THE INTELLECTUAL STRUCTURE OF SUSTAINABLE BUSINESS DEVELOPMENT STUDIES

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ABSTRACT

This paper aims to examine the intellectual structure of sustainable business development studies and to gain an in-depth perspective on its future development. To achieve the research objectives, we applied methods of bibliometric analysis (WoS tools, co-citation analysis, co-word analysis, and bibliographic coupling) to the dataset extracted from the Web of Science. The main research domains of the researched field were distinguished based on the cluster interpretation. Specifically, both co-word analysis and bibliographic coupling demonstrated the overlap between the two research domains: "Sustainable Development and Entrepreneurship" and "Corporate Social Responsibility and Stakeholder Theory," while the "Sustainable Development: Theoretical Foundations of the Research" cluster obtained via bibliographic coupling partially converged with the "Sustainable Development and Entrepreneurship" cluster received from the co-word analysis. However, the clusters "Company Performance and Innovations" extracted from co-word analysis and "Competitive Analysis and Sustainable Development" obtained from bibliographic coupling did not coincide. Furthermore, we concluded that over the last 40 years, sustainable business development studies have gone through the process of structuring induced by global changes in business and the economy.

Keywords: sustainable business development studies; co-word analysis, bibliographic coupling; intellectual structure of research; research domain

INTRODUCTION

Sustainable development has been a hot topic for the past three decades. Consequently, scholars have conducted many studies on sustainable development issues. At the same time, there is a lack of research analyzing the state of and the trends in sustainable business development studies. The analysis of past research will help scholars to focus on various aspects of research crucial for the sustainable development of businesses.

This study addresses these issues by analyzing the intellectual structure of this scholarly domain and identifying the directions for future research. According to several scholars, bibliometric analysis is an effective method for examining large clusters of textual information (Boyack & Klavans, 2010; Chabowski et al., 2013; D'Amato et al., 2017; Zupic & Čater, 2015; Iwami et al., 2020; Donthu et al., 2021; Bota-Avram, 2022). Therefore, we applied bibliometric methods in the study.

The overall goal of the article is to analyze the intellectual structure of sustainable business development studies and to identify the directions of future research. We achieved the latter by applying the following bibliometric methods: tools integrated into WoS, co-citation analysis, co-word analysis, and bibliographic coupling.

LITERATURE REVIEW

Several publications were devoted to the extensive literature review of the sustainable development field. Specifically, Zemigala (2019) conducted a comprehensive literature analysis, identified the latest sustainable development trends in the management field, and found that despite the first publication appearing in 1974, a significant contribution to the field was made just in 1986. Zemigala also reported that the highest number of publications devoted to sustainability-related issues in Scopus belonged to the category "Environmental science." The categories "Social science" and "Engineering" followed the latter and occupied the second and third places, respectively (Zemigala, 2019). Publications in management, which according to the Scopus classification were in the section "Business, management, and accounting", were ranked sixth, and publications on "Economics, econometrics and finance" were in eighth place. Bibliometric analysis has become a widely used tool for examining the large number of publications on sustainability issues. Hassan et al. (2014) carried out a bibliometric analysis of publications in sustainable development at country and institutional levels. The analysis utilized a dataset from the Scopus database for the period from 2000 to 2010. As a search inquiry, the authors used a combination of words, which included not only "sustainable" or "sustainability", but also terms describing key sustainability aspects. The scholars reported that US scientists conducted the largest number of research focused on sustainable development issues, UK researchers performed the most studies on climate change, and European scientists had the biggest number of publications on manufacturing and consumption (Hassan et al., 2014). Zhu and Hua (2017) examined sustainable development publications received from the Web of Science (WoS) database from 1987 to 2015. The term "sustainable development" was used as a search word, and the criteria, like "betweenness centrality" and "citation burst", were applied to analyze co-cited links, keywords, and frequently repeated categories. The results provided important insights regarding the most researched topics in the field, and the integration of sustainable development research into various subject areas was discussed. D'Amato et al. (2017) applied bibliometric methods for the data obtained from WoS and Scopus from 1990 to 2017 to analyze the concepts of circular economy, green economy, and bioeconomy and their links to the sustainable development paradigm. The analysis revealed that the EU and the US contributed the highest number of publications on bioeconomy. At the same time, China was a leader in publications researching the "circular economy" concept. Examining the interrelationship of economy in general, circular economy, green economy, and the sustainability paradigm revealed that the prevailing number of publications focused on social and environmental issues of sustainability. Leite et al. (2012) examined the link between "performance measurement systems" (PMS) and "sustainability" for the period from 1990 to 2011. The researchers utilized analysis of citation data, co-citation analysis, and keyword analysis for the study. The study findings showed that the implementation of sustainable development principles was the result of pressure from internal and external stakeholders.

Furthermore, Rao et al. (2014) investigated the relationship between sustainable development and financial performance, while Shpak et al. (2019) explored the interconnections between sustainable development and company competitive advantage. Chabowski et al. (2013) performed a bibliometric analysis of sustainable development in marketing and identified the main trends in the field, which included companies' interaction with external stakeholders to consider financial and social effectiveness, companies' organizational citizenship, companies' responsibility for environmental protection, and sustainable impact on companies' financial performance. Furthermore, Moya-Clemente et al. (2021) and Thananusak (2019) utilized bibliometric analysis of the sustainable entrepreneurship field to trace the evolution of publications and citations in a given domain.

