD | 10.1016/j.jclepro.2012.10.042 | 614 | 51.17 |
| LEE S-Y, & Robret D-K 2009, PROD OPER MANAGE | 10.3401/poms.1080.0063 | 491 | 28.88 |
| LEE SM, 2012, IND MANAGE DATA SYS | 10.1108/02635571211264609 | 284 | 21.85 |
| DAINTY ARJ, 2001, SUPPLY CHAIN MANAGE | 10.1108/13598540110402700 | 238 | 9.92 |
| STOCKDALE R, 2004, J ENTERP INF MANAGE | 10.1108/17410390410548715 | 205 | 9.76 |
| HARLAND CM, 2007, J OPER MANAGE | 10.1016/j.jom.2007.01.004 | 191 | 10.61 |
| MOHANTY RP, 2014, PROD PLANN CONTROL | 10.1080/09537287.2013.832822 | 137 | 12.45 |
| BRISCOE G, 2001, EUR J PURCH SUPPLY MANAGE | 10.1016/S0969-7012(01)00005-3 | 136 | 5.67 |
| ZANGIACOMI A, 2020, PROD PLANN CONTROL | 10.1080/09537287.2019.1631468 | 133 | 26.6 |
| HE F, 2018, J CLEAN PROD | 10.1016/j.jclepro.2017.10.314 | 121 | 17.29 |

Articles with Highest Number of Citations

The top ten articles depicted in table 3 represent a substantial portion of scholarly output, garnering a total of 2,448 citations, with the paper by Mathiyazhagan, K., Govindan, K., NoorulHaq, A., & Geng, Y. (2013), in the Journal of Cleaner Production leading with a citation count of 614. With an average of approximately 51.17 citations per year, this paper discusses the challenges faced by Indian auto component manufacturing SMEs in implementing green SCM practices amidst growing environmental awareness and stricter regulations, with a focus on identifying and analysing barriers to green SCM adoption. Using Interpretive Structural Modeling, the study determines the most influential barriers, highlighting the supplier barrier as the most dominant in green SCM implementation. This topic is important as it addresses the critical obstacles SMEs in emerging economies face in adopting sustainable supply chain practices. Understanding these barriers is essential for developing effective SCM strategies that enhance SME performance while promoting environmental sustainability.

Following closely, the paper by Lee, S., and Klassen, R. (2009) in *Production and Operations Management* has accumulated 491 citations, translating to an average of around 28.88 citations per year. This paper investigates how SMEs can enhance their environmental capabilities despite limited resources. Using case studies of multiple suppliers working with two large buying firms, the study identifies factors that help SMEs respond to environmental pressures

and highlights how buyers' green SCM practices and internal initiatives within SMEs foster improvements in environmental performance. The study reveals that supportive buyer-supplier relationships and internal environmental champions drive resource acquisition and capability development. By identifying mechanisms that support environmental improvements, the research provides valuable insights for suppliers, buyers, and public agencies.

This analysis of influential papers offers valuable insights into citation trends and the sustained relevance of key scholarly works. The two most-cited articles, both focusing on green practices in SCM, provide practical guidance for integrating sustainable practices, a crucial step for SMEs striving to remain competitive, meet environmental standards, and promote sustainable growth in emerging economies. Such frameworks address the unique challenges of resource limitations and environmental pressures faced by SMEs in these regions. The high citation counts underscore the importance of these studies in shaping effective SCM strategies, ultimately supporting economic sustainability and growth in rapidly developing markets.

Journals

Table 4 demonstrates the top 10 journals publishing articles concerning SCM strategies affecting SME performance in emerging economies, with a collective total of 3794 articles published since 2001.

Table 4

| Journal | h-index | g-index | m-index | ТС | NP | PY start |
|--------------------------------------|---------|---------|---------|------|----|----------|
| JOURNAL OF CLEANER PRODUCTION | 8 | 13 | 0.667 | 1078 | 13 | 2013 |
| PRODUCTION PLANNING AND CONTROL | 8 | 9 | 0.333 | 615 | 9 | 2001 |
| PRODUCTION AND OPERATIONS MANAGEMENT | 1 | 1 | 0.059 | 491 | 1 | 2008 |

Top Sources

| Journal | h-index | g-index | m-index | ТС | NP | PY start |
|-------------------------------------------------|---------|---------|---------|------|----|----------|
| SUPPLY CHAIN MANAGEMENT | 6 | 6 | 0.25 | 344 | 6 | 2001 |
| INDUSTRIAL MANAGEMENT and DATA SYSTEMS | 1 | 1 | 0.077 | 284 | 1 | 2012 |
| JOURNAL OF ENTERPRISE INFORMATION MANAGEMENT | 3 | 5 | 0.143 | 237 | 5 | 2004 |
| TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE | 2 | 2 | 0.4 | 208 | 2 | 2020 |
| INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS | 3 | 3 | 0.176 | 191 | 3 | 2008 |
| JOURNAL OF OPERATIONS MANAGEMENT | 1 | 1 | 0.056 | 191 | 1 | 2007 |
| BENCHMARKING | 4 | 7 | 0.571 | 155 | 7 | 2018 |
| Total | | | | 3794 | 48 | |

The Journal of Cleaner Production emerges as the leading source with the highest number of papers, correlating with its h-index of 8, as well as a total citation count of 1078. This indicates a substantial impact and influence within the field, supported by a consistent publication history dating back to 2013, indicating a longterm commitment to advancing knowledge and practices in cleaner production and sustainable operations. This journal focuses on topics such as sustainability, environmental management, and sustainable development, which are increasingly critical in contemporary research on SCM.

