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SUSTAINABLE ORGANIZATIONS – THE STATE OF RESEARCH BASED ON BIBLIOMETRIC ANALYSIS

Joanna PRÓCHNIAK

University of Gdańsk, Faculty of Management; joanna.prochniak@ug.edu.pl, ORCID: 0000-0003-1096-3196

Purpose: The aim of the article is to identify the current academic research on the perception of sustainable organizations management and development.
Methodology approach: The study uses a systematic literature review (SLR) methodology using the SCOPUS database to identify the framework of sustainable organizations in research. The VOSviewer tool was used to exercise the co-occurrence of keywords to select specific research topics to be included in the analysis.
Findings: Organizations have a key role to play in mitigating climate change, so new business models are needed to manage social, regulatory and economic interrelationships. New sustainable models are shaped by shareholders' business objectives, stakeholder expectations and regulatory frameworks. The aspects that emerged from the bibliometric data analysis of co-occurrences and word clusters were the following: socio-economic framework (with stakeholders analyzed independently), managing for sustainability, innovation, circular business models and supply chain management. In spite of many sustainability studies, there is still a gap in knowledge on how to proceed and build sustainable business models of organizations.
Research limitations and implications: Analyzing the spectrum of research on sustainable organizations to date can support future research on sustainable value creation generators and models for sustainable organizations. An important limitation factor for analyses based on the literature is the risk of omitting important aspects of sustainable organizations, as research based on co-occurrence of words has such limitations.
Practical implications: The research impacts interrelated and complex relationships among helices in the Triple helix model: academia, business, and regulations. It aims to trigger innovations in the business sphere.
It is useful to bring academic research into practice as part of a Triple Helix approach and its more developed forms, clearly addressing regulatory challenges and practical application in business.
Originality/value: Identifying the state of research on sustainable organizations aims to recognize the current trends in sustainable organization better and understand the picture of academia approach.
Keywords: sustainable organizations, sustainable development of organizations, sustainable business models.
Category of the paper: Research paper, literature review.

1. Introduction

Sustainability has emerged as a megatrend, putting organizations under pressure of sustainability practices while maintaining economic viability (Carayannis et al., 2017). The greatest pressure to implement and develop a sustainable approach is imposed on businesses - corporations and financial institutions.

Sustainability perceived as the 'triple bottom line' (TBL or 3BL) requires achieving and balancing the three types of goals: social, environmental, and financial (Maletič et al., 2014) or: socio-cultural, environmental, and economic (Ismail, Jaafar, 2022). Sustainable organization encompasses 3P ("people, planet, and profit"), so the development is aligned with ESG (environmental, social, and governance) goals. The role of organizations for sustainable development is also emphasized in the United Nations Sustainable Development Goals, which might lead to conflicts, when reconciling environmental concerns with the monetary aspects. Goals and scopes derive from the expectations of stakeholders. Hence new business models are needed to govern social, regulatory, and economic interrelations.

The economic side of sustainability encompasses both financial and non-financial (social) aspects. The perception of the economic dimension of sustainability dynamically evolves. The 2014 Non-Financial Reporting Directive (NFRD) (2014/95/EU Directive), which mandated the largest corporations to engage in non-financial reporting, included references to both the financial and non-financial goals of the company. The regulation evolved into new reporting regulations (Corporate Sustainability Reporting Directive - CSRD), and new reporting standards introduced by EFRAG - the European Sustainable Reporting Standards (ESRS). Afterwards, all aspects of sustainable development have a financial dimension, and the term "non-financial" seems to be awkward and even criticized. Therefore, non-financial issues are now within an economic dimension. Studies hardly combine sustainability reporting and sustainability approach (Hahn et al., 2023).

Managing a sustainable organization requires understanding of how sustainable development goals and stakeholders affect the functional perspective of an organization. Stakeholder pressure triggers new regulatory frameworks for many types of organizations, organizational policies, and management (Mashele, Chuchu, 2018). The context of sustainable organizations is shaped by the expectations of stakeholder groups, whose influence varies across different organizations (Di Maddaloni, Derakhshan, 2019). Legal, regulatory, and good practices concerns relate to ESG goals and stakeholders' advocacy, entailing operational and transactional costs (Tura, Hanski, et al., 2019). Stakeholder impact on organizations can be explained by institutional theory where organizational theory and behaviors are influenced by diverse forces, including social ones. Stakeholders demonstrate moral, social, or legal legitimacy (Marjamaa et al., 2021). It is not settled, who is of the greater legitimacy –

the management or the stakeholders with strong legitimacy (Etienne et al., 2011). Social legitimacy can be explained by permitting to act companies (Hahn, Kühnen, 2013).