There were also several publications that applied bibliometric methods to analyze the relationship between sustainable development and various aspects of company management. In particular, Wichaisri and Sopadang (2018) investigated sustainable development through the relationship between lean production and logistics management. Franceschini et al. (2016) used bibliometric methods to study the relationship between the concepts of "innovation" and "sustainability", while Kharchuk and Oleksiv (2023) applied a co-word analysis to examine sustainable leadership research domains. Additionally, Gullen (2017) conducted a bibliometric analysis to explore the relationship between the concept of sustainable development and business education. Moreover, Ogrean (2023) identified the intellectual structure and trending topics of artificial intelligence and sustainability in the domain of business and management research. Last but not least, Ahmad et al. (2023) highlighted the importance of financial literacy for promoting sustainability by performing bibliometric analysis.

These studies outlined various aspects of sustainable business development studies and their connections with other research fields. However, we could not find studies analyzing the intellectual structure of sustainable business development studies.

METHODOLOGY

To conduct the bibliometric analysis, we extracted the data set from the Web of Science guided by the recommendations from frequently cited articles in bibliometric research (Zupic & Čater, 2015; D'Amato et al., 2017; Maditati et al., 2018; Zemigala, 2019).

The initial search was conducted in the WoS core collection database using the following search terms combination: ("sustainable development" or "sustain*") and ("company*" or "business*"). We have applied such a combination to consider the wide range of publications on business sustainability matters. Such query considered the various research directions in sustainable business development, such as sustainable development of the company, corporate sustainability, sustainable business, sustainable enterprise, and the combinations of such topics. The search results included 47,121 records of the initial set of publications in all fields sorted by topics. The search was conducted using titles, abstracts, author keywords, and keywords plus. To extract the relevant data set of publications, we put the following constraints for the WoS search:

- Subject area – management, business, and economics;
- Document types – articles;
- Language – English.

The articles extracted from WOS belonged to the period from 1970 to July 2023. We refined the search results to keep the focus on business sustainability studies and consequently received 10,512 articles.

We applied tools integrated into the Web of Science, such as co-citation analysis, co-word analysis, and bibliographic coupling, to conduct the comprehensive analysis of sustainable business development studies and to cross-validate the intellectual structure of the field obtained as the result of performing various methods.

The research method was structured as follows: performing the general analysis of the field using WoS tools and co-citation analysis and applying co-word analysis and bibliographic coupling to identify and cross-validate the intellectual structure of the field.

As a result of applying the WoS tools, we identified the main characteristics of the dataset related to sustainable business development, which included the main research fields

determined by the keywords, the number of publications per year, the most frequently cited publications, and the journals with the highest number of articles on business sustainability topics. We also performed a co-citation analysis to identify the characteristics of the dataset of sustainable business development studies, the most frequently cited publications, and the links between them.

To build the intellectual structure of the research field, we performed co-word analysis and bibliographic coupling. Co-word analysis identifies the intellectual structure of research based on the frequency of terms' usage and the links between them. Specifically, it determines clusters of terms and abbreviations describing a specific research field. The synonyms, as well as related and corresponding word analyses, were key to cluster interpretation. Performing bibliographic coupling led to identifying the intellectual structure of the sustainable business development field from the perspective of articles coupled with citing the third article (Zupic & Čater, 2015). Such a method does not give an advantage to older articles, which is its strength. Finally, we conducted a comparative analysis of the results received from co-word analysis and bibliographic coupling.

The scholars have widely used BibExcel, Sitkis, HistCite, VOSviewer and R software to perform bibliometric analysis (Zupic & Čater, 2015; Čater, 2015; Zemigala, 2019; Zhu & Hua, 2017; Cullen, 2017; Soeryanto Soegoto et al., 2022; Abhi Rafdhi et al., 2023; Jumansyah et al., 2023;). All the software tools use similar algorithms. However, BibExcel software eliminates double records from the dataset, and VOSviewer is very convenient for the presentation of the intellectual structure of the research field (Zupic & Čater, 2015). Therefore, we applied BibExcel and VOSviewer software to perform co-citation analysis and VOSviewer software to conduct co-word analysis and bibliographic coupling.

RESULTS AND DISCUSSION
Analysis of the dataset using Web of Science tools and co-citation analysis

The analysis of publications in business sustainability extracted from WoS showed that the studies were multifaceted. In particular, publications identified from the search belonged to the 15 research domains (Table 1). The wide variety of themes confirmed a high degree of interdisciplinarity in conducted research.

Table 1: Distribution of publications in sustainable business development studies by the research domains

Research field	Number of publications
Business	4817
Management	4697
Economics	3274
Environmental Studies	1263
Ethics	375
Environmental Sciences	323
Business Finance	281
Regional Urban Planning	279
Operations Research Management Science	276
Energy Fuels	190
Transportation	179
Engineering Industrial	151
Development Studies	145
Hospitality Leisure Sport Tourism	145
Ecology	140

Source: Extracted by authors from Web of Science.

