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Drivers for SMEs Sustainability: A Review and Research Agenda

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Abstract
In recent years, issues about sustainability have dominated in the business world. It has evolved into a global business issue in which large corporations and small and medium-sized enterprises (SMEs) are urged to integrate social and environmental agendas alongside profit-making goals. Sustainability is frequently misunderstood as focusing solely on environmental concerns. However, in reality, it refers to the act of managing the "triple bottom line" (TBL) of profit, people, and planet, which includes the pursuit of economic, social, and environmental goals. Based on a bibliometric analysis of 1421 articles and a distance-based visualisation of similarities (VOS) analysis, the purpose of this paper is first to outline a broad-spectrum perspective of the structure of research in sustainability among SMEs, identifying the most prominent journals, country contributions, top-cited authors, and articles in this field. The second is to conduct a systematic review based on 20 selected articles to review the empirical findings on the firm-level sustainability of SMEs. The analysis has led to thematic commonalities considering resources and capabilities, strategy, stakeholders, human capital, and innovations. The paper fills the gaps in the existing literature on a systematic analysis of SMEs' sustainability and develops insights to address prevailing research gaps.

Keywords: Sustainable Development, SMEs, Bibliometric Analysis, Scopus Database, Systematic Analysis.

INTRODUCTION

In the business world, sustainability is commonly defined as maintaining the "triple bottom line" (TBL), which entails pursuing economic, social, and environmental goals (Elkington, 1997; Srivastava et al., 2021). Corporations are expected to go far beyond their economic goals and combine social and environmental responsibility into their balanced scorecard as a consequence of the TBL theory (Kantabutra & Ketprapakorn, 2020). According to the World Economic Forum (WEF) annual meeting (2014), "Reshaping of the World: Consequences for Society, Politics, and Business," Corrigan et al. (2014) stated that while political and economic challenges characterised the list of the world's top ten global concerns, particular critical sustainability challenges were also at the top of most leaders' minds. This has demonstrated a significant and remarkable improvement in awareness of the topic of sustainability among world leaders.

Interestingly, while sustainability is not a new concept in academic literature, many businesses have only recently recognised the importance of implementing social and environmental sustainability as essential components of their institutional legitimacy (Nosratabad et al., 2019). The decision to develop sustainable business models, reevaluate enterprise strategic vision, restructure core business operations, and integrate reporting to contribute to environmental and social sustainability is gaining momentum in the business world (Holmberg & Sandbrook, 2019). Unfortunately, progress toward the adoption of sustainable business strategies and approaches has been uneven at the regional, national, and sectoral levels. Consequently, it raises concerns about whether the business sector has a genuine deliberate commitment to sustainability (Torelli, 2020), particularly in the context of smaller enterprises.

Furthermore, even though much attention in the past has been paid to the factors that make large organisations sustainable, the last few years have seen an increase in understanding and knowledge of the sustainability-

related factors that make up small and medium-sized enterprises (SMEs). Nevertheless, despite the prevalent concerns, there is considerable doubt in relation to SMEs. The entrepreneurial spirit of SMEs makes them a potentially powerful force in addressing sustainability issues, but research shows that many are unwilling to do so due to a lack of sufficient resources (Kassab, Nordin, Amlus & Ahmad, 2022; Koirala, 2019; Fetter, 2019), as well as the assumption that sustainability initiatives may incur significant expenses (Hoogendoorn et al., 2015). Additionally, there is a scarcity of studies concentrating on SMEs (Walker & Preuss, 2008). Therefore, undertaking systematic research on sustainability drivers relevant to SMEs is critical, as they represent a diverse group of enterprises in various countries, contribute to overall pollution, and suggest a proclivity toward sustainability.

Furthermore, although many papers have addressed the topic of sustainability in the context of small enterprises, only a select handful have conducted a review using clear criteria and procedures. More precisely, Klewitz and Hansen (2014) conducted a review that concentrated on sustainability-oriented innovation practices and strategic sustainability behaviours of SMEs. Meanwhile, Isensee et al. (2020) examined the relationship between organisational culture, sustainability, and digitalisation in SMEs. Álvarez Jaramillo et al. (2019) explored barriers to the sustainability of SMEs. There appears to be a need to fill in the knowledge gaps surrounding the intricate nature of the sustainability drivers of SMEs. Therefore, the purpose of this study is to investigate the current state of literature about sustainability and SMEs. Scopus database was used for the bibliometric analysis of 1421 papers, and VOSviewer software enabled the visualisation of the results, revealing the top countries, journals, investigating the co-occurrence of keywords, co-citation of references, authors, and sources. Thus, insights have been developed into the trends and general developments of research related to the sustainability drivers of SMEs. Next, a systematic review of the literature has been performed to review empirical findings to assess the current state of knowledge on the drivers that influence the sustainability of SMEs and to highlight potential gaps in the existing literature. More precisely, papers from high-ranked journals concentrating on SMEs are selected, thematic commonalities are highlighted, and strategies for bridging research gaps are presented. Thus, the paper fills the literature gap on a systematic analysis of SMEs sustainability and develops recommendations for future investigations. The paper is organised as follows: The first section presents the theoretical background concerning the sustainability of SMEs. Then, the second section introduces an overview of the relevant literature. Next, the third section describes the materials and methods used. The fourth section presents the trends and overall developments in research on the topic of the sustainability drivers of SMEs. The fifth section provides a discussion of the review based on 20 selected articles that review the empirical findings on the firm-level sustainability of SMEs. Finally, conclusions are presented in the sixth section.

LITERATURE REVIEW

Sustainability is indeed best known as represented by the "TBL" due to its complexity. According to Elkington (1997), the TBL approach can lead to an organisation achieving economic prosperity, environmental quality, and social justice simultaneously. Many executives are learning about these three concepts, including TBL issues, as a strategy to add value to their businesses (McDonough & Braungart, 2002). Later, Lacy et al. (2010) emphasise the importance of TBL as the main surrogate for representing and evaluating organisational sustainability. The three-pillar approach known as the TBL has been extensively adopted by academia, society, and organisations in the search for agreement among myriad definitions and terminologies. The TBL, however, has not been without criticism and contention. Even though some researchers are opposed to this concept, claiming that it is impossible to implement (MacDonald & Norman, 2007; Smith & Sharicz, 2011), the TBL has been widely adopted by organisations in recent years (Jabbour et al., 2020). Some studies back up this trend (Hubbard, 2009). Therefore, there is still controversy regarding how to define and express the notion of sustainable development, despite widespread awareness of the necessity for businesses to work toward sustainability (Isaksson & Steimle, 2009).

The term "sustainability" has been defined as having different meanings for different people (Bolis, Morioka, & Sznelwar, 2014) and as a concept with no single clear definition (O'Dwyer & Owen, 2005). Several interpretations and definitions of sustainability have been presented since it became a prominent subject approximately three decades ago, the most prominent of which is the Brundtland Report from the World-

Commission on Environment and Development (WCED) of the United Nations has been introduced. In particular, the accepted definition of sustainable development refers to development "that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43). It has been argued that this definition is excessively wide, vague, and prone to confusion and different interpretations (Ali & Suleiman, 2016; Bolis et al., 2014; Isaksson & Steimle, 2009), however, it remains the most widely accepted definition of sustainability to date (Ashby, Leat & Hudson-Smith, 2012; Carter & Rogers, 2008).