Among the issues, there is a distinction between diverse types of organizations and an understanding of their role in sustainable development. Kaufmann and Danner-Schröder (2022) explore six types of organizations that address sustainability context: movements, temporary organizations, partnerships, established organizations, multistakeholder networks, and supranational organizations.

Most recent studies address the newest context of sustainable organizations, like VUCA - Volatility, Uncertainty, Complexity, and Ambiguity (Perez-Uribe et al., 2024) or micromanagement for millennials (Ryan, Cross, 2024). Hence, with the above in mind, the main research question (MRQ) arises as follows: How do researchers conceptualize the sustainable organizations in VUCA and BANI world? Therefore, the article aims to identify the current academic research on the perception of sustainable organizations management and development. In order to achieve the research objectives, a systematic literature review was used, followed by the method of synthesis and logical inference.

2. Methodology of bibliometric research

The bibliometric research - a systematic literature review (SLR) methodology based on reviewing and analyzing publications was performed to provide the framework and insights on the sustainable development of organizations. The SCOPUS database was considered in the study to identify and select the articles. PRISMA protocol was applied in the bibliometric research to achieve the empirical findings. Co-occurrence of keywords using the VOSviewer ool was used to select specific topics taken up in the research.

With the MRQ and the literature review procedure in mind (Bölen et al., 2021), the following supporting questions (SQ) were posed:

- SQ1: What is the current trend of research on sustainable development of organizations, sustainable organizations?
- SQ2: What are the approaches to a universal sustainable organizational framework?
- SQ3: How mature is academic research in the field of sustainable organizations?

After examining word combinations, the following keywords were used with all combinations for the collection of research documents from SCOPUS: “sustainable development of organization”, “sustainable organization”, “sustainable business”, “sustainable company”, “sustainable development of the company”, “sustainable development of business”, “sustainable AND organization”. The restrictions were added as follows: solely English language and peer-reviewed documents (article, book chapter, review, book editorial, conference review included), publishing year starting from 1998, limited subject area

(to Business, Management and Accounting Economics, Econometrics, and Finance). First, 3506 documents were identified (as of August 2024), but due to the VOSviewer software limitations (of up to 2000 articles), further restrictions were made by choosing the best cited and relevant records from the period 1998-1999 and for the period 2020-2024 manually selected by the relevance of abstracts, achieving 1,922 records. Then the records were selected manually by relevance, excluding the country or sector-specific articles. Finally, 668 records were used for analysis using VOSviewer to select topics based on word co-occurrence and the final study was made on 391 documents that were fully accessible.