In second place is *Production Planning and Control*, also boasting an h-index of 8 and a total citation count of 615 since its inception in 2001. Certain sources, such as the *Journal of Enterprise Information Management* and *Technological Forecasting and Social Change* demonstrate moderate scholarly output but maintain a relatively high gindex, indicating significant citation impact despite a smaller number of publications. A comprehensive examination of the top sources reveals a wide range of publications that cover different angles of production, operations, and SCM. This analysis also highlights the varied contributions of different sources to academic literature and underscores the importance of considering both quantity and impact metrics when assessing their significance within the research community.

Authors

Table 5 illustrates the most contributed authors and their scholarly output's impact on academic literature.

Table 5

| Author | Countries | Documents | Citations |
|----------------------------------------------|-------------|-----------|-----------|
| Le, Thanh Tiep | Vietnam | 5 | 37 |
| Jermsittiparsert, Kittisak | Thailand | 4 | 67 |
| Sugandini, Dyah | Indonesia | 4 | 50 |
| Centobelli, Piera | Italy | 3 | 253 |
| Cerchione, Roberto | Italy | 3 | 253 |
| Dey, Mohamed Kumar | India | 3 | 20 |
| Kholaif, Moustafa Mohamed Nazief Haggag Kotb | Egypt | 3 | 7 |
| Kim, Sung Tae | South Korea | 3 | 308 |
| Lu, Qiang | China | 3 | 59 |
| Mafini, Chengedzai | Zimbabwe | 3 | 49 |
| | Total | 34 | 1103 |

Most Contributed Authors

Leading in volume, Le, T.T. from Vietnam has contributed 5 documents with a total of 37 citations. However, the highest impact is seen in authors Centobelli, P., and Cerchione, R. from Italy, who have each garnered 253 citations from 3 documents. In total, these top 10 authors have collectively amassed 1,103 citations across 34 documents, reflecting significant influence on scholarly discourse. The diversity in authorship by country demonstrates the global interest in these research areas. Notably, all authors, bar Centobelli, P. and Cerchione, R., are nationals of emerging countries, indicating the significant importance and relevance of research on SCM

strategies and their impact on SME performance in emerging markets. This focus underscores the critical role SCM plays in helping SMEs within these rapidly growing economies improve operational efficiency, meet global standards, and achieve sustainable growth, all of which are essential for their competitiveness in an increasingly globalized market.

Table 6 presents a comprehensive overview of the most cited authors and their contributions to the academic literature concerning SCM strategies impacting SME performance in emerging economies.

| Author | Countries | Documents | Citations |
|---------------------|----------------|-----------|-----------|
| Mathiyazhagan, K. | India | 3 | 725 |
| Geng, Yong | China | 1 | 612 |
| Klassen, Robert D. | Canada | 1 | 491 |
| Dainty, Andrew R.J. | United Kingdom | 2 | 374 |
| Kim, Sung Tae | South Korea | 3 | 308 |
| Choi, Donghyun | South Korea | 2 | 291 |
| Centobelli, Piera | Italy | 3 | 253 |
| Millett, Sarah J. | United States | 1 | 238 |
| Standing, Craig | United Kingdom | 1 | 205 |
| Zailani, Suhaiza | Malaysia | 2 | 194 |
| | Total | 19 | 3691 |

Most Cited Authors

Mathiyazhagan, K. emerges as the most influential author with 725 citations spread across 3 publications, underscoring the extensive impact of his work in scholarly circles. This substantial citation count reflects not only the quality of his research but also its broad relevance and influence in the field. Similarly, Geng, Y. and Robert, K. follow closely with 612 and 491 citations respectively, indicating their significant roles as leading scholars in SCM research in emerging economies.

Analyzing the geographic distribution reveals a notable trend: among the top authors, 5 hail from Asian countries, including India, China, and South Korea, while the remaining 5 originate from Western nations such as Canada, the UK, and the US. This representation suggests a balanced participation in researching SCM strategies affecting SMEs, with notable contributions from both emerging economies and established Western nations. The prominence of authors from Asia underscores the region's increasing scholarly output and influence in the field, reflecting the growing importance of these economies in global supply chains and economic development; and suggests that emerging economies are actively contributing to and shaping the scholarly discourse on SCM. This involvement not only highlights the relevance of local contexts in shaping SCM strategies but also signifies a broader integration of emerging economies into the global academic community, fostering collaboration and mutual learning across diverse economic landscapes.

Moreover, the diversity in authorship highlights the multidisciplinary nature of SCM research, integrating perspectives from various regions and academic traditions. This global collaboration enriches the discourse on SME performance enhancement, providing insights into both universal challenges and context-specific solutions tailored to emerging market conditions.