Figure 1 illustrates the dynamics in publications in sustainable business development studies over the last 20 years. It shows a gradual increase in publications within the researched field in 2010, followed by a significant rise in 2015. Since 2015, the trend for a gradual but steady growth in the number of publications renewed. We attribute the general trend towards an increase in the number of studies to the growing awareness and rising importance of sustainability issues in the modern world in general and the business community in particular. The scholars followed such interest by conducting additional studies exploring various sustainability issues in business.
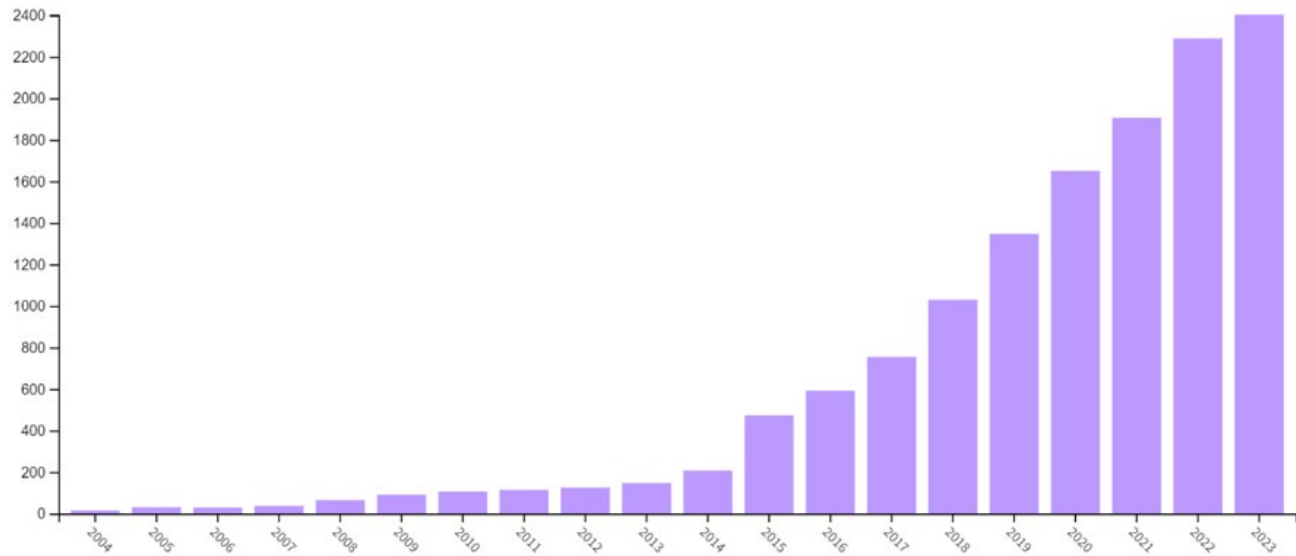
Figure 1: The number of publications in sustainable business development studies from 2004 to 2023.

Source: Extracted by authors from Web of Science.

The leading journals in the publication of sustainable business development studies were the Journal of Business Ethics, Business Strategy and the Environment, and Corporate Social Responsibility and Environmental Management (Table 2), which looked quite logical from the perspective of the thematic fields of these journals.

Table 2: Journals with the highest number of publications in sustainable business development studies

Journal	Number of publications
Entrepreneurship and Sustainability Issues	544
Busine Strategy and the Environment	413
Journal of Business Ethics	284
Economic Research-Ekonomska Istraživanja	197
Technological Forecasting and Social Change	196
Journal of Business Research	171

Journal	Number of publications
Cogent Business Management	167
Energy Policy	166
Corporate Social Responsibility and Environmental Management	143
Ecological Economics	135
Journal of Asian Finance Economics and Business	108
Risus Journal of Innovation and Sustainability	99
Administrative Sciences	81
Economies	80
Journal of Business Economics and Management	79

Source: Extracted by authors from Web of Science.

The authors who published the most publications were A. Kumar, A. Kolka, and J. Pinkse (Figure 2) (Web of Science, 2023).
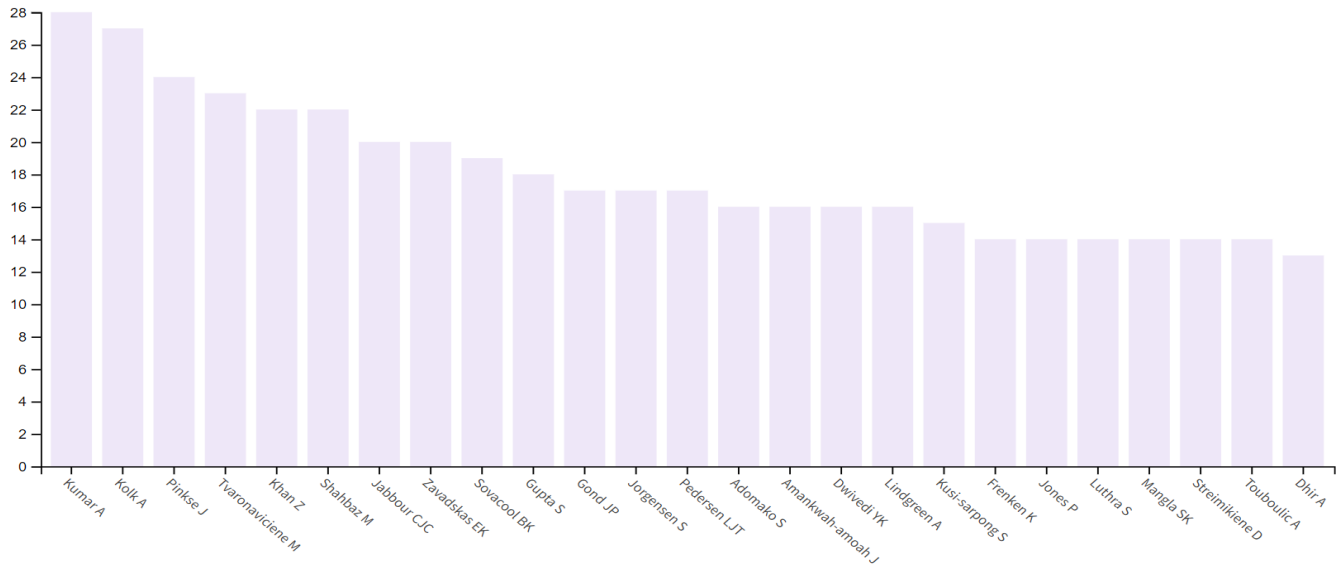
Figure 2: Authors with the highest number of publications in sustainable business development
Source: Extracted by authors from Web of Science.