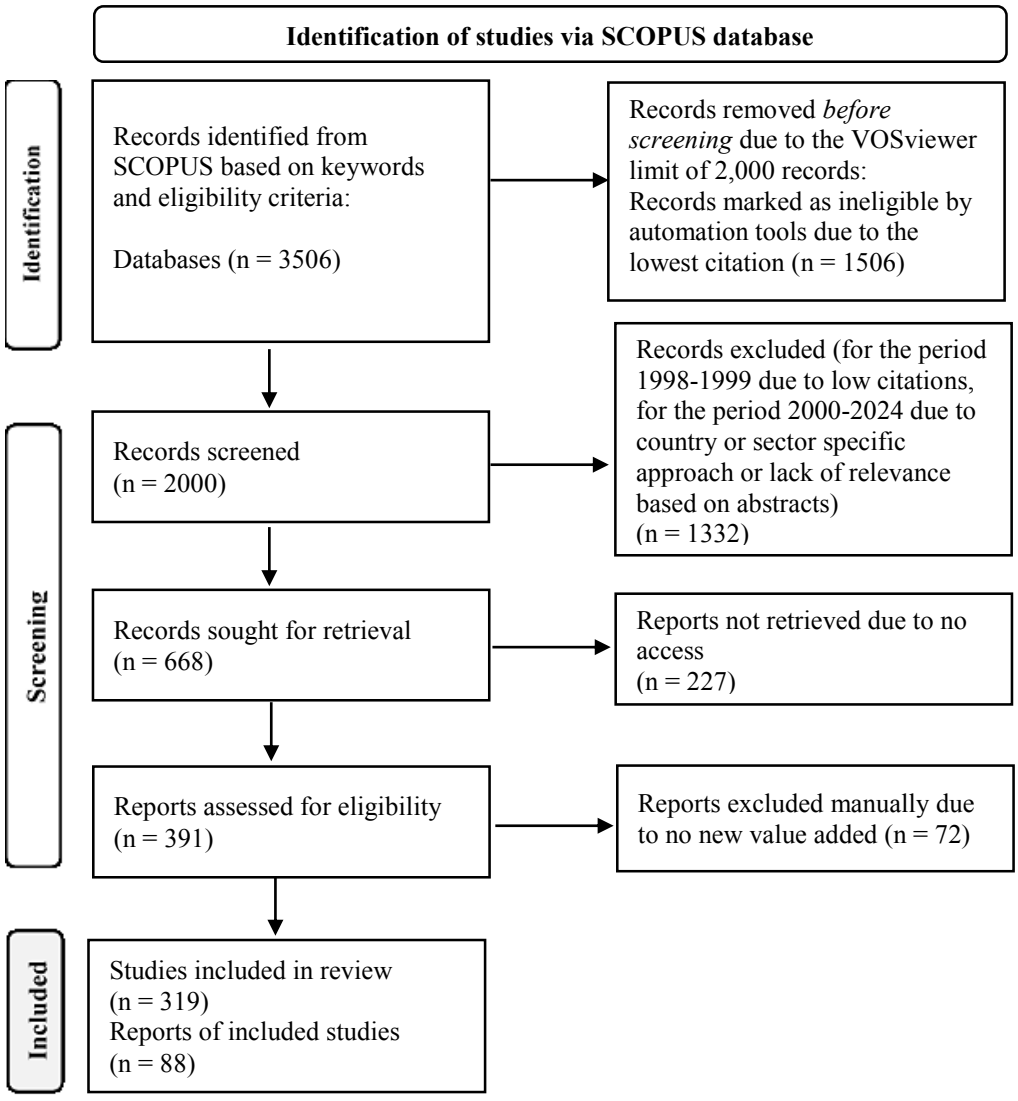

Figure 1. PRISMA 2020 flow diagram for SCOPUS search of sustainable organizations.
Source: Page, et al., 2021.

Articles included in the final review were analyzed manually in search of the state of knowledge on emerging topics.

3. Results and discussion

The current topic areas of sustainable organizations were selected based on keyword co-occurrence using the VOSViewer software. 35 keywords with the greatest total strength of the co-occurrence links were generated by the software to visualize bibliographic coupling density.

The dominant keywords that did not add value to the analysis were excluded (for example: sustainable development, sustainable organization, business, business development).

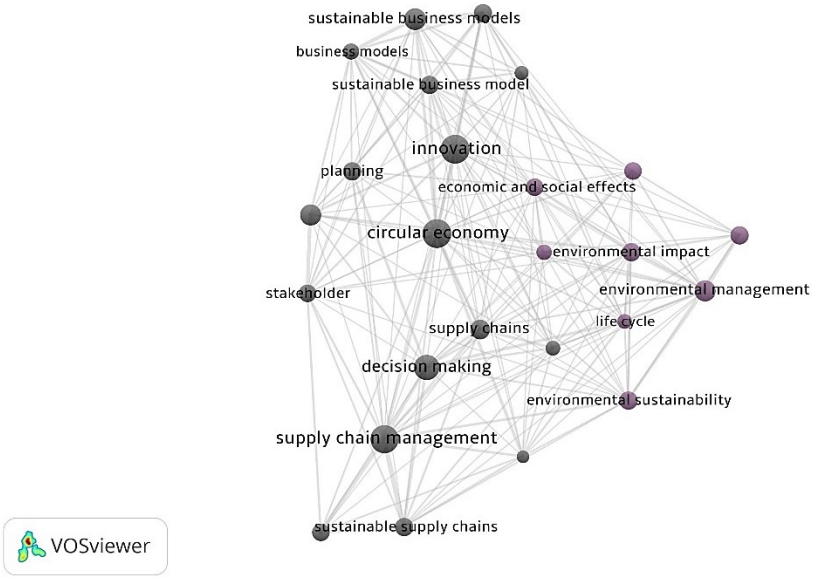

Figure 2. The Network Visualization of Literacy Topic Area based on keywords in Scopus.
Source. Own elaborations based on VOSViewer.