Countries

Table 7 shows the leading countries in terms of publications and citations within the field of SCM strategies affecting SME performance.

| Table | 7 |
|--------|---|
| 1 4010 | |

| | Countries Rank - In Terms of Publications | | | | Countries Rank - In Terms of Citations | | |
|----|-------------------------------------------|-----------|-----------|-------------------|----------------------------------------|-----------|--|
| # | Country | Documents | Citations | Country | Documents | Citations | |
| 1 | India | 40 | 1518 | India | 40 | 1518 | |
| 2 | United Kingdom | 38 | 1441 | United Kingdom | 38 | 1441 | |
| 3 | Indonesia | 33 | 208 | China | 31 | 1268 | |
| 4 | China | 31 | 1268 | South Korea | 10 | 853 | |
| 5 | Malaysia | 25 | 330 | Italy | 15 | 737 | |
| 6 | Italy | 15 | 737 | Denmark | 5 | 700 | |
| 7 | United States | 15 | 418 | Canada | 2 | 504 | |
| 8 | South Korea | 10 | 853 | United States | 15 | 418 | |
| 9 | Thailand | 10 | 99 | Malaysia | 25 | 330 | |
| 10 | Vietnam | 10 | 120 | France | 9 | 273 | |
| | Total | 227 | 6992 | Total | 190 | 8042 | |

Top Countries in Terms of Citation and Publications

India and the UK lead in both parameters, with India boasting 40 documents and 1518 citations, and the UK having 38 documents and 1441 citations. These statistics underscore the significant potential of these nations to drive scholarly discourse on SME performance within emerging economies. This is likely due to India's emergence as a dynamic economic force, actively contributing innovative perspectives and solutions. Meanwhile, the UK, already advanced in economic development, may be expanding its research focus to include emerging economies, enriching global understanding and collaboration in SCM strategies tailored to diverse economic contexts.

Indonesia, with 33 documents and 208 citations, demonstrates a growing presence in global SCM discourse, leveraging its economic development to contribute valuable insights. China stands out with 31 documents and an impressive 1268 citations, underscoring its leadership in producing impactful research that influences global SCM

practices and policies. Malaysia, Thailand, and Vietnam collectively contribute 45 documents and 549 citations, showcasing their active engagement despite their smaller scale compared to larger economies. These countries play crucial roles in addressing regional SCM challenges while contributing to broader global discussions on SME performance enhancement. The inclusion of established economies like Italy and the US, with 30 documents and 1155 citations combined, highlights their continued leadership in advancing SCM research.

Overall, the data emphasizes the growing importance of emerging economies in shaping global SCM research. Their increasing participation not only enriches the diversity of perspectives in SCM strategies but also reflects their rising influence in global economic networks. As these countries continue to invest in research and innovation, their contributions are poised to expand, driving further advancements in SCM practices that benefit both local industries and the broader global economy.

Figure 4 presents an analysis of the clusters linking the top countries based on both publications and citations regarding SCM strategies impacting SME performance, highlighting their collective contributions to the academic field. The lines connecting the spheres represent the relationships between these countries, illustrating their interconnectedness in research collaborations.



Figure 4. Countries Network

Both India and the UK have frequent publications and receive noteworthy recognition from scholars in the academic community. China also takes a leading position, having the highest number of citations, indicating impactful research. The emerging economies of China, India, and Indonesia are increasingly becoming focal points in scholarly research regarding SCM, knowledge management, and sustainability, as demonstrated in Figure 4. This reflects a broader trend where emerging economies, characterized by rapid economic growth and industrial expansion, are gaining traction in academic discourse. These nations are pivotal as they not only drive global market dynamics but also present unique challenges and opportunities for SCM practices and sustainable development.

Table 8 shows the leading universities affiliated with publications regarding SCM strategies affecting the performance of SMEs in emerging economies.

Top Affiliations

Table 8

| Affiliation | Country | Articles |
|----------------------------------------------|----------------|----------|
| The University of Manchester | United Kingdom | 9 |
| Universiti Sains Malaysia | Malaysia | 9 |
| University of Muhammadiyah Malang | Indonesia | 9 |
| Widyatama University | Indonesia | 9 |
| Jiangsu University | China | 8 |
| Universiti Kebangsaan Malaysia | Malaysia | 8 |
| Vaal University of Technology | South Africa | 8 |
| Universitas Islam Indonesia | Indonesia | 7 |
| University of Bath | United Kingdom | 7 |
| University Of Science and Technology Beijing | China | 7 |
| | | Total 81 |

The University of Manchester, Universiti Sains Malaysia, University of Muhammadiyah Malang and Widyatama University jointly lead the 'top affiliations' parameter with 9 associated articles each, demonstrating a considerable research output in the field of interest from these universities. Universities in these rapidly growing nations, such as Indonesia, are increasingly focusing on research related to SCM and its impact on SME performance. This trend aligns with the broader economic growth of these nations, which is driving a heightened interest in SCM as a crucial factor for enhancing SME performance and competitiveness. As these economies continue to expand, the research produced by these institutions is becoming increasingly vital, reflecting the strategic importance of SCM in fostering sustainable economic development and innovation within emerging markets.