Furthermore, the literature on sustainability offers two distinct perspectives, emphasising strong and weak sustainability. While strong sustainability refers to "natural capital" that should be sustained, weak sustainability refers to well-being (Beckerman, 1995). In particular, the phrase "well-being does not deteriorate over time" might be used to characterise a state of weak sustainability (Pearce, 1993). Meanwhile, strong sustainability is more in line with environmentalism than weak sustainability. However, both definitions have been criticised due to their limitations (Jamieson, 1998). Scholars observed that the current pattern of resource use does not allow for achieving sustainable development without the reduction of the pace of economic growth (Hall et al., 2010). Neither developed nor developing economies appear to be capable or willing to sacrifice economic growth. Given the dominant capitalism model, some criticism of sustainable development has been raised in the scientific literature (Korsakienė & Raišienė, 2022; Jabbour et al., 2020). Thus, the response to criticism prompted a variety of research streams concentrated on economic and social transformations through innovations (Klewitz & Hansen, 2014), as well as through the leadership of firms in developing sustainable products and services or eco-friendly entrepreneurs (Hall et al., 2010).

Although several schools of thought are now dominating the academic literature, this study will centre on the topic of sustainability at the firm-level. According to the sources reviewed, enterprises can only ensure their sustainability if they work toward environmental goals and promote corporate social responsibilities (Li et al., 2020). Furthermore, an interconnection between social and business sustainability has been emphasised as contributing to the sustainable development of society and the economy (Szekely & Knirsch, 2005). Consequently, existing definitions advise incorporating environmental, economic, and social aspects (Benkert, 2020). Therefore, the study will be driven by the definition of organizational-level sustainability, which refers to: "systematic management efforts by corporations to balance environmental and social goals with economic ones in order to minimise harm to and increase benefits for natural environments and societies" (Klewitz & Hansen, 2014). More precisely, the study will concentrate on SMEs, which are a distinct group of enterprises as compared to large corporations (Korsakienė et al., 2018). The definition adopted by the EU considers a number of the personnel employed in the firm, turnover, or total balance sheet. Therefore, the attribution to SMEs is defined by the following criteria: fewer than 250 employees and an annual turnover not exceeding €50 million or an annual balance sheet total not exceeding €43 million (European Commission, 2015). SMEs are seen as very significant to the economy of the EU due to the large number of established firms (account for 99.8% of all businesses in nonfinancial business), contribution to new jobs (66.6% of all jobs) and value-added (56.4%) (European Commission, 2018/2019). Thus, SMEs play a key role in national economic development; however, as cited by Chang and Cheng (2019) that Hillary (2004) estimated that SMEs could be responsible for up to 70% of worldwide pollution. Similarly, more recent investigations confirm that SMEs make up 60-70% of European industrial pollution (Koirala, 2019). Consequently, Jabbour et al. (2020) mentioned that a variety of factors have gradually led SMEs to take the lead in implementing sustainability initiatives. Due to the characteristics of SMEs, their sustainability strategies differ from those of large enterprises, such as personalised management, insufficient funds, resource limitations, flexibility, horizontal structure, a limited number and concentration of customer base, a tight market, and a lack of competence (Kassab et al., 2022; Chang & Cheng, 2019). Thus, determining the proper management system and driving factors to ensure sustainability is critical for SMEs, not only due to demand from stakeholders but also to the entrepreneurship development standpoint of operations management.

METHODS

Based on the growing popularity of bibliometric analysis (Bužavaitė et al., 2019; Kassab et al., 2022),

this study aimed to gain insights into the research trends and general developments related to the sustainability drivers of SMEs. Thus, the first step of this study includes four stages (see Figure 1).

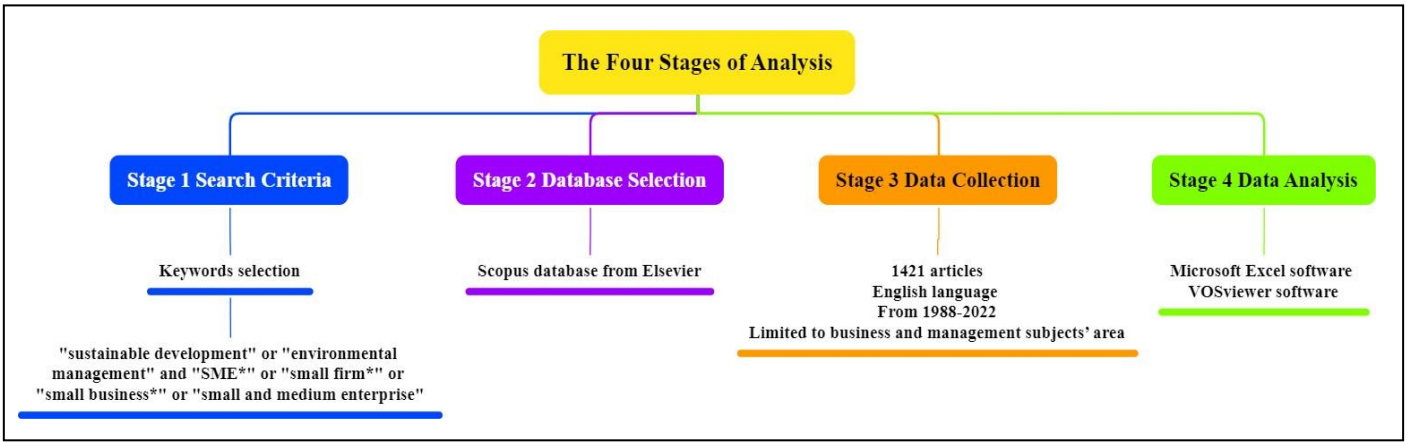

Figure 1: The four stages of analysis.

Stage 1: Search criteria. The following keywords: "sustainable development" or "environmental management" and "SME*" or "small firm*" or "small business*" or "small and medium enterprise" were used to search for research articles. Stage 2: Database selection. The data was extracted from the Scopus database, which combines a comprehensive, expertly curated abstract and citation database with enriched data and connects scholarly literature from a broad range of disciplines. Stage 3: Data collection. The search provided 1421 articles published in English from 1988 to 2022 and limited to business and management subjects' area. Stage 4: Data analysis. The collected data were using "Microsoft Excel" to calculate the published materials' frequencies and design the relevant chart and graph; "VOSviewer" software was used to construct and visualise the bibliometric network. VOSviewer is useful for investigating the co-occurrence of keywords, as well as the co-citation of references, authors, and sources. The results of this stage are presented in the fourth Section.

Furthermore, considering the benefits of a systematic review of the literature (Mallinguh & Zeman, 2020), this study identifies empirical findings from SMEs' sustainability drivers and highlights research gaps. This strategy enabled scientists to provide a comprehensive overview of thematic fields. The literature review approach sought to concentrate on research on sustainability drivers within the business and management discipline, using the criteria provided by Demir et al. (2017). Furthermore, the study solely covered firm-level studies. Then, the third stage consists of three phases:

Phase 1: Examination of selected journals. The focused examination of selected journals, included in a guide of academic journals published within the field of business and management (the Chartered Association of Business Schools, 2018) was carried out. The search considered the leading journals in general management, entrepreneurship, innovation, and sustainability (Demir et al., 2017, Korsakienė & Raišienė, 2022). Selected journals are presented in Table 1.