Scholars from the US, England, Australia, and Spain have contributed the most to sustainable business development studies (Figure 3).
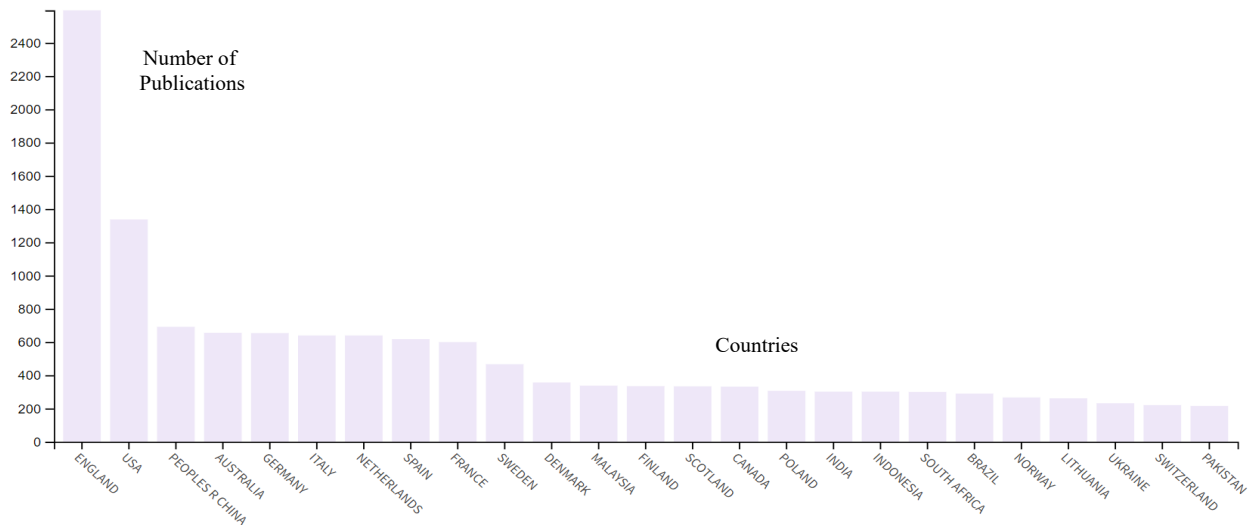

Figure 3: Countries with the highest number of publications in sustainable business development
Source: Extracted by authors from Web of Science.

Overall, the findings from Figure 3 lead to the conclusion that most publications originated from economically developed countries and might be explained by an increased awareness of sustainability issues in such countries.

Altogether, Figure 1, Figure 2, and Figure 3 confirmed the growing significance of "sustainable business development studie" as the research focus, and the rising number of publications from highly-developed countries. In addition, Tables 1 and 2 show the interdisciplinary nature of the studies. The research belonged to research domains which varied from Management and Business to Regional Transport and Ecology (Table 1). Furthermore, the scholars published their

studies in journals from the business, sustainability, and energy fields (Table 2).

To conduct the co-citation analysis of the sustainable business development studies, we pre-processed the data to ensure its relevance and cleanliness. The latter meant standardizing the author's names, surnames, and initials and normalizing the publication titles and keywords. Consequently, we eliminated duplicate records in the initial data set (Zupic & Čater, 2015). We performed elimination by applying the Kamada-Kawai algorithm in the BibExcel software and, as a result, received 1013 co-citation records.

Based on co-citation analysis, we have drawn the following conclusions:

• The most frequently cited authors in sustainable business development were Bruntland (1987), Elkington (1997), Morgan et al. (1994), Dyllik and Hockerts (2002), and Carroll (1979). These authors contributed the most to conceptualizing the research domain and elucidating its origins.

• Considering the number of connections, the main thematic domains of the research were the following: progress of sustainable development theory; supply chain management; business strategies; corporate social responsibility; company development; development business models; and sustainable corporate development. Identified thematic domains provided insights into the most evolved research themes.