Table 8 underscores the diverse array of institutions, mostly within emerging economies, contributing to the research topic and their varied levels of impact on the academic community.

Keyword Co-Occurrence Analysis

The keyword co-occurrence analysis, as depicted in Figure 5, demonstrates that specific research keywords and topics frequently co-occur in studies in the SCM field. Examples of key research words and their co-occurrences include:

- Green SCM, which includes green innovation, sustainability, and green resilience, among others.

- SCM, which encompasses supply chain integration, knowledge sharing, and similar topics.

- SME-related topics such as COVID-19, SME performance, environmental performance, and barriers, among others.



Figure 5. Keyword Co-Occurrence

Figure 5 underscores the complex nature of supply chain strategies in shaping SME performance. From environmental roles to technological innovations and flexibility in the face of disruptions, SMEs are required to have well-formulated strategies and cutting-edge developments in SCM. Through such an approach, SMEs

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will be able to develop a competitive edge, satisfy the client demands more actively, and operate more efficiently respective to the contemporary business circumstances.

Figure 6 demonstrates the volumes and diversities of the aforementioned countries' and universities' contributions to the field

Figure 6. Volume and Diversity of Countries

The exploration of the current state of research on the relationship between supply chain management strategies and the performance of SMEs in emerging economies reveals a rich collection of contributions, exemplifying both volume and diversity across countries. For example, Malaysia has institutions such as the Universiti Sains Malaysia leading notable research which covers SME supply chains, indicating that Malaysia is determined to enhance the competitiveness of its SMEs, which are the determinants of the nation's growth. The second most notable institution is Jiangsu University, China. Chinese research focuses on green supply chains, reflecting the country's growing attention to sustainability. Research from Jiangsu University reveals innovative methods and best practices for effectively integrating environmental concerns into supply chain operations. Indonesia contributes to sustainable supply chain discussions, notably via University Muhammaadiyah Malang. Indonesian research develops strategies in sustainable procurement, green manufacturing processes, and government policies that play the role of environmental responsibilities within supply chains. The insights from these studies not only stimulate the country's economic development but also have global repercussions in environmental sustainability.

The global discourse on supply chain management is also enriched by countries such as India, Italy, the UK,

Australia, Pakistan, South Africa, and the US. The areas of their research include green SCM practices, integration, environmental performance measurement, and resilience strategy. Through the publication of their scientific findings in both national and international journals, these nations have become vital actors in advancing knowledge and understanding relating to the link between SCM and the performance of SMEs in emerging economies. This diverse range of contributions helps to frame policy, inform industry practices, and promote innovations with positive results for SMEs on a global scale.

Network Analysis

This section of the dataset uses Vviewer, conducting two primary types of analysis: keywords/cartography analysis and research trends over time.

Keyword/Cartography Analysis

The analyses of the dataset confirm the validity of the selection process by highlighting the most typical keywords, as demonstrated in Figure 7. Keyword analysis provides exposure to leading themes in the area of SME performance and SCM strategies.

Figure 7. Keyword Analysis/Cartography

The concepts of SCM and SMEs emerge frequently, both mentioned over 60 times, potentially indicating a keen interest in exploring and optimizing the various facets of supply chain processes, including procurement, production, distribution, and logistics, to drive efficiency and competitiveness within SMEs. Green SCM is mentioned 39 times, revealing the recognition and severity of environmental issues that necessitate the incorporation of eco-friendly processes in supply chain operations. Due to heightening environmental issues and regulations, SMEs are recognizing the importance of green SCM practices to minimize environmental impacts and enhance social responsibility. Another key finding in the dataset is supply chain resilience, with 28 mentions, emphasizing the need for manufacturers to increase innovation in building supply chains that are more robust and adaptable to disruptions and uncertainty. Within the turbulent and interdependent contemporary business environment, resilience is the foundation for business continuity and risk mitigation.

Supply chain integration appears 26 times, making it the most important factor of supply chain operational performance and collaboration within the supply chain network. Through integrating processes, information, and resources, SMEs can streamline operations, enhance communication with stakeholders on a higher level, and respond to unpredictable market dynamics.

Innovation is interpreted as the main factor behind SME improvement in productivity and competitiveness, with 23 occurrences. Innovation builds a strong foundation for further progress for SMEs through technological advancement, product/service innovation, and/or process optimization. The aspect of performance mentioned 20 times has many dimensions which include financial performance, operational efficiency, customer satisfaction, and the level of competition. Tracking the performance metrics or key performance indicators is crucial for SMEs to succeed in ever-changing business conditions. In summary, the analysis of keywords underscores the multi-layered nature of SME performance within the realm of SCM. By leveraging insights from these prevalent themes, SMEs will be able to employ strategies and programs to develop their firm, sustainability, and adaptability in the dynamic market.

Topic Trend

Figure 8 highlights the evolving structure of research topics concerning SME performance and SCM over three decades, from 2001 to 2023. It highlights notable trends that have shaped the intellectual landscape of this domain.

