

A BIBLIOMETRIC ANALYSIS ON THE DRIVERS OF SME'S SUSTAINABILITY PRACTICES

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ABSTRACT: *Although SMEs play a vital role in the global economy, they are often overlooked in sustainability efforts. This has raised concerns about the likelihood of achieving the Sustainable Development Goals (SDGs) within the specified timeline. What then are the current approaches SMEs can use to navigate their sustainable development? To address this issue, the study conducted a bibliometric literature review using VOSviewer to analyze existing research on SMEs and sustainable development. Guided by the PRISMA framework, the review sourced data from Scopus, focusing on publications between 2015 and 2024. The findings identified seven key drivers of SMEs' sustainability practices: societal influence, sustainable finance, corporate culture, regulatory pressure, bricolage, digitalization, and cost savings. Since societal influence is recognized as a primary driver behind SME's sustainability practices, it is crucial for diverse social groups to actively express their support for these initiatives. Such unified advocacy can give birth to regulatory pressures, potentially fostering the putting forward of sustainable financial tools. Given that most existing research has been carried out in developed countries, there is a pressing need to shift attention to developing nations, where SMEs frequently encounter resource limitations that impede the implementation of sustainable practices.*

KEY WORDS: *sustainability practices; drivers; PRISMA framework; bibliometric analysis*

JEL CLASSIFICATIONS: *Q01; M14; M20.*

1. INTRODUCTION

In recent years, sustainability research has gained prominence due to the growing environmental impact of business activities and increasing green awareness among stakeholders (Shahzad, et al., 2020; Bisht, et al., 2024; Isac, 2013). Rising global concerns about sustainable business operations have led to heightened interest from managers and policymakers in adopting sustainability practices (Appiah-Kubi, et al., 2024a; Burlea-Șchiopoiu & Mihai, 2019; Tsvetkova, et al., 2020). This urgency stems

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from environmental degradation caused by resource exploitation for value creation. As a result, nearly every nation is working toward sustainable development (Martínez, et al., 2023; Niță, et al., 2024), with businesses increasingly aligning their value chains with these objectives. To support this effort, the United Nations introduced 17 Sustainable Development Goals (SDGs) aimed at addressing key global challenges by 2030. These goals target poverty reduction, hunger elimination, health and well-being promotion, access to quality education, gender equality, improved sanitation, sustainable energy access, economic growth, industrialization, and innovation. They also focus on reducing inequalities, building resilient cities, encouraging sustainable consumption and production, addressing climate change, conserving marine and terrestrial ecosystems, and fostering global partnerships (Weiland, et al., 2021).

However, concerns persist that the SDGs may not be achieved within the proposed timeline (Leal Filho et al., 2023). One key issue is the limited focus on small and medium-sized enterprises (SMEs), which are vital to the global economy but are often excluded from sustainability initiatives (Appiah-Kubi, et al., 2024b). SMEs contribute infinitesimally to the SDGs (Yadav, et al., 2023), following their significant emission of carbon dioxide and other greenhouse gases (Olekanma et al., 2024). This is due to financial constraints which hinder their ability to adopt circular economy practices, posing challenges to sustainability (Appiah-Kubi, et al., 2024b; Dura, 2016).