Results and findings of co-word analysis

The next step of the research was co-word analysis. We selected the terms frequently used in the publications. The initial dataset for co-word analysis included 18,755 repeated terms. For the study, we selected the terms with a minimum of 35 occurrences and cleaned the dataset by removing synonyms and duplicates (Zupic & Čater, 2015). The final dataset for co-word analysis included 357 terms. Table 3 shows the results of processing the terms for co-word analysis.

Table 3: The list of terms with the highest frequency of occurrences in the publication titles, keywords, and annotations

Keyword	Occurrences	Total link strength
Sustainability	1495	7526
Performance	1199	6996
Management	977	5456
Business	724	4236
Innovation	704	3932
Impact	583	3491
corporate social-responsibility	515	3288
corporate social responsibility	509	2832
Strategy	462	2814
sustainable development	562	2775
Model	499	2487
Framework	405	2395
Perspective	369	2372
Csr	357	2339
resource-based view	324	2142
financial performance	312	2087
firm performance	316	2076

Source: Compiled by authors via BibExcel.

We extracted the map of clusters from the VOSviewer software. The term 'density analysis' showed that sustainability, performance, innovation, and corporate social responsibility were the most frequently used terms in sustainable business development publications (Figure 4). Furthermore, each node reflects the frequency of occurrence of a particular term (Figure 4). The larger node size means the corresponding term more often appears in publications (Xiuwen Chena et al., 2016). The lines reflect the relationship between terms, while its thickness indicates the importance of such a relationship.
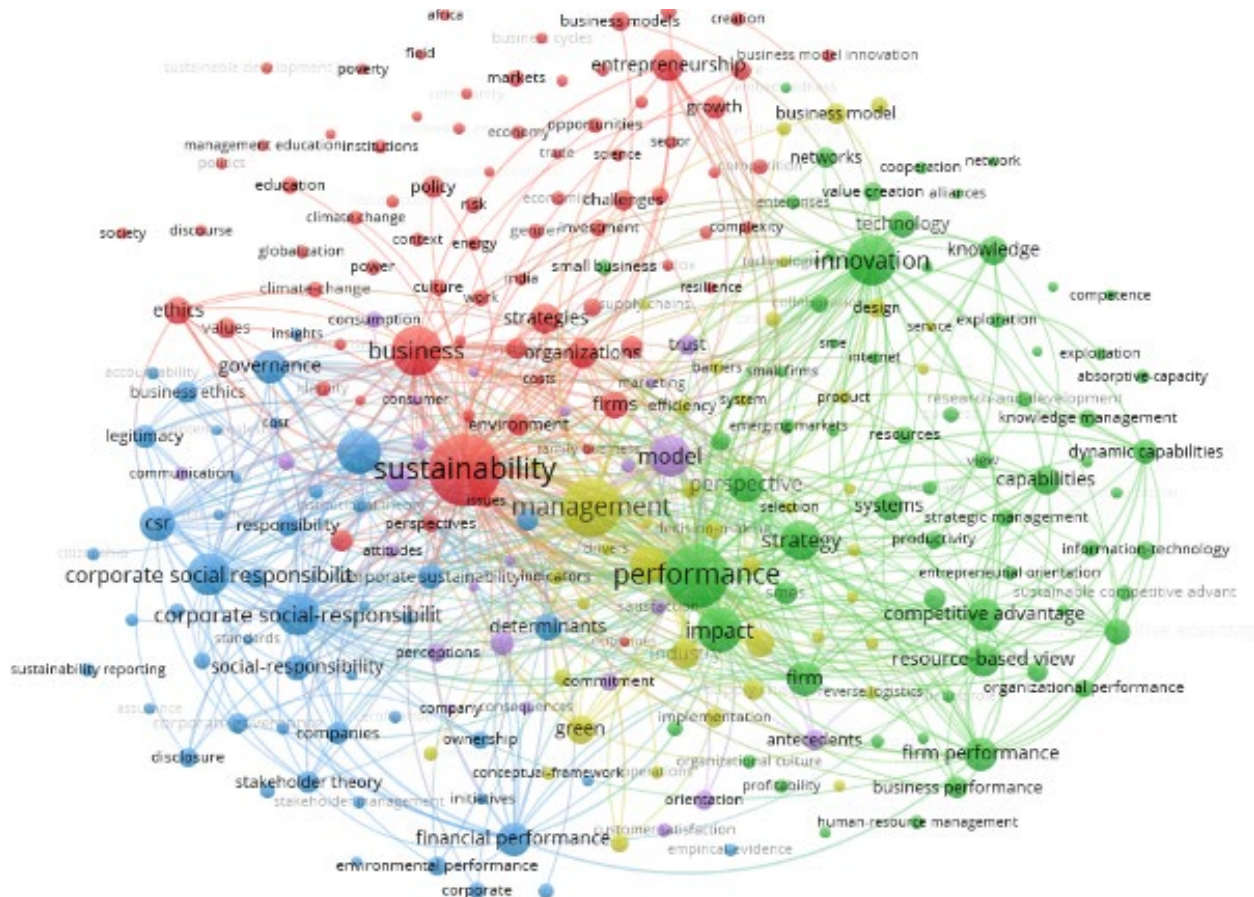
Figure 4: Clusters of terms of sustainable business development studies (co-word analysis)

Source: generated by authors in VosViewer.