The contribution of SMEs to both manufacturing and supply chains has demonstrated their significance in the broader industry landscape. This trend signifies a growing recognition of the major contributions of SMEs and their impact on the whole supply chain efficiency. SCM emerges as a crucial point, characterized by efforts to improve the processes, increase efficiency and elevate the performance level. This emphasis highlights SMEs' efforts to maximize their supply chain operations despite the changing market dynamics and challenges.

The trend analysis shows that key topics on SCM, supply chain integration and SME supply chains have been rather stable since 2021. Nevertheless, since 2006, there has been a horizontally growing pattern of research in all the themes. This trend grew progressively stronger, peaking in 2023.

Content Analysis

The following content analysis categorizes the literature review into three primary streams: (1) the impact of supply chain management strategies on SME performance, (2) integration and collaboration for enhanced performance, and (3) innovation and technology adoption for competitive advantage.

Impact of SCM Strategies on SME Performance

This stream analyses the relationship between SCM strategies and the performance of SMEs in emerging economies. It includes different aspects such as the sustainable supply chain, the green supply chain, and environmental performance. It stands out by its investigations of regulatory compliance, corporate social responsibility, and institutional pressures as the factors affecting SME performance in the context of SCM strategies.

This displays a substantial body of literature, with a total number of 103 articles authored, highlighting the importance of understanding, and improving SME performance in emerging economies. Several authors have conducted thorough research about sustainable practices and their effect on SMEs, showing great interest in the subject matter (Wu, 2017; Williams and Murphy 2023; Singh *et al.*, 2014; Singh *et al.*, 2021). The authors, Sun, *et al.* (2023) and Alagarsamy, *et al.* (2020) presented invaluable insights in their work that demonstrate the success of SMEs in adopting SCM strategies and competing effectively. Within the field of SMEs, the structure of SCM is evolving into a more complex framework, while Turner *et al.* (2018) and Skipworth *et al.* (2015) have certified the need for substantial performance improvements.

Proper SCM plays a key role in helping SMEs overcome challenges, which in turn results in lower operational costs, better performance levels, and better customer service (Turner *et al.*, 2018; Rao *et al.*, 2015). The crucial role of SMEs in economic growth as stated by Obi *et al.* (2018) signifies their relevance. Despite their immense significance, SMEs regularly encounter obstacles such as inefficient supply chains, tough competition, and limitations of resources (Skipworth *et al.*, 2015; Turner *et al.*, 2018).

SCM plays a significant role in satisfying market needs and minimizing risks while conceptualizing sustainability projects (Jafarzadeh-Ghoushchi *et al.*, 2023). Digital technologies and the widespread adoption of digital practices have created a tremendous impact on the performance of SMEs. The changes have brought in new technology and approaches for streamlining operations (Ye *et al.*, 2024; Sarwar *et al.*, 2023; Maric *et al.*, 2024; *Lang et al.*, 2023), hence, improving overall efficiency becomes a crucial factor in sustaining competitiveness and sustainability in today's business landscape (Ghasemi *et al.*, 2023).

This analysis presents compelling evidence of the positive correlation between sustainable SCM strategies and SME performance in emerging economies. By aligning with global sustainability objectives and adhering to best practices, SMEs can better improve their performance concerning competitiveness, resilience, and sustainability as market dynamics evolve. This also investigates the relationship between SCM strategies and the performance of SMEs and highlights the importance of sustainable practices in SCM strategies, underlining the need for SMEs to align with global sustainability purposes while navigating regulatory compliance.

The content analysis showed that the current state of research highlights a growing interest in the impact of SCM strategies on SME performance, particularly in emerging economies. Since 2010, there has been a notable increase in research studies focusing on specific supply chain strategies such as green SCM, supply chain innovation, supply chain integration, supply chain resilience, and knowledge sharing. Significant contributions from countries such as the UK and India emphasize the importance of these strategies in helping SMEs thrive, particularly in emerging economies. This addresses research question one.

Integration and Collaboration for Enhanced Performance

The second stream focuses on investigating the pivotal role of supply chain integration and collaboration in fostering enhanced performance among SMEs in emerging economies. This includes the related concepts of supply chain integration, collaboration, partnerships, market orientation, and customer satisfaction. Authors within this stream explored how the process of collaborative decision-making, strategic alliances, and market orientation strategies affect SMEs' performance metrics such as forecasting accuracy, inventory management efficiency, and customer satisfaction.

Overall, 76 studies contribute to this stream, showcasing insights from numerous scholars. Authors such as Mofokeng and Chinomona (2019); Al-Nazer (2022); Shashi *et al.* (2018) have studied the phenomenon of supply chain integration and collaboration, providing valuable insights into their consequences on SME performance within transitional economies. Additionally, the topic of supply chain collaboration emphasizes that cross-enterprise relationships should be entrenched to maximize synergies and deliver superior performances for SMEs (Zaridis *et al.*, 2021; Unhale & Slowak, 2022). Through collaboration and the establishment of strategic partnerships, SMEs can enhance the efficiency of their operations, acquire optimal resource utilization, and be adaptable to changing market trends (Machado *et al.*, 2024; Mofokeng & Chinomona, 2019).