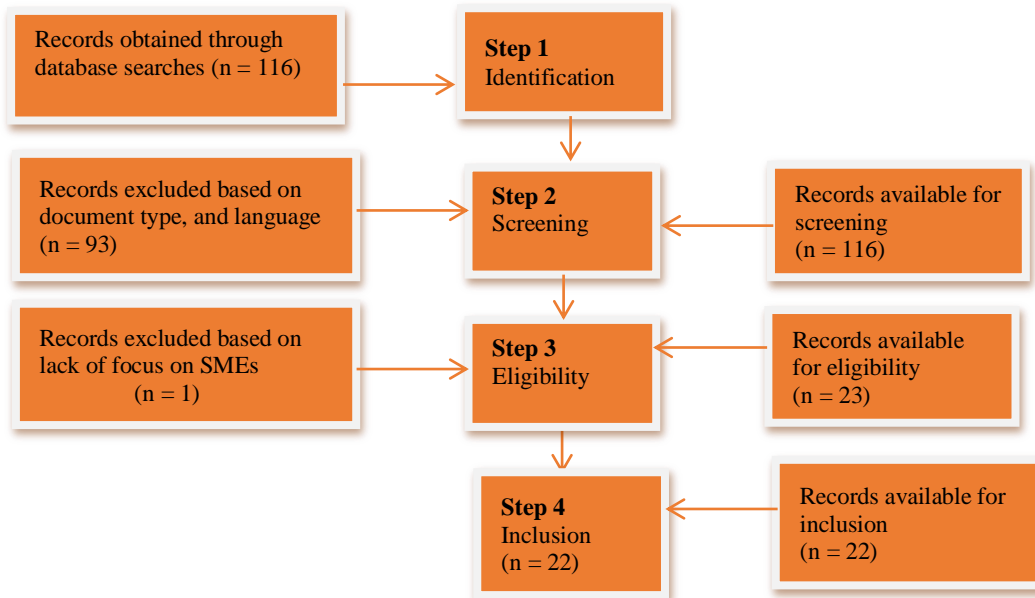
Despite these challenges, sustainability research has primarily focused on large corporations (Khaled, et al., 2021; Niță, 2019), leaving a significant gap in understanding the drivers of sustainable development in SMEs. Meanwhile, SMEs show little interest in environmental issues and lack resources to implement ecological practices (Maniu, et al., 2021; Hoogendoorn et al., 2015). Given their collective environmental impact, which could undermine efforts by larger firms (Musa & Chinniah, 2016), it is essential to examine SMEs' role in sustainability (Journeault, et al., 2021; Isac, 2021; Franco & Rodrigues, 2021). For this reason, conducting a systematic literature review to map existing literature on the drivers of SMEs sustainability practices is crucial (Das et al., 2020; Yadav, et al., 2018). Motivated by this, the present study employs a bibliometric analysis to synthesize and map existing knowledge on the drivers of SMEs' sustainable development. By expanding understanding of these factors, the findings provide a foundation for future research and practical insights for policymakers and business leaders. This introduction has outlined the study's background, research gap, objective, and contributions. The subsequent sections describe the methodology, guided by the PRISMA framework, present the main findings, conclusion, and offer recommendations alongside limitations and future research directions.

2. METHODOLOGY

This bibliometric literature review aims to explore the factors driving SMEs' sustainability practices, highlighting emerging themes. To accomplish this, the study adopts the PRISMA framework, by following the four main stages including identification, screening, eligibility, and inclusion (Page, et al., 2021; Rethlefsen, et al., 2021; Sarkis-Onofre, et al., 2021). A detailed overview of these steps is presented in Figure 1.

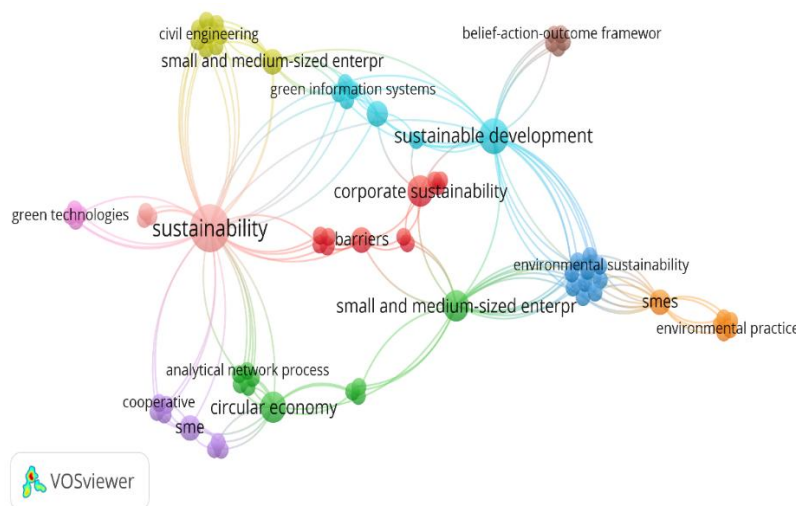
2.1. Identification

The selection criteria for this study were based on the PRISMA framework. Scopus, a leading and widely recognized database, was used to conduct the literature search. The study focused on mapping existing research on SMEs, sustainable development, and their driving factors across various disciplines.