Table 1: Selected journals.

Thematic field	Journal Title and Journal Impact Factor (2021-2022)
General management journals	Journal of Management (IF 13.724); Administrative Science Quarterly (IF 12.71); Academy of Management Journal (IF 10.361); Long Range Planning (IF 8.533); Journal of Management Studies (IF 8.492); Strategic Management Journal (IF 7.912); Management Science (IF 5.3); Organization Science (IF 4.608).
Entrepreneurship journals	Journal of Business Venturing (IF 13.279); Entrepreneurship Theory & Practice (IF 10.214); Small Business Economics (IF 8.647); International Small Business Journal (IF 8.125); Entrepreneurship & Regional Development (IF 6.74); Strategic Entrepreneurship Journal (IF 5.915); Journal of Small Business Management (IF 5.262).

Innovation journals	Technovation (IF 11.463); Research Policy (IF 9.347); Industrial and Corporate Change (IF 3.043).
Sustainability journals	Journal of Cleaner Production (IF 10.956); Corporate Social Responsibility and Environmental Management (IF 9.254); Business & Society (IF 7.529).

Although the Journal of Cleaner Production is not listed in an academic journal guide, the decision to consider it was inspired by the highest ranking in the field of sustainability. In earlier studies, these journals were identified as the leading journals in management, entrepreneurship, and innovation (Macpherson & Holt, 2007; Korsakienė & Raišienė, 2022). The examination of articles in selected journals has been conducted considering keywords applied in the first step of the study. In certain, the results of the focused search resulted in 87 papers.

Phase 2: Exclusion criteria. Taking into account the purpose of reviewing empirical research findings, the researcher manually analysed the abstracts and articles. Accordingly, number of articles were excluded (e.g., articles published in non-English scholarly journals, published in books, magazines, etc.). Moreover, the research excluded the articles that did not provide original research findings (e.g., reviews, etc.). Finally, articles that did not consider firm-level aspects of SMEs' sustainability drivers were removed. The procedure narrowed the final sample to 20 papers published in the period 1988-2022.

Phase 3: Analysis. The examination of chosen papers revealed the research sample, analytical technique, sustainability drivers utilised as independent variables, sustainability measures used as dependent variables in scientific studies, and the main findings. The next step of the analysis included thematic commonalities or similarities found in the selected articles. Referring to the acknowledged procedure (Korsakienė & Raišienė, 2022), The articles were coded to reveal the sustainability drivers of SMEs. The selected articles were coded by revealing thematic similarities between them and identifying the theoretically investigated drivers of sustainability. For this purpose, the independent variable employed in the study was researched and tied to a well-established theoretical subject in management and entrepreneurship literature. The author individually completed the initial coding and afterwards discussed it for agreement. This research distinguishes the following domains in this process: resources and capabilities, strategy, human capital, stakeholders, and innovations. The fifth section summaries the findings of this phase.

RESULTS

This section presents the results of the first phase of the research, which aims to gain an understanding of the trends and overall developments in research on the topic of the sustainability drivers of SMEs. Thus, the findings present an analysis of 1421 articles included in the Scopus database. Discussions about sustainability have been occurring since at least the 1980s, but in the recent decade, there has been a rise of interest in the nexus between sustainability and SMEs, as shown in Figure 2.

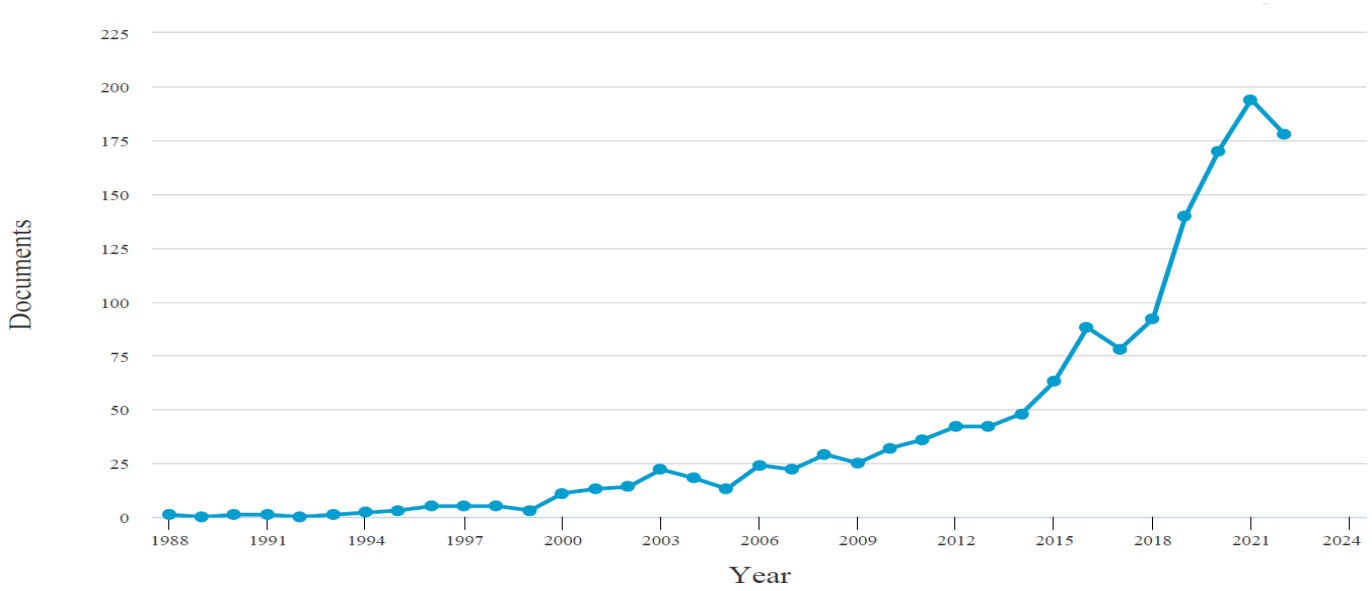

Figure 2: Number of papers in 1988-2022.
Source: Scopus analytics.

The researchers' attention was sparked by activities implemented at both the political and business levels. First, numerous governmental initiatives have been taken by various countries since the Brundtland Report to the United Nations in 1987 (Hall et al., 2010). Second, collaborative initiatives of businesses such as the World Business Council for Sustainable Development, the Global Reporting Initiative, and others have resulted in a change in the attitude of business leaders (Senge et al., 2007). Furthermore, the 2030 agenda for sustainable development established number of objectives focused on social, environmental, and economic concerns (Sustainable development goals, 2015).

The analysis of the publications included in the Scopus database revealed that most of the publications (out of 1421) were published by scholars from developed countries (see Table 2).

Table 2: Top countries considering published articles.

Country	Record count	%
China	193	13.58
United Kingdom	185	13.02
United States	111	7.81
Italy	103	7.25
Spain	84	5.91
Australia	78	5.49
India	75	5.28
Malaysia	58	4.08
Canada	57	4.01
Germany	54	3.80

Source: Scopus analytics.