Although many studies have focused on supply chain integration, the increasing competitive pressures on firms indicate an integrated understanding of this field (Unhale and Slowak, 2022; Georgise et al., 2014; Katunzi, 2011; Prajogo & Olhager, 2011). The importance of such understanding becomes particularly evident as higher levels of integration have been linked to improved firm performance (Beheshti et al., 2014; Cannon et al., 2010; Gimenez et al., 2012). Welker, et al. (2008) emphasized the role of supply chain integration in bolstering competitive capabilities, especially for worldclass manufacturers. Conversely, Wong and Boon-Itt (2008) identified various challenges faced by SMEs in their supply chains, attributing many of these issues to inadequate supply chain integration. These challenges include inventory shortages, logistical constraints, delivery, quality issues, and rising costs.

Collaborative planning stands as a cornerstone of SCM, serving as the initial step in forecasting and replenishment, where partners establish collaboration initiatives and terms, as highlighted by Panahifar, et al. (2015a). The success of collaborative attempts often centers on the identification and selection of the most suitable partners (Panahifar, et al., 2015b). Recent empirical evidence further solidifies the crucial role of supply chain capabilities in fostering collaboration, as demonstrated in a study by Mandal, et al., (2016). However, Lee, et al. (2016) highlight the necessity for more contextually relevant research in emerging economies, emphasizing that supply chain pressures may differ significantly between these and high-income nations. Despite a limited number of empirical investigations into SCM, recent years have witnessed a rise in such research as highlighted by (Mosoma, 2004; Ziaullah et al., 2015; Amadi-Echendu & Kruger, 2016; Bautista-Santos et al., 2016), although the focus has primarily been on contexts outside of SMEs. The content analysis indicated that there are specific SCM strategies that have proven effective for enhancing SME performance such as green SCM, supply chain innovation, supply chain integration, supply chain resilience, and knowledge sharing. These strategies are crucial for optimizing supply chain operations and enhancing overall SME performance, particularly in emerging economies. They emphasize sustainability, collaboration, and technological adoption, which are vital for the growth and competitiveness of SMEs in these regions. This addresses research question two.

Innovation and Technology Adoption for Competitive Advantage

This stream investigates the complex relationship between innovation, technology adoption, and the performance of SMEs in emerging economies. This contributes to understanding how SMEs can utilize the opportunities offered by technological advancements to gain a competitive edge and ensure continual growth in an ever-changing market structure.

Comprising 62 studies, this stream addresses the complicated matters of innovation and technological adoption within SME contexts. Several scholars, like Sukati (2023); Ali *et al.* (2023); Balta *et al.* (2023); and Truong *et*

al. (2023) have made extensive studies in this area, underlining the transformative potential of innovation and technology in improving SME performance and resilience.

Within this stream, authors studied how SMEs utilize modern technologies such as cloud computing, big data analytics, and blockchain to simplify their supply chain operations, boost agility and introduce innovation (*Wang et al.*, 2021; Sawik, 2023). By implementing robust measurement frameworks, SMEs can discover actionable insights into their supply chain operations, hence, realigning processes to mitigate risks and maximize performance success outcomes. Innovation and technology adoption enables the evaluation and handling of supply chain risks, for example, supplier disruptions and geopolitical crises, thereby enhancing supply chain resilience (Zhou *et al.*, 2023; Guntuka *et al.*, 2023).

The importance of innovation and technology adoption for SME performance is highlighted by several key factors:

- Enhanced Visibility: streamlining visibility through the supply chain provides the ability to control inventory levels and production, and observe the manufacturing processes in real-time, thus empowering making immediate well-thought decisions (Soori, *et al.*, 2023). This proactive approach is preventive, eliminating risk before it arises.

- Increased Agility: digital technology can respond to changes in the market, client preferences, or unforeseen disruptions within the supply chain to support agile supply chains through adaptive adjustments (Birkel, *et al.*, 2023).

- Improved Efficiency: automation and data analytics diminish various SCM activities, which in turn reduces operational costs, enables well-proportioned resource allocation, accomplishes faster order fulfilment, and promotes supply chain efficiency (Sawik, 2023).

- Customer-Centric Approach: understanding the knowledge of customers' needs and perspectives facilitates supply chain processes to be structured according to requirements. This can lead to happiness and willingness to patronize the brands (Yenugula *et al.*, 2023).

- Enhanced Supply Chain Resilience: under today's globalized condition, risk anticipation and risk mitigation are highly important. Technology and innovation enhance the ability of supply chains to find critical risks through proper assessments with improved management against threats associated with suppliers' issues, geopolitical problems and disasters (Guntuka, *et al.*, 2023).

This analysis serves as a knowledge hub for SMEs seeking to navigate the complicated landscape of innovation and technology adoption. By adopting a culture of innovation and leveraging cutting-edge technologies, SMEs can position themselves as resilient and competitive players in the world marketplace, driving economic growth and success.

Discussion and Emerging Research Directions

The emerging research directions for exploring the relationship between SCM strategies and SME performance in emerging countries are discussed below, addressing research question three.