Source: Adapted by the author from Page et al., 2021

Figure 1. A representation of papers' collection strategy, based on PRISMA framework



Source: Author's own construct

Figure 2. Co-occurrence analysis by all keywords

To ensure thorough coverage, three keyword groups including SMEs, sustainable development, and drivers, were developed in line with the study's objectives. The search spanned a 10-year period from 2015 to 2024, with 2024 included as the study was conducted at the end of the year. This timeframe was selected to capture the drivers of SMEs' sustainable development in light of recent regulatory changes. Literature from all countries was included to broaden the study's scope. Using these criteria, 116 records were retrieved for screening, extracted in CSV format, and organized in Microsoft Excel. The bibliometric analysis for the co-occurrence by all keywords identified a total of 74 items within the network, giving rise to 10 clusters. Figure 2 shows the cluster distribution, with one cluster containing 11 items, two clusters comprising 10 items each, one cluster with 9 items, another with 8 items, one with 7 items, one with 6 items, one with 5 items, and two clusters with 4 items each.

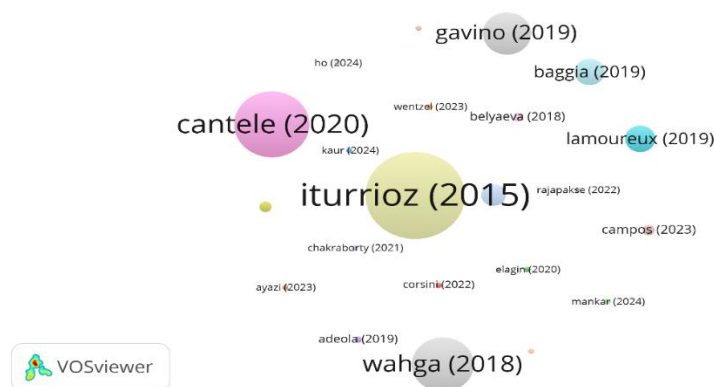
2.2. Screening

The records were filtered to include only articles, book chapters, and reviews published in peer-reviewed journals. Although systematic reviews can include various publication types, focusing on peer-reviewed academic journal articles in English ensures high-quality research while keeping the scope manageable (Klewitz & Hansen, 2014). Of the original records, 92 were from other document types and 1 was in a non-English language. As a result, 93 records were excluded, leaving 23 papers for the eligibility stage.

2.3. Eligibility

To maintain the quality of the review, the abstract of each screened article was carefully assessed to ensure it focused on SMEs. This process led to the exclusion of one record, as it focused on family firms, which may also encompass large enterprises. Following this, a detailed evaluation of the remaining records was performed, resulting in 22 records qualifying for the final stage. The bibliometric analysis for the citation by documents identified a total of 22 documents within the network, giving rise to 22 clusters.

2.4. Included



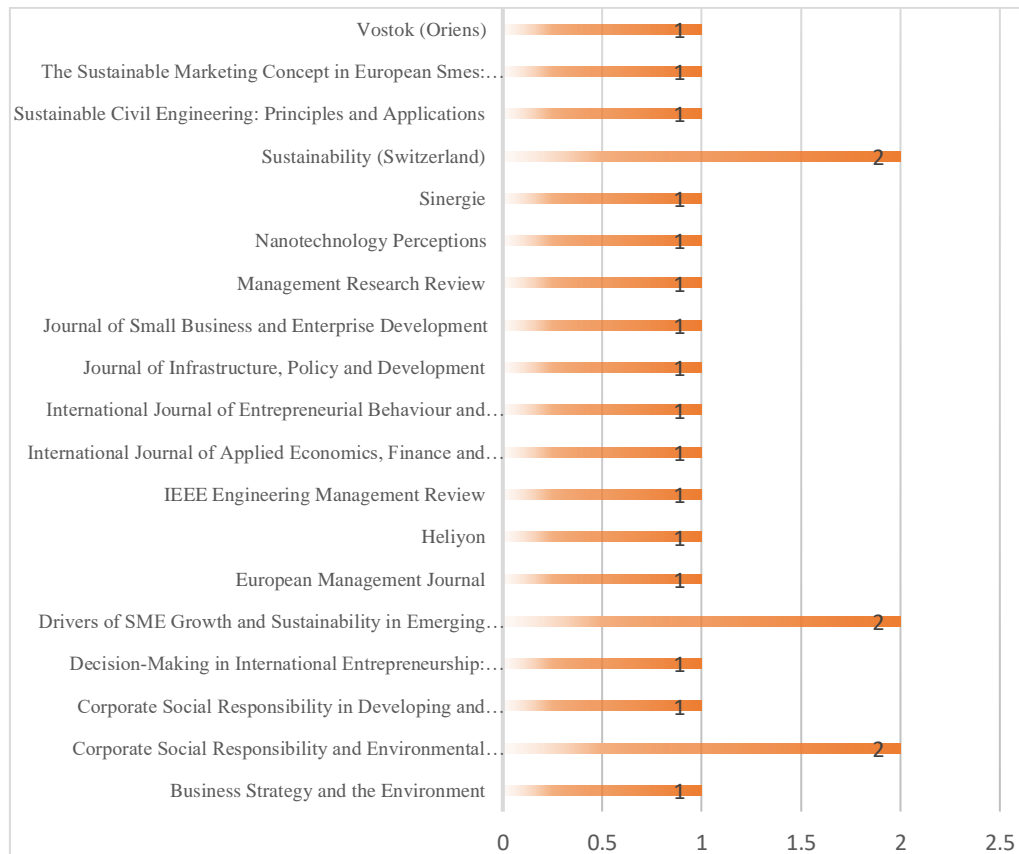
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Figure 3. Citation by document