Moreover, Figure 3 illustrates the density of visualisation that there is a number of articles from China, India, and Malaysia are also very significant. Government policy orientations, appropriate legislation, and societal awareness all contribute to increasing research in this area. Meanwhile, in the case of developing countries, a lack of clear standards for sustainable development for various stakeholders appears to be the key impediment. Thus, it has been recognised by other scholars that there is a dearth of literature exploring environmentally oriented sustainable development and entrepreneurship from the

perspective of developing countries (Kassab et al., 2022; Hall et al., 2010).

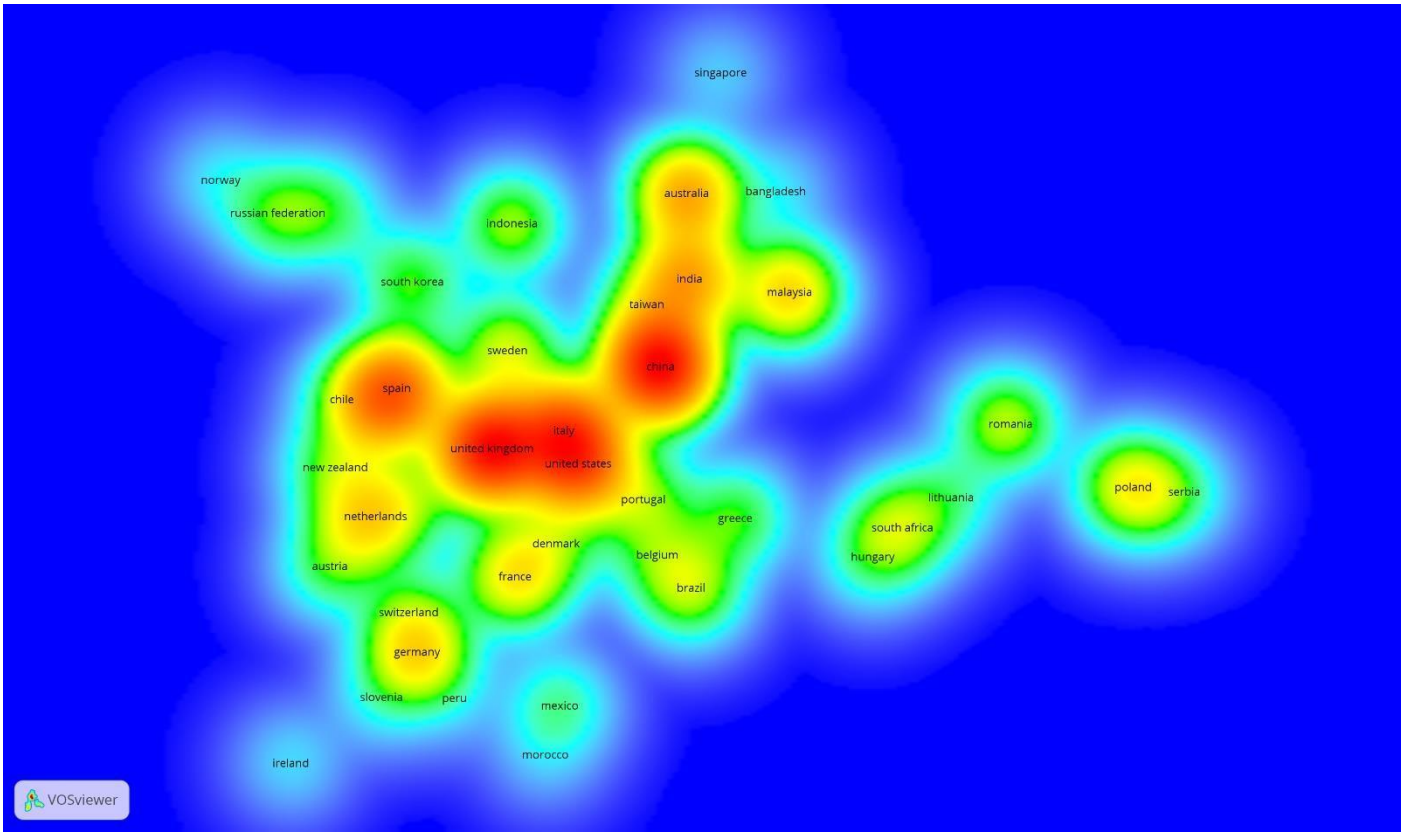

Figure 3: Density visualisation of leading countries inpublished articles.
Source: Created by the author based on theVOSviewer analysis.

Furthermore, Table 3 shows the top journals with the highest number of published articles are the Journal of Cleaner Production (13.09%), Sustainability (12.32%), Business Strategy and the Environment (4.08%), and Corporate Social Responsibility and Environmental Management (2.04%). Meanwhile, other journals published a lower number of papers in the field. Besides, some top journals are assigned to the following Scopus categories: Engineering, Environmental Sciences, Green & Sustainable Science & Technology (e.g., Journal of Cleaner Production; Sustainability; Resources Conservation and Recycling; Environmental Science and Pollution).

Table 3: Top journals considering the number of published articles.

Source titles	Record count	%
Journal of Cleaner Production	186	13.09
Sustainability Switzerland	175	12.32
Business Strategy and the Environment	58	4.08
Corporate Social Responsibility and Environmental Management	29	2.04
Production Planning and Control	17	1.20
International Journal of Production Economics	15	1.06
Science of the Total Environment	15	1.06
Journal of Environmental Management	12	0.84
Resources Conservation and Recycling	12	0.84
Technological Forecasting and Social Change	11	0.77

Source: Scopus analytics.

Keywords analysis attempts to disclose the papers with a particular keyword. Taking into account the keywords provided by the scholars in the abstracts of the articles, the main research topics in relation to SMEs and sustainability were defined. In particular, the size of the node in the network represents the greater weight of the keyword. Furthermore, the distance between the nodes in the network explains the strength of the relationships. VOSviewer software identifies clusters of keywords, which are presented in different colours as shown in Figure 4.