The interpretation of the clusters is as follows.

Cluster 1 – red (78 terms). The frequently used terms sustainability, business, organizations, entrepreneurship, strategies, ethics, companies, values, challenges, leadership, environment, policy, growth, business models, sustainable development goals, market, supply chain, risk, social enterprise, investment, competition, business cycles, future, economy, education, dynamics, globalization, society, organizational change, etc. are represented in this Cluster.

Cluster 1 includes the following research directions:

1) Examining the nature of sustainability (with the frequently used terms sustainability, sustainable development goals, and globalization). The Cluster studied sustainable development objectives and their role in a globalized world.

2) Application of ideas and principles of sustainable development in business and entrepreneurship (the frequently used terms

here are organizations, entrepreneurship, firms, and business cycles). The scope of research focused on developing and adapting business models, strategies, and policies to support sustainable development, outlining the values and challenges and the needs for change in the organization. Fostering the organizational sustainable development raised research questions related to its future growth opportunities and potential risks (the frequently used terms are growth, risk, and future), finding new sources of funding, optimizing supply chains, and gaining a competitive advantage in the market, (with the frequently used terms market, supply chain, investment, and competition).

3) The investigation of sustainable development in the economic, social, and environmental spheres (the frequently used terms here are environment, economy, and society) and the aspects detailing this concept (with the frequently used terms ethics, social enterprise, and education). We titled Cluster 1

(red) "Sustainable Development and Entrepreneurship".

Cluster 2 (green, 66 terms) contains the following frequently used terms performance, innovation, strategy, impact, firm, firm performance, perspective, systems, technology, knowledge, networks, resources, capabilities, informational technologies, and sustainable competitive advantage. Two sub-cluster emerge from the analysis of Green cluster terms and the visualization map (Figure 4). The first sub-cluster includes studies of enterprise development, prerequisites, and factors of the company's long-term survival. This sub-cluster is located in the upper right corner of Cluster 2 (Figure 4). The frequently used terms of the sub-cluster include performance, perspective, strategy, impact, firm performance, business performance, firm capabilities, strategic management, productivity, competitive advantage, sustained competitive advantage, resource-based view, market orientation, resources, information technology, etc. The second sub-cluster contains studies on innovations and is placed in the lower left corner of the cluster. The sub-cluster research examined the factors initiating and implementing innovations in the company's business practice. The frequently used terms of this sub-cluster are innovation, knowledge, technology, networks, collaboration, dynamic capabilities, knowledge management, exploration, exploitation, absorptive capacity, value creation, and research and development. We have interpreted this Cluster as "Company Performance and Innovations".

Cluster 3 (blue, 48 terms) contains the frequently used terms corporate social responsibility, social responsibility, CSR, sustainable development, governance, financial performance, corporate governance, reporting, responsibility, corporate sustainability, business ethics, stakeholders theory, environmental performance, citizenship, sustainability reporting and «stakeholder engagement. As the result of the analysis of the terms and phrases (Figure 4), we have identified the following subject areas of the Cluster:

1) Corporate social responsibility and its aspects. This subject area includes the following terms: transparent governance, social responsibility, governance, corporate governance, environmental performance, environmental management, and responsibility.

2) Company interaction with stakeholders. The terms stakeholder, stakeholder engagement, stakeholder management, stakeholder theory, and stakeholders are represented in this theme.

3) Sustainability and CSR reporting. The terms disclosure, certification, standards, and sustainability report form this subject area. The domain studies focused on ways of disclosing CSR initiatives and reflecting them in sustainability reports. We have titled the cluster "Corporate Social Responsibility and Stakeholder Theory".

Cluster 4 (yellow, 41 terms) includes the following most frequently used terms: management; framework; conceptual framework; industry; green, supply chain management; implementation; decision-making; methodology; indicators; adoption; barriers; drivers; environmental management; and balanced scorecard. Cluster 4 includes studies focusing on the decision-making, methodology, drivers, indicators, and operations in general management and supply chain management. We have titled this cluster "Management and Supply Chain".

Cluster 5 (purple, 24 terms) contains the frequently used terms model, trust, antecedents, perception, quality, orientation, behavior, and customer satisfaction. The Cluster intersects with the other four clusters and lacks a homogeneous terminology. The scholars mostly used the terms of Purple Cluster in combination with the terms from neighboring clusters. Therefore, we can not interpret the Purple Cluster.

The application of co-word analysis helped to identify research domains that prevailed in the field of business sustainability. The publications primarily focused on sustainability in general, CSR, company performance, and innovations, and complementary research topics included social enterprise, citizenship, sustainability reporting, etc.