Sustainable SCM Strategies

SCM strategies influence the performance of SMEs (Lu et al., 2021; Rao et al., 2015; Turner et al., 2018). Scholarly contributions by researchers such as Zihan and Makhbul

(2024); Sun *et al.* (2023) and Alagarsamy *et al.* (2020) provide necessary information on how SCM strategies can improve SME performance and promote sustainability and competitiveness to SMEs. Nevertheless, SMEs face challenges in effectively implementing sustainable practices while navigating regulatory compliance and institutional pressures.

The previous content analysis and discourse in the first stream helped to identify research gaps and develop a roadmap for future research proposals, as stated below:

a. Implementation Strategies: future research could investigate the effective implementation strategies for sustainable practices in SMEs' SCM. Exploring the impact of organizational culture, leadership involvement and employee engagement in the improvement of sustainable activity adoption may be helpful in the context of SMEs who want to toughen their competition.

b. Regulatory Compliance: further exploration is needed to understand the regulatory frameworks' influence on SMEs' adoption of sustainable practices. The research could be devoted to problems that SMEs face in sustainability regulations compliance and provide strategies for managing the risks of regulations compliance without deteriorating business efficiency.

c. Supply Chain Collaboration: investigating the role of supply chain collaboration in facilitating sustainable practices adoption among SMEs is another promising research avenue. Collaborative projects with supply members, partners, and customers would allow SMEs to access joint resources, practices, and expertise to increase sustainability in a supply chain. Research could emphasize identifying key performance indicators to assess the environmental, economic and social outcomes of sustainability initiatives in SMEs' SCM operations.

Supply Chain Integration and Collaborative Strategies

The emphasis on supply chain integration and collaboration underscores their significant role in driving performance improvements for SMEs. Through collaboration and the establishment of strategic partnerships, SMEs can enhance the efficiency of their operations, acquire optimal resource utilization, and be adaptable to changing market trends (Machado *et al.*, 2024; Mofokeng & Chinomona, 2019). The complexities of supply chain integration and collaboration, offering significant insights into their implications for SME performance were investigated by authors such as Zaman *et al.*, (2021); Mofokeng and Chinomona (2019), and Al-Nazer (2022). However, challenges exist in implementing integration and collaboration strategies, particularly in the context of emerging economies with diverse market dynamics.

The previous content analysis and discourse in the second stream helped to identify the research gaps and develop a road map for future research proposals, as stated below:

a. Digital Platforms and Technologies: future research could examine the role of digital platforms and technologies in facilitating collaboration between SMEs and their partners. Researching the adoption of digital tools for collaboration, e.g., cloud-based platforms, blockchain, and the Internet of Things (IoT), for supply chain integration and performance, could provide valuable insights for SMEs, which will be useful when developing their effective digitalization strategies. b. Supply Chain Partnerships Dynamics: investigating the dynamics of supply chain partnerships and their influence on SME performance is another promising research avenue. Research could examine factors influencing the formation, management and outcomes of partnerships, including trust, power dynamics, and governance mechanisms. Learning the distinctions of effective partnership models can help SMEs navigate collaborative relationships more successfully.

c. Inter-Organizational Collaboration Models: studying different models of inter-organizational collaboration within supply chains is crucial. Comparative studies examining the effectiveness of collaborative frameworks, such as customer co-creation, supplier integration, and collaborative planning could provide insights into optimal collaboration strategies for SMEs operating in dynamic industry contexts.

Leveraging Innovation and Technology Adoption for Competitive Advantage

The emphasis on the complex relationship between innovation and technology adoption for competitive advantage contributes to understanding how SMEs can utilize the opportunities presented by technological advancements to gain a competitive edge and ensure continual growth in an ever-changing market structure. The subsequent discussion explains the findings and suggests emerging research directions.

Harnessing the transformative potential of innovation and technology is crucial for improving SME performance, competitiveness, and resilience (Sukati, 2023; Ali *et al.*, 2023; Balta *et al.*, 2023; Truong *et al.*, 2023).

Interpreting the transformative capacity of innovation and technology in augmenting the performance and resilience of SMEs investigated by several authors such as Sukati (2023) and Ali *et al.* (2023); Mathu, K. M. (2019). Nevertheless, challenges exist, including technological complexity, limited resources, and resistance to change, hindering extensive adoption among SMEs.

The previous content analysis and discourse in the third stream helped to identify the research gaps and develop a road map for future research proposals, as stated below:

a. Barriers to Technology Adoption: future research could investigate the barriers limiting technology adoption by SMEs in emerging economies. Identifying factors like financial constraints, lack of digital skills and worries over cybersecurity and data security can provide insights into the challenges SMEs have in adopting and implementing new technologies into their day-to-day operations.

b. Strategies for Overcoming Adoption Barriers: ensuring the adoption of technologies is achieved by identifying barriers strategies is paramount. Research could focus on providing practical solutions and interventions specifically for SMEs in emerging economies that have their features and constraints. This could include initiatives such as interventions that might be structured as governmentsponsored training programs, technology subsidies, and partnerships with the industry that are meant to facilitate technology adoption and dissemination.

c. Technological Infrastructure Development: developing technological infrastructure personalized to the needs of SMEs is vital. Research could concentrate on designing user-friendly and affordable technology solutions precisely targeting SMEs in emerging economies. This could include mobile applications, the development of cloud-based software, and digital platforms tailored to SME necessities, making technology more accessible and easier to adopt. The emerging research directions and future research questions derived from this study are presented in Table 9.