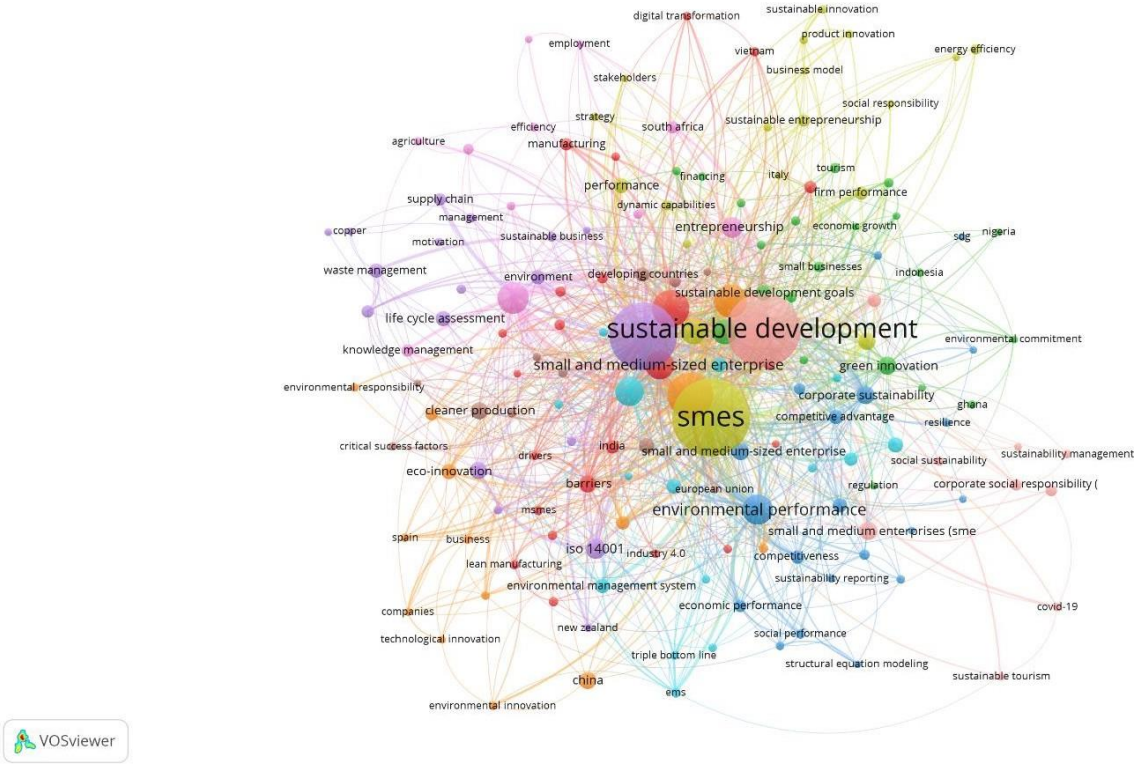

Figure 4: Co-occurrence of author keywords in the publications.
Source: Created by the author based on the VOSviewer analysis.

In particular, of the 4068 keywords, 163 met the threshold of 5 occurrences of the keyword. The analysis resulted in 10 clusters. The main five clusters provide an overview of the predominant contents of scientific publications. The red cluster led by the keyword "sustainable development" is the largest and includes 23 items. The green cluster includes 21 items and is led by the keyword "SMEs". The blue cluster includes 20 items and is led by the keyword "environmental performance". The orange cluster contains 19 items and is led by the keyword "innovation". The violet cluster includes 18 items and is distinguished by the keyword "sustainability".

Co-citation analysis aims to reveal the documents where two papers are cited together. Notably, the result of co-citation analysis refers to the co-citation clusters and the documents assigned to the particular cluster (Boyack et al., 2010). VOSviewer is software that aids in investigating reference co-citations, sources, and authors. Of the 80060 cited references, 44 met the threshold of 9 citations of a cited reference. The analysis has led to the 4 clusters as shown in Figure 5.

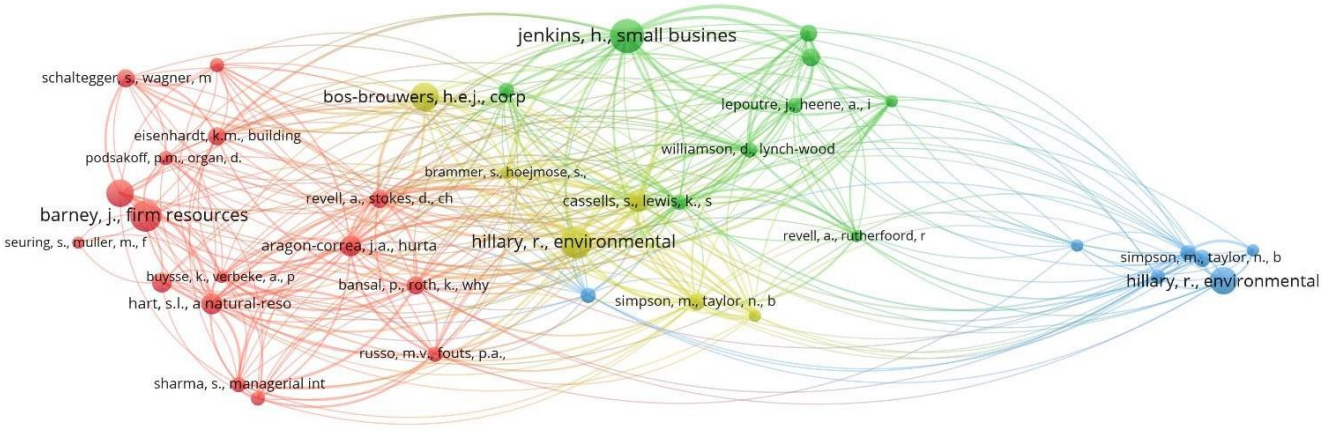

Figure 5: Co-citations of cited references.
Source: Created by the author based on the VOSviewer analysis.

The biggest cluster in red colour includes 16 items and is led by Barney (1991), who was cited 23 times. Following by the cluster in green colour includes 9 items and is led by Jenkins (2006), who was cited 25 times. Then the cluster in blue colour includes 7 items and is led by Hillary (2004), who was cited 23 times. Finally, the cluster in yellow colour includes 6 items and is led by Bos-brouwers (2010), who was cited 21 times.

The paper published by Barney (1991) discusses strategic resources of the firm contributing to the competitive advantage. Next, Jenkins (2006) attempted to explain the limitations and opportunities of social responsibility by investigating SMEs in the UK. Meanwhile, Hillary (2004) explains environmental management systems contribute to the smaller enterprise. Also, Aragón-Correa et al. (2008) investigated the types of environmental strategies adopted by SMEs in southern Spain. The study disclosed organisational capabilities that contribute to the performance of SMEs. Grounded in resource-based theory, Cassells and Lewis (2011) investigated SMEs' attitudes and actions towards environmental responsibility. Finally, Bos-brouwers (2010) conducted a study on corporate sustainability and innovation in SMEs, with evidence of themes and activities in practice.

Co-citation analysis of sources discloses the clusters of journals. Of 28658 sources, 275 met the threshold of 30 sources citations. The analysis revealed 216 items within six clusters of co-cited journals as shown in Figure 6.