Results and findings of bibliographic coupling

In the last stage of bibliometric analysis, we performed bibliographic coupling using VOSviewer (Figure 5). As a result, the intellectual structure from the perspective of the most cited authors was identified. To get more relevant results and reduce the number of publications for the study, we considered articles with a

minimum of 30 citations, which resulted in the selection of 1031 articles for the study.
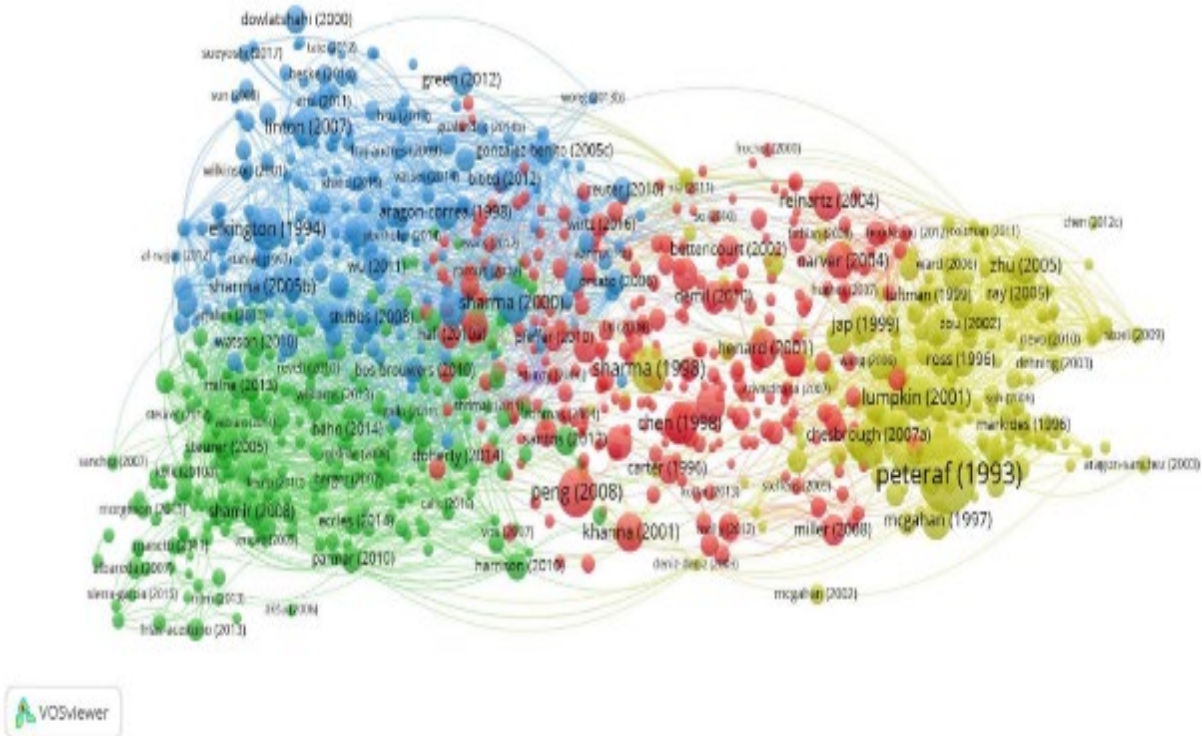

Figure 5: Distribution of publications in sustainable business development by the research domains (bibliographic coupling)

Source: Generated by authors via VosViewer

The received map includes five differently-colored clusters, which consist of circles. The larger the circle, the more frequently cited the article was. The lines mean connections between the frequently cited papers. The interpretation of clusters is presented below.

We title Cluster 1 (red) "Sustainable Development and Entrepreneurship". The Cluster consists of 329 articles. The most frequently cited cluster article was Peng et al. (2008), which focused on the research of business internationalization in developing countries (Peng et al., 2008).

Based on the analysis of Cluster 1, we have concluded that most of the publications from this Cluster examined the issues of entrepreneurship and sustainable development, fostering sustainable development of entrepreneurial activity, and improvement of sustainable business models. As a result of the analysis, we have identified a few aspects important for viewing entrepreneurship and sustainability together. Specifically, Cluster 1 includes three sub-clusters. The first domain investigated the institutional, industry, and resource-based approaches to sustainable development (Peng et al., 2008). These approaches were widely used to explain how sustainable development and entrepreneurship could co-exist and progress simultaneously. The second domain of the Cluster included identifying and analyzing the personal characteristics of entrepreneurs and managers using the indicator of self-effectiveness (Chen et al., 1998). The scholars emphasized the importance of the personal characteristics of entrepreneurs and managers for their ability to implement sustainability issues into company activity and for the sustainable development of business in general (Chen et al., 1998). The research of this sub-

cluster gave birth to the sustainable leadership research field. The third sub-cluster studied the peculiarities of sustainable development of family-owned companies (Miller et al., 2008).

Cluster 2 (green) consists of 271 papers. We have titled Cluster 2 "Corporate Social Responsibility and Stakeholder Theory". Cluster 2 consists of two sub-clusters. The first sub-cluster of scholars examined the issues of corporate social responsibility and sustainable development (López et al., 2007; Shamir, 2008; Montiel, 2008). These two phenomena were interrelated, as the field of sustainability is a subfield of CSR (Carroll, 1979). Several publications in the subcluster have examined them together. Specifically, Shamir, R. (2008) examined moral issues of sustainable business development and studied the influence of CSR and sustainability initiatives on firm effectiveness. The second sub-cluster consists of publications that applied stakeholder theory to solve problems of corporate governance (Steurer, 2005; Parmar, Freeman, et al., 2010) and to engage with stakeholders to gain competitive advantage (Harrison, 2010).