Based on the inclusion and exclusion criteria outlined in the previous stages, the 22 selected records included articles, book chapters, and reviews published in peer-reviewed journals from 2015 to 2024. All documents were in English, and the study considered research from all countries. These records specifically focused on SMEs and covered a broad range of disciplines, such as Business, Management and Accounting, Social Sciences, Environmental Science, Economics, Econometrics and Finance, Engineering, Energy, Physics and Astronomy, Multidisciplinary Studies, Materials Science, Decision Sciences, Computer Science, and Arts and Humanities. Figure 3 shows the cluster distribution, with one cluster containing 1 item each.

3. MAIN FINDINGS

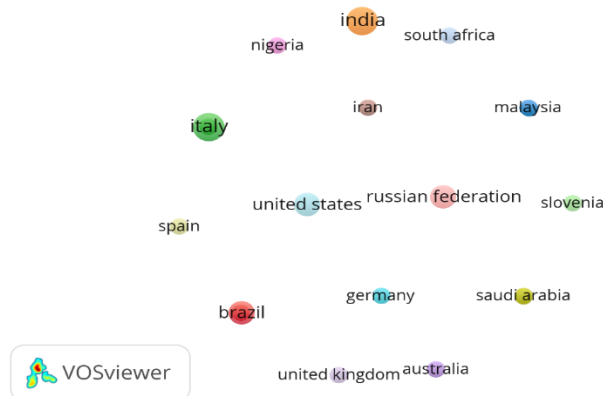
Figure 4 shows the distribution of records by source title. Over the 10-year period, the highest number of papers published in a single journal was two, with contributions from *Business Strategy and the Environment*, *Drivers of SME Growth and Sustainability in Emerging Markets*, and *Sustainable Civil Engineering: Principles and Applications*. All other journals featured only one paper each on the topic.



Source: Author's own construct

Figure 4. Distribution of records by source title

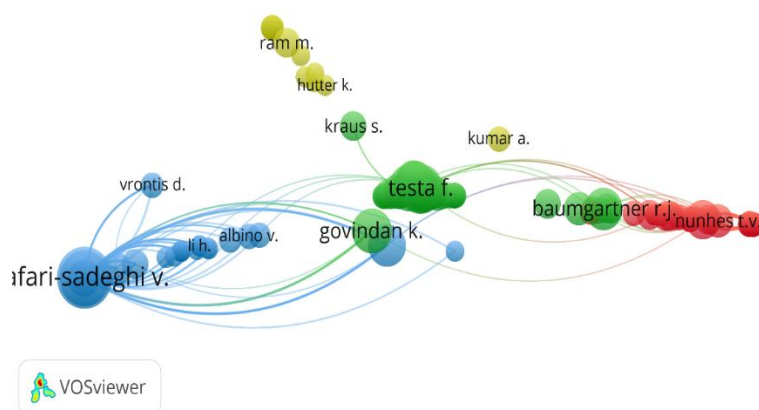
The bibliometric analysis of co-authorship by countries identified 19 items within the network. As shown in Figure 5, these items formed 15 clusters. Four of these clusters contained two items each, while the remaining clusters were composed of a single item.