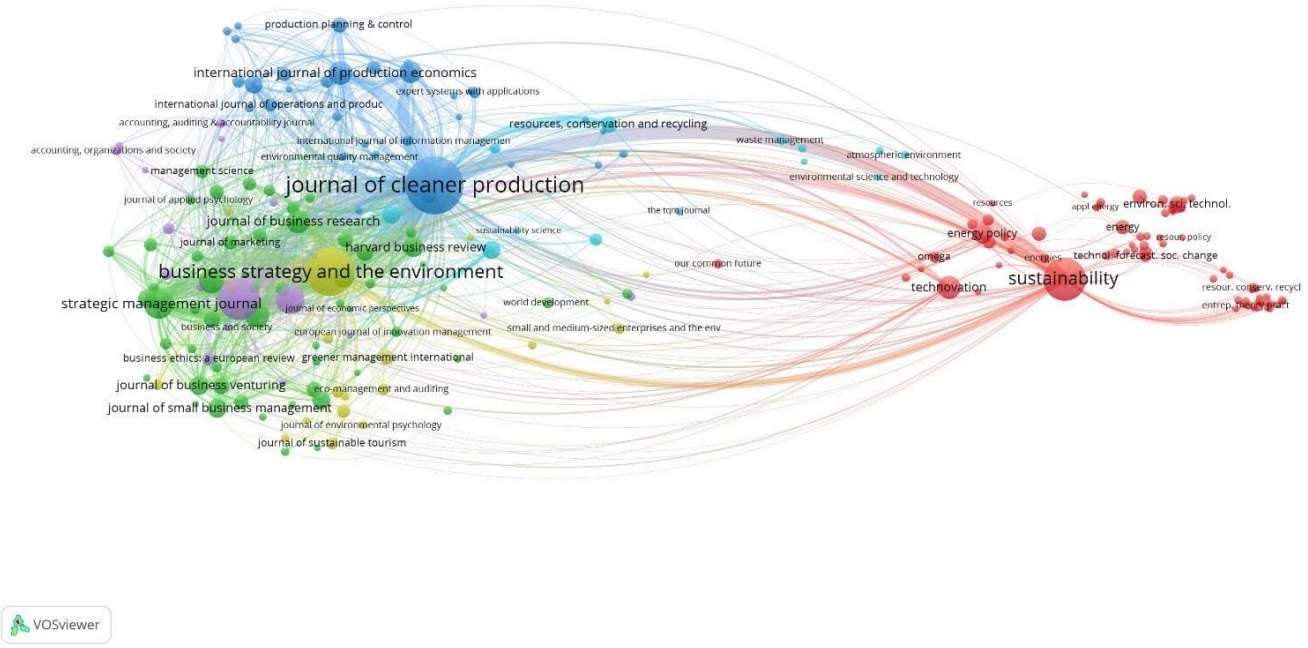

Figure 6: Co-citations of cited sources.
Source: Created by the author based on the VOSviewer analysis.

The red cluster is the largest in the network and includes 75 items. This cluster is led by the Journals of Sustainability (1121 citations), Technovation (319 citations), Energy Policy (219 citations), and Resources Policy (198 citations). The cluster comprises journals in the following categories: environmental studies, operations research and management, engineering, and business. Cluster in violet colour includes 56 items and is led by the Journal of Business Ethics (1061 citations) and Business Strategy and the Environment (1419 citations). The cluster includes journals from the categories of business, management, and environmental studies. The cluster in blue colour includes 35 items and is led by the Journal of Cleaner Production (2028 citations), International Journal of Business Economics (338 citations), and International Journal of Production Research (283 citations). The cluster comprises journals from the following categories: engineering, environmental sciences, and green and sustainable science and technology. Cluster in green colour includes 21 items and is led by Strategic Management Journal (532 citations), Academy of Management Journal (382 citations), Academy of Management Review (377 citations), and Journal of Business Venturing (233 citations). The cluster includes journals from the categories of business and management. Cluster in yellow colour includes 17 items and is led by the journals of Business Strategy and the Environment (1419 citations), Corporate Social Responsibility and Environmental Management Journal (498 citations), and European Journal of Innovation Management (311 citations). The cluster includes journals from the categories of business, management, and environmental studies. Cluster in the light blue colour includes 12 items and is led by the Journal of Environmental Economics and Management (681 citations), Ecological Economics (213 citations), Journal of Management (209 citations), and Journal of Operation Management (212 citations). The cluster is composed of journals of the management category.

Co-citation analysis of cited authors reveals the main clusters of researchers. Of the 85229 authors, 197 met the threshold of 50 citations by the author. Furthermore, five clusters of scholars were identified as shown in Figure 7.

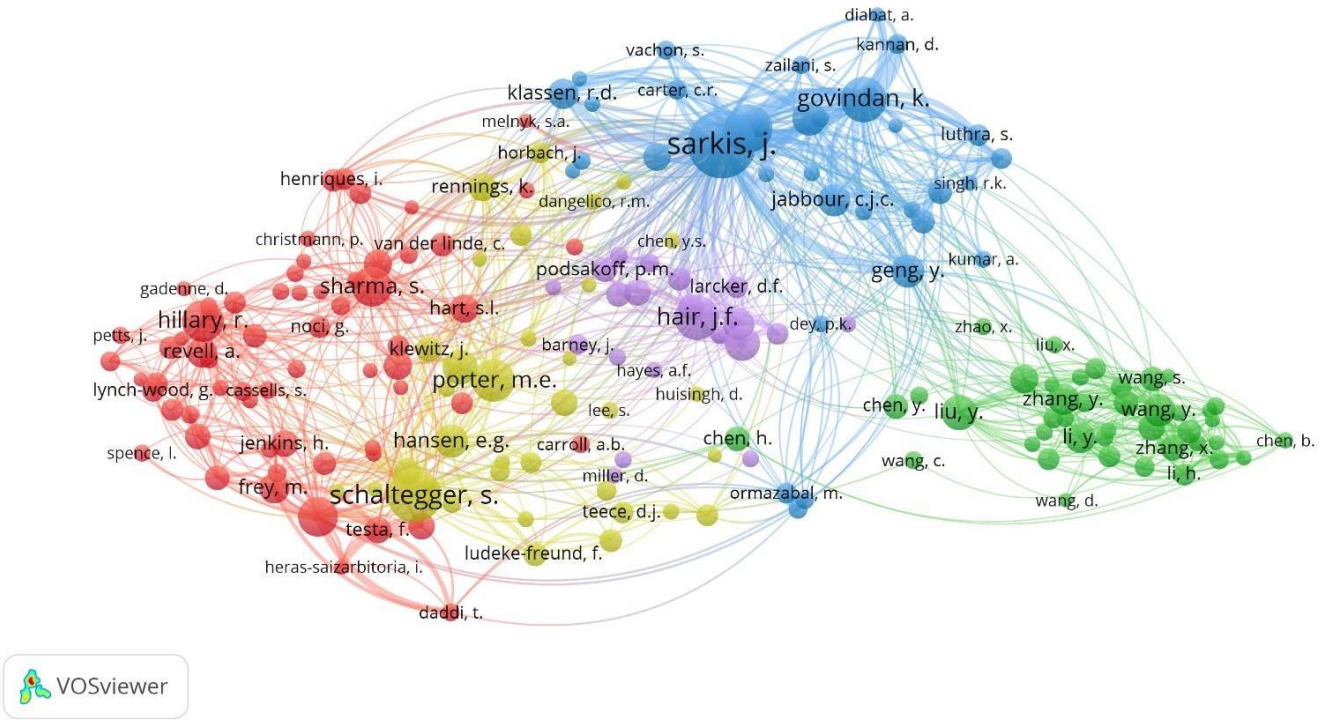

Figure 7: Co-citations of cited authors.
Source: Created by the author based on the VOSviewer analysis.

The cluster in red includes 64 items and is led by Hillary, R. (218 citations and 4833 total link strength), Sharma, S. (206 citations and 6171 total link strength), and Hart, S. L. (131 citations and 4007 total link strength). The cluster in green includes 42 items and is led by Zhang, Y. (149 citations and 3543 total link strength), Wang, Y. (151 citations and 3918 total link strength) and Liu, Y. (173 citations and 4581 total link strength). The blue cluster includes 35 items and is led by Sarkis, J. (441 citations and 14547 total link strength), Govindan, K. (250 citations and 8613 total link strength) and Jabbour, C. J. E. (152 citations and 4937 total link strength). The cluster in yellow colour includes 35 items and is led by Porter, M. E. (231 citations and 4785 total link strength). In addition, this cluster comprises Schaltegger, S. (321 citations and 7551 total link strength) and Hansen, E. G. (161 citations and 4667 total link strength). Finally, the violet cluster includes 21 items and is led by Hair, J. F. (240 citations and 6949 total link strength), and Sarstedt, M. (171 citations and 5026 total link strength).