Cluster 3 (blue) consists of 221 papers. We have titled the cluster "Sustainable Development: Theoretical Foundations of Research". The publication by Elkington (1994) established the theoretical basis for sustainable development theory and became a leading publication in this domain. Other researchers followed the research agenda set in this article and tried to develop the theoretical framework of sustainable development. For example, Linton (2007) investigated the practical aspects of the connection between sustainable development and supply chains and established the theoretical principles of such a relationship, while Golicic and Smith (2013) applied the theoretical framework to the implementation of ecological practices in the supply chain. The latter resulted in some interesting findings, such as the positive influence of environmental practices on business effectiveness. The scholars widely used the latter finding in the additional research.

Cluster 4 (yellow) consists of 208 papers. We have titled the cluster "Competitive Analysis and Sustainable Development". The core of the Cluster was the scientific research devoted to gaining competitive advantage through implementing sustainability issues in business practices and the studies of the link between resource management and business effectiveness. The research conducted in the Cluster led to the identification of three findings. The first finding was the identification of the prerequisites for developing a competitive advantage by implementing sustainability issues. Specifically, the scholars found that better resources, competitive constraints, and imperfect resource mobility led to more effective implementation of sustainability issues and the development of competitive advantage (Peteraf, 1993). The second important finding was the need to develop proactive response strategies to the uncertainties arising from environmental challenges to improve competitive advantage (Sharma & Vredenburg, 1998). The third finding showed the importance of marketing sustainable development issues to gain a competitive advantage (Vorhies & Morgan, 2005).

Cluster 5 (purple) includes only one frequently cited article, Peters et al. (2011). We have interpreted it as "Entrepreneurship and Sustainable Supply Chain". This Cluster is situated at the center of the sustainable business development field (Figure 5). This article had links with the blue and red clusters, and it contributed to a better understanding of the role of entrepreneurship in sustainable development (red Cluster) and the research on sustainability and supply chain (blue Cluster).

Comparison of co-word analysis and bibliographic coupling results

First, the two clusters obtained from the application of each method coincided. They were "Sustainable Development and Entrepreneurship" (red clusters of co-word analysis and bibliographic coupling) and "Corporate Social Responsibility and Stakeholder Theory" (blue Cluster of co-word analysis and the green Cluster of bibliographic coupling). The cluster "Sustainable Development: Theoretical Foundations of Research" (blue Cluster) was received from the application of bibliographic coupling, and the cluster "Sustainable Development and Entrepreneurship" (red Cluster) was obtained from the co-word analysis and partially coincided. Furthermore, the yellow cluster "Management and Supply Chain" received from co-word analysis had a lot in common with "Entrepreneurship for Sustainable Supply Chain" (bibliographic coupling),

represented by only one article. This result could be due to the increasing interest of researchers in the role of supply chains in maintaining the sustainable development of companies. The latter was particularly noticeable in the co-word analysis, where the term "supply chain management" had 236 occurrences and 1567 links in the dataset. Third, the two clusters obtained from the two methods did not match. They were "corporate performance and innovation" (green Cluster) obtained from the co-word analysis and "competitive analysis and sustainable development" (yellow Cluster) received from the bibliographic coupling.

CONCLUSIONS AND RECOMMENDATIONS

As a result of applying bibliometric analysis to studies on sustainable business development, we have drawn several conclusions. First, although the history of sustainable business development began in the eighties of the previous century, a significant field expansion occurred in 2015. Furthermore, we can state that research interests in Sustainable Business Development Studies will continue to grow and encompass diverse perspectives.

Second, the results of the co-citation analysis provide researchers with the means to navigate the field of sustainable business development by relying on the identified research landscape and high-impact studies.

Third, the study reveals the intellectual structure of the research field of sustainable business development studies. Both co-word and bibliographic coupling methods show similar results regarding the significant part of the research field. We have identified the following research clusters forming the intellectual structure of sustainable business development studies: "Sustainable Development and Entrepreneurship", "Corporate Social Responsibility and Stakeholder Theory", "Sustainable Development: Theoretical Foundations of the Research", and "Entrepreneurship for Sustainable Supply Chain." At the same time, the methods of bibliometric analysis did not show the existence of "Companies Performance and Innovations" and "Competitive Analysis and Sustainable Development" clusters in the field's structure. Therefore, we suggest that these thematic areas were also highly researched. The findings above indicate that Sustainable Business Development

Studies rely on a solid foundation of extensively studied research questions and encompass the true complexity of a given phenomenon.

Fourth, based on the analysis of Figures 4 and 5, we have identified areas that have future research potential. Such research includes the influence of sustainable development on the financial development of companies, the implementation of sustainable principles in educational activities, sustainability reporting at the company and national levels, and forming models and mechanisms of sustainable development implementation in business practices. The latest shed light on the contextual structure of both already published research findings and made prospects of the future direction in academic debates on business sustainability.

The findings of this research are constrained by the limited number of publications included in the research dataset because we excluded non-English and non-peer-reviewed publications, as well as papers with limited citation counts. Nevertheless, the obtained results bridge knowledge of Sustainable Business Development Studies and can serve as a starting point for shaping future research directions.

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