Source: Author's own construct

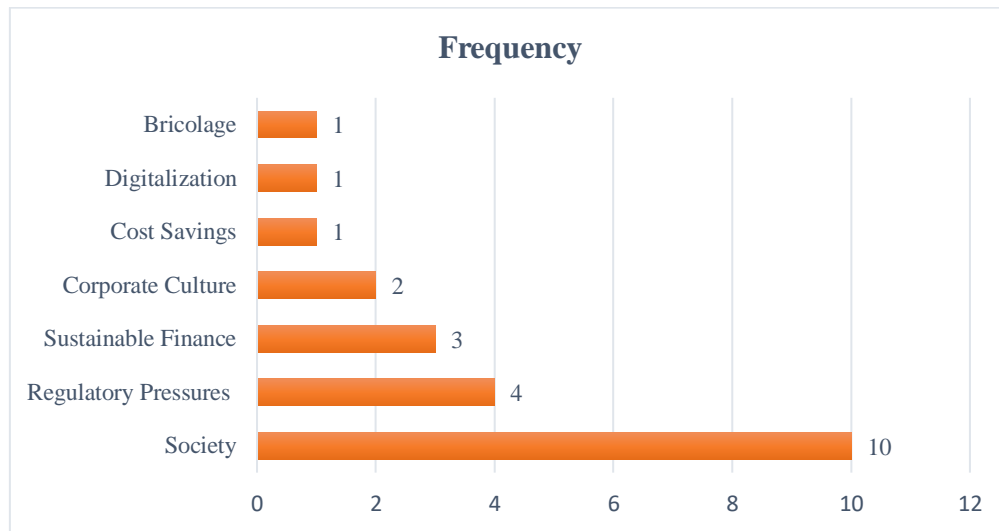
Figure 5. Co-authorship by countries

The bibliometric analysis of co-citation by cited authors identified 1000 items within the network. As shown in Figure 6, these items formed 4 clusters. The first cluster had 405 items, cluster two had 271 items, cluster three had 220 items, and cluster four had 104 items. The literature analysis revealed seven key drivers of SMEs' sustainable development: societal influence, sustainable finance, corporate culture, regulatory pressure, bricolage, digitalization, and cost savings. As shown in Figure 7, societal influence was identified as the most significant factor contributing to the sustainable development of SMEs.



Source: Author's own construct

Figure 6. Co-citation by cited authors



Source: Author's own construct

Figure 7. Literature classification by drivers

4. CONCLUSION AND RECOMMENDATIONS

This bibliometric literature review highlighted that stakeholder interests in SMEs' sustainability practices are increasing, leading to a gradual rise in research on the topic. However, the number of papers published on this subject remains limited. Also, most of these studies were carried out in developed countries. The study identified seven key drivers of SMEs' sustainability factors: societal influence, regulatory pressure, sustainable finance, corporate culture, cost savings, digitalization, and bricolage. Among these, societal factors were found to have a significant impact on SMEs' sustainability practices. Environmental concerns are key drivers that encourage pro-environmental behavior among SMEs (Pyo, et al., 2024). Societal expectations are critical in integrating corporate social responsibility and sustainable practices into business strategies (Sitaloppi, et al., 2021). Both internal and external pressures influence how SMEs approach sustainability (Cantele & Zardini, 2020). These include context-specific intermediaries and the dynamics of systemic social capital, which facilitate shared innovation strategies among SMEs (Iturrioz, et al., 2015). Societal demands for sustainability often push firms to prioritize sustainable development in their strategic planning (Fallah Shayan, et al., 2022).

As research on this topic continues to gain traction, further investigation is strongly encouraged to deepen understanding and broaden its application. Academic journals should support this area by soliciting for special issues and offering clear guidance to direct future research. Review articles are particularly valuable as they help identify gaps in knowledge and steer the course of subsequent studies. Given that most existing research has been carried out in developed countries, there is a pressing need to shift attention to developing nations, where SMEs frequently encounter resource limitations that impede the implementation of sustainable practices. As societal

influence has been identified as the key driver of SMEs' sustainability practices, it is vital for various social groups to actively show their support for these practices within SMEs. This collective advocacy can generate regulatory pressures, which may encourage the availability of sustainable finance. Additionally, SMEs should receive training to improve their bricolage skills and cost-saving strategies, which are crucial for achieving sustainable development despite limited resources.

5. LIMITATIONS AND FUTURE RESEARCH SUGGESTIONS

This bibliometric literature review focused on a 10-year period from 2015 to 2024. Future studies could extend this time frame to capture additional factors and emerging trends that may impact SMEs' sustainability practices. Also, this literature review primarily used Scopus as the database for sourcing literature. While Scopus is a well-regarded and widely used resource, future research could broaden the search by including additional databases such as EMERALD, EBSCO, Wiley Online, and ScienceDirect to ensure a more extensive and comprehensive review of relevant literature. Finally, this study only included records in English. To expand the scope, future research could include publications in other languages, which could then be translated into English to ensure accessibility for a wider audience.

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