Discussion of Review and Theory Development

This section of the analysis is reviewing articles from a selection of high-quality journals. Considering the research approaches utilised. Three qualitative articles (15%) and seventeen quantitative articles (85%) were chosen for the reviewing analysis. Although qualitative methods contribute to theory building, there is room for expansion in the field due to the lack of available qualitative studies. This study used various measures related to organisational-level sustainability. In specific, corporate social responsibility (CSR) and sustainable development (SD) practices were taken into consideration in the environmental studies via seven or (35%) studies. For instance, according to Darnall et al. (2010) and Cassells and Lewis (2011), The researchers used the sum of the firm's proactive environmental practices. While Choi et al. (2019) and Graafland and Smid (2016) considered CSR practices, likewise Aboelmaged et al. (2018) considered manufacturing practices. Battisti and Perry (2011) considered the firms implemented practices reducing their environmental impact while the regularity of participation in sustainable development practices (Ayuso & Navarrete-Báez, 2018).

Moreover, six or (30%) studies examined environmental performance (e.g., Zhu et al., 2019; Testa et al., 2016; Tang & Tang, 2012), sustainability performance (Eikelenboom & Jong, 2019; Wu, 2017), financial performance (Djupdal & Westhead, 2015).

Meanwhile, four or (20%) studies looked at managers' opinions and analysed their reasons for making certain decisions such as (Reyes-Rodríguez et al., 2016; Worthington & Patton, 2005), likewise Leonidou et al. (2016) looked at eco-friendly orientation further beyond. Kearins et al. (2010) looked at corporate environmental management as a consideration of nature in small visionary enterprises. Additionally, one study (5%) by Zhu et al. (2019) looked at a specific type of innovation. Finally, one study (5%) looked at sustainability management tools (Johnson, 2015) and one study (5%) looked at green processes, products, and services (Hoogendoorn et al., 2015). Considering sustainability's driving factors, most research focused on just one driver. Specifically, the top three factors were availability of resources and capabilities with eight articles (40%), then strategy focus, with five articles (25%), and stakeholders with three articles (15%). Furthermore, two articles (10%) focused on innovations and two articles (10%) on human capital.

Resources and Capabilities

Generally, resources are the foundation of a firm and the basis for capabilities. Barney et al. (2001) defined resources as "bundles of tangible and intangible assets, including a firm's management skills, its organisational processes and routines, and the information and knowledge it controls that can be used by firms to help choose and implement strategies." The resource-based view (RBV) proposes that organisations can achieve sustained competitive advantage by harnessing resources they possess which are valuable, rare, inimitable, and non-substitutable (VIRN). This competitive advantage can be sustained for as long as the organisation is able to prevent imitation, transfer, or substitution (Barney, 1991). SMEs, especially startups are often commercial activities initiated by individuals or a small group of persons with a limited amounts of resources in the form of tangible and intangible assets. During the startup period of an SME, the ability of owners and managers to develop strategies based on owned resources (human capital, knowledge, skills, competencies, and material assets) to enable them to achieve competitive advantage is important for their initial success (Szymaniec-Mlicka, 2014). A focus on resources that are owned and controlled by the small business owner, which VRIN as a tool for small business strategy development, is the hallmark of sustainable competitive advantage and business growth (Shafeey & Trott, 2014). Thus, RBV can be considered the best theoretical explanation for exporting SMEs. It helps to explain how resources and capabilities are developed and leveraged by SMEs (Kassab et al., 2022; Knight & Cavusgil, 2004). Considering the prevailing approach (Demir et al., 2017), this study adopts the view that capabilities are embedded in the firm's employees' practices, technologies, and systems. Accordingly, the emphasis is put on firm-level attributes instead of individual-level attributes.

Moreover, according to Leonidou et al. (2016), appropriate organisational resources and capabilities allocated to environmental initiatives have a beneficial influence on the link between eco-friendly orientation and financial performance. While Eikelenboom and Jong (2019) study in the Netherlands revealed the impact of external integrative dynamic capabilities on the social, environmental, and economic performance of SMEs. Meanwhile, Choi et al. (2019) explored how SMSs can be effectively motivated to make CSR efforts under customer pressure, based on the theory of dynamic capabilities, via identifying five factors which are knowledge accessing, co-development, supply chain partner development, supply chain rebuilding, and flexibility. In addition, Wu (2017) argued that empowering SMEs to build socially responsible suppliers will help them improve their sustainability-oriented capabilities. Therefore, SMEs can make up for their limited resources and capabilities through engagement in networks, collaboration with a wide range of partners, and governmental assistance channels.

Furthermore, one aspect that is frequently taken into account in academic research is the size of the companies involved. The reason for this is that larger corporations have better access to more resources. Compared to larger corporations, Darnall et al. (2010) showed that small businesses were less likely to implement environmental policies. However, smaller businesses are more agile in responding to stakeholder demand because of their limited resources, simplified decision-making processes, and ability to innovate. According to Hoogendoorn et al. (2015), medium-sized SMEs defined by employees and turnover, are the most likely to engage in environmental practices. Nonetheless, involvement in green products and services was unaffected by business size. Reyes-Rodrguez et al. (2016), on the other hand, claimed that both small and medium-sized businesses are involved in environmental activities. As a result of their flexibility in managing external relationships, entrepreneurial

orientation, and closer engagement, SMEs can develop and implement critical capabilities.

Some scholars observed certification as an intangible resource. Djupdal and Westhead (2015), for example, found that the environmental certification of SMEs in Norway promotes innovation, legitimacy, and higher performance. Furthermore, such certification greatly minimises the information asymmetry experienced by external enterprises. According to a large-scale study conducted across Europe, ISO14001 certification significantly improved the environmental impacts of SMEs (Graafland & Smid, 2016). Accordingly, SMEs' sustainability strategy depends on financial resources, innovative capacity, human resources, and external cooperation.

In conclusion, the analysis of the selected articles revealed some significant insights. First, it shows that the relevance of SMEs' resources and capabilities is the most investigated topic in the literature. Second, the size of the firms produces inconsistent outcomes in various studies.

Strategy

According to Lansing et al. (2007) strategy is "the dynamics of the firm's relationship with its environment for which the necessary actions are taken to achieve its goals and/or increase performance through the rational use of resources." Even while large corporations tend to dominate certain markets, chances for innovation in sustainability-focused areas have opened up for SMEs. For instance, Kearins et al. (2010) explored visionary SMEs in New Zealand and revealed that prioritising nature and adopting new corporate environmental management approaches could lead to future profitability and growth concerns. However, micro-business owners, as shown by research by Cassells and Lewis (2011), do not consider environmental concerns while formulating strategies or making plans. As such, the research into UK screen-printing companies showed that the environmental response was motivated by a strategy of legislative compliance (Worthington & Patton, 2005). In contrast, a study of Danish SMEs found that environmental factors were viewed as a crucial part of their competitive strategy (Reyes-Rodrguez et al., 2016). It would appear that the emphasis on process efficiency brought forth by environmental activities both boosts reputation and helps reduce expenses.