Table 9

| Stream | | Sub-Stream | Research Questions |
|------------------------------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impact of | I. | Implementation Strategies | What are the best strategies for SMEs to integrate sustainability into their supply chain management, considering the influence of organizational culture, leadership, and employee engagement on competitiveness? |
| Strategies on | II. | Regulatory Compliance | How do regulations affect SMEs' sustainability efforts, and how can they navigate compliance challenges while staying efficient? |
| Performance | III. | Supply Chain Collaboration | How does supply chain collaboration contribute to SMEs' adoption of sustainable practices, and what KPIs can measure their environmental, economic, and social outcomes? |
| Integration and Collaboration for Enhanced Performance | I. | Digital Platforms and Technologies | How do digital platforms like cloud-based systems, blockchain, and IoT enhance SME collaboration in supply chains, and what insights can inform effective digitalization strategies? |
| | II. | Supply Chain Partnerships Dynamics | How do partnership dynamics in supply chains affect SME performance, and what insights can assist SMEs in navigating successful collaborations? |
| | III. | Inter-Organizational Collaboration Models | What are the implications of various collaboration models, such as customer co- creation, supplier integration, and collaborative planning, for SMEs in dynamic industries? |
| T | I. | Barriers to Technology Adoption | How can barriers to technology adoption among SMEs in emerging economies be addressed for successful technology integration? |
| Adoption and Technology Adoption for Competitive Advantage | II. | Strategies for Overcoming Adoption Barriers | How can technology adoption barriers for SMEs in emerging economies be overcome through tailored strategies, including government programs, subsidies, and industry partnerships? |
| | III. | Technological Infrastructure Development | How can affordable and user-friendly technology solutions be developed to meet the needs of SMEs in emerging economies, promoting easier adoption and accessibility? |

Emerging Research Directions

Future research proposals in the mentioned areas could offer valuable insights for SMEs seeking to navigate and thrive in highly competitive markets, especially in emerging economies.

Limitations

This study's scope is limited to a review of the current state of research on the relationship between SCM strategies and SME performance, drawing exclusively from the Scopus database. It is of note that the Scopus database might not exclusively contain all the literature pertinent to the topic.

Conclusion

This research employed a bibliometric and content analysis approach to conduct a thorough exploration and examination of the most influential articles, authors, institutions and countries with regards to SCM strategies and SME performance in emerging economies.

The analysis encompassed 241 relevant English articles published in Scopus-indexed journals within the timeframe of 2001 to 2024. Using statistical software including RStudio, VOSviewer, and Microsoft Excel, the analysis revealed the UK and India as the top contributors and most cited globally. The University of Manchester emerged as the most relevant affiliation at the institutional level. Among journals, the *Journal of Cleaner Production* led in terms of publication volume, while *Uncertain Supply Chain Management* was the most cited source. Le, TT. emerged as the most contributed author, whereas Mathiyazhagan, K. was the most cited author. A significant trend observed was the increased interest among SCM scholars in strategies such as green SCM, supply chain innovation, supply chain integration, and supply chain resilience, particularly since 2010.

The content analysis categorized the literature review into three primary streams: first, the impact of supply chain management strategies on SME performance; second, integration and collaboration for enhanced performance; and third, innovation and technology adoption for competitive advantage. It is important to point out that a substantial portion (75.3%) was published after 2015, thereby showing an increasing interest and significance of this topic in recent years within emerging economies. This trend reflects a shift towards more holistic and strategic approaches to SCM, emphasizing sustainability, collaboration, integration, and resilience as essential components for addressing complex challenges and capitalizing on emerging opportunities in the dynamic business landscape.

This study underscores the importance of actionable strategies for SMEs in emerging economies, emphasizing the enduring value of adopting green supply chain management practices, leveraging digital platforms, and fostering knowledge sharing and collaboration for innovation. By developing a strategic roadmap tailored to SMEs' financial and technological constraints, this research highlights how sustainable and digitalized SCM strategies can enhance operational efficiency, competitiveness, and resilience.

Furthermore, the findings advocate for targeted policy frameworks and collaborative initiatives to support SMEs in overcoming barriers to sustainability and technology adoption. Proposals include government-sponsored training programs, industry partnerships and affordable technological solutions tailored to SMEs' unique needs in emerging markets. These recommendations provide a foundation for SMEs to integrate SCM strategies effectively, ensuring longterm growth, sustainability and competitiveness in the global marketplace.

Lastly, this study offers a forward-looking research agenda, emphasizing the need for future investigations into critical areas such as regulatory compliance, supply chain collaboration and technological infrastructure development. By addressing these gaps, subsequent research can ensure SMEs remain adaptive and resilient in rapidly evolving economic and technological landscapes.

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