Furthermore, in the context of developing countries, Ayuso and Navarrete-Báez (2018) found that internationalisation has a significantly positive effect on the commitment to sustainable development. Surprisingly, Johnson (2015) discovered that management support through the strategic planning function was insignificant for the implementation of CSR and environmental management tools. On the other side, Amaeshi et al. (2016) assert that there is an immediate need to highlight the CSR debate on SMEs since it has the potential to make significant progress toward achieving sustainable development. Furthermore, CSR can be used as a corporate strategy tool to improve SMEs' competitiveness via employee motivation, enhanced customer satisfaction, increased access to public funds as a result of a better business image, and increased sales as a consequence of the competitive advantage attained (Venter, Turyakira & Smith, 2014).

In a nutshell, the analysis of chosen studies revealed several trends. First, the studies demonstrate how SMEs to address sustainability challenges differ depending on the firm's strategy. Second, the investigation found that SMEs' strategies are a crucial driver of sustainability.

Human Capital

A small business's greatest asset is its people, both owner-managers and workers. The human capital embedded in these individuals carries implications for SMEs to engage in diverse economic, social, and environmental practices. Human capital represents individuals' knowledge and skills through formal and informal sources (Davidsson & Honig, 2003). According to Dakhli and Clercq (2004), human capital is divided into three types: human-specific, firm-specific, and industry-specific. The human-specific capital includes academic education, vocational training, managerial experience and entrepreneurial experience of individuals. Human-specific knowledge can be applied across organisations and industries. Firm-specific capital refers to the knowledge and abilities that people acquire and develop while working for a single company. Firm-specific knowledge and skills are peculiar to a firm's setting and so are not transferrable across firms or industries. Industry-specific capital, the third type of human capital, represents the knowledge and abilities that individuals may acquire while working in a certain industry. Firms and industries can benefit from industry-specific human capital. SMEs' behaviour reflects the values and

attitudes of their owners and managers. For instance, Battisti and Perry (2011) revealed that the personal beliefs of New Zealand owners/managers drive environmental sustainability. Moreover, based on the Value Belief Norm (VBN) theory, which highlights individual attitudes and moral norms, Testa et al. (2016) found a significant positive association between owner/manager attitudes and environmental commitment in both small and micro enterprises.

The sustainability of SMEs is largely inspired by the owners' personal values. However, the scarcity of studies in the area of human capital reveals a knowledge gap in the existing literature. Therefore, the opportunity for further studies exists in the cognitive capacities, knowledge, skills, and experiences of entrepreneurs or employees, with the purpose of revealing the particularities of sustainable management in the context of SMEs.

Stakeholders

As a standard definition, a stakeholder is "any group or individual that can affect or be affected by the realisation of an organisation's purpose" (Freeman et al., 2010). The basic assumption is that companies aim to establish functioning relationships with their stakeholders who want to attend to their needs to operate legitimately and successfully (Parmar et al., 2010). Furthermore, Clarkson (1995) classified stakeholders into primary and secondary ones relative to their impact on the firm. Primary stakeholders are those directly affecting the company or directly affected by it, such as managers or suppliers, whereas secondary stakeholders affect the firm indirectly. Secondary stakeholders are, for instance, the media, government, or civil society organisations. This classification was taken over by researchers and practitioners alike (Freeman et al., 2010) because of its simplicity and descriptive power (Donaldson & Preston, 1995).

According to Tang and Tang (2012) study, the governments and the media have a greater effect on the environmental performance of Chinese SMEs. Nevertheless, caution should be taken when interpreting the findings. For instance, the results may be country-specific, such as in the case of the Chinese tight state control. It has been found that countries with inadequate institutional environments, like Egypt, do not impact sustainable SMEs' manufacturing practices (Aboelmaged, 2018). While research by Hoogendoorn et al. (2015) across 36 countries SMEs show that serve consumers are more likely to engage in greening their products and services than SMEs that serve other companies. Based on these findings, it appears that customers as stakeholders play a significant influence in shaping SMEs. In addition, environmental law has a beneficial effect on greening goods and service offerings but has little to no effect on greening processes. In a similar vein, Leonidou et al. (2016) confirmed the relationship between Cyprus's regulatory framework and the public's concern for the environment, which in turn influenced the eco-friendly orientation of SMEs. Finally, a large-scale study done across the EU revealed that the perceived demands of civil society stimulate the environmental performance of SMEs more than government laws (Graafland & Smid, 2017).

The analysis indicates that the effect of stakeholders differs throughout companies, sectors, and even countries. Potential studies could thus centre on identifying and characterising the various stakeholders and the impact they have.

Innovations

The scientific literature refers to innovations as "the production or adoption, assimilation and exploitation of value-added novelty in economic, social spheres; renewal and enlargement of products, services and markets; development of new methods of production, and establishment of new management systems." (Crossan & Apaydin, 2010). SMEs are one of the main engines of the contemporary economy, which bring along innovation, development, and growth (Malik & Jasińska-Biliczak, 2018). Because of the vital role of SMEs in generating growth and employment, there is a need to foster SMEs' innovativeness. According to most studies, one of the essential aspects of business performance is innovation. (Porter, 1990; Hall, 1998; Hult et al., 2004; Škerlavaj et al., 2010; Mahmud et al., 2019). However, it appears that innovations are less observed in the field in relation to the sustainability of SMEs. For example, Wu (2017) found that when Taiwanese SMEs adopt multidimensional sustainability-oriented innovations (product, process, and organisational innovations), their sustainability can be improved. Furthermore, numerous studies have shown that an organisation's innovativeness can boost production and efficiency (Wu & Lin, 2011; Rajapathirana & Hui, 2018; Kuzma et al., 2020). However, previous research has mainly focused on technological innovation (Leenders & Dolfsma, 2016;

Azar & Ciabuschi, 2017; Chege, Wang & Suntu, 2020) without focusing on other aspects of innovation that contribute to business performance and sustainability. Thus, scholars suggest that SMEs should be involved in technological innovations along with the adoption of environmental management systems. Meanwhile, Zhu et al. (2019) found that technology innovation, management innovation, and marketing innovation can help improve the environmental performance of SMEs in China. Considering the size of SMEs, the findings are to be expected. As a consequence, smaller businesses are less likely to adopt formalised management systems, procedures, and structures, which typically include the introduction of innovative forms of organisation.

To conclude, the analysis highlighted areas for future studies considering innovations. First, future research can concentrate on various levels of innovative practices. Then, studies must take into consideration the differences between industries.

CONCLUSION

Although there has been a growing interest among academics in sustainability and SMEs over the past decade, there has been a scarcity of papers published in leading management and business journals. This paper revealed the current state of scientific understanding and identified research gaps related to sustainability and SMEs. Future research directions are outlined based on the paper's findings. This study contributes to the existing body of literature on the topic of sustainability drivers and small and medium-sized enterprises. However, the study had certain limitations. First, the literature review was performed, taking into consideration only top-ranked journals in general management, entrepreneurship, innovation, and sustainability. Moreover, the search was initiated in the Scopus database. Thus, future investigations have to consider other scientific journals (e.g., with lower quartile or published in multidisciplinary fields) and included in other databases (e.g., WoS "Clarivate Analytics" database) for literature review. Second, the research method sought to review certain articles. As a result, future studies may examine other methods of systematic research (e.g., reviews, etc.). Finally, because the research streams were created with sustainability drivers in consideration, subsequent studies can examine sustainability impediments in greater depth.

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