The general research topics were identified based on bibliometric data analysis of the co-occurrence and words' clusters and are as follows: socio-economic framework (with stakeholders analyzed independently), managing for sustainability, innovation, circular business models, and supply chain management. Themes and general comments are summarized below. What is missing are sustainability drivers. Many articles deal with a specific industry, specific conditions but with no conclusions for an universal approach.

3.1. Socio-economic considerations on sustainable organizations

The socio-economic approach underscores the role of organizations in achieving sustainability goals (Rosati, Faria, 2019; Annunziata et al., 2018; Maletič et al., 2014). Rai et al. (2006) mention the need for balancing the long-term well-being with financial performance manifested by resource allocation, pricing, financial analysis, risk management, cost control, and cash flow management (Rai et al., 2006). According to Tura, Keränen et al. (2019) a focus on sustainability and economic performance should consider social pressure. Hudec (2017) relates to various socio-economic factors with regard to economic excellence

(Hudec, 2017). Sometimes social performance is put in the back, for example in manufacturing (García-Muiña et al., 2021).

The "economic sustainability" is not explained well in research, and authors warn of using the conventional economic perspective (Bocken, Short, 2021). The economic dimension has references to initial investment costs, asset allocation, infrastructure use, the dominance of economic indicators, and decision-making processes (Tura, Keränen, et al., 2019). Management studies recognize economic value as co-dependent on social and environmental factors (Dembek et al., 2023). However, this co-dependency is not enough explored (Daddi et al., 2018). Many considerations prioritize sustainability within a decision-making process (Mashele, Chuchu, 2018). In fact, sustainability objectives intermingle (Deveci et al., 2022).

Trocka (2023) sees the economic dimension of sustainable development as technological progress that includes the efficiency of the use of raw materials, and human resources. Much research focuses on long-term company value creation but with no satisfactory conclusions. Some studies link sustainability, and value creation with national-level governance playing a significant role in promoting sustainability (Abhayawansa et al., 2021). In a financial context, economic value derives from the distribution of economic costs and benefits among stakeholders (Boons, Lüdeke-Freund, 2013). Economic value can be captured from maintaining or regenerating natural social and economic capital (Lüdeke-Freund, 2020). Economic value derives from strategy, innovation, and business environment (Lüdeke-Freund, 2020). Value added (captured value) can be created by utilizing economic gains retained in products after their use (Dentchev et al., 2016; Stål, Corvellec, 2018).

3.2. Stakeholders of sustainable organizations

Stakeholders enforce a sustainable approach, so stakeholder theory is widely debated (Daddi et al., 2018). However, stakeholders do not appear as co-occurrences of keywords in the reviewed studies in the Scopus database. It is perceived as a gap and opportunity for expanding research (Allen et al., 2021). The most cited study underlines interconnectedness between ESG factors and value creation for all stakeholders (Rai et al., 2006). The EU CSRD points to stakeholder groups rather than individuals (Commission Delegated Regulation (EU) 2023/2772, 2023).

Stakeholders represent separate or mixed roles in organizations being: shareholders, regulators, society, consumers (Jennings, Hoffman, 2021). Their social expectations are not specific (Adams, 2017) and not fully known (Stål, Corvellec, 2018). Scholars recall two approaches: instrumental - the management of stakeholders in achieving organization goals, and normative – managing for stakeholders (Di Maddaloni, Derakhshan, 2019). Di Maddaloni and Derakhshan (2019) recall instrumental approach and stakeholder attributes to provide resources for the organization. The limited resources within the organization lead to the predominance of the management of stakeholders and managerial priorities toward stakeholders as a formal relationships or legal authority over the organization.

The normative approach leads to changes in organizational structures to meet the legitimate interests of stakeholders in the value-creation processes (Di Maddaloni, Derakhshan, 2019). The sustainability economic for stakeholders can be explained by signaling theory, where sustainability commitment meets the expectations of stakeholders to build competitive advantages for the company (Rosati, Faria, 2019).

3.3. Management for sustainability

The management for sustainability can be understood differently (Isaksson et al., 2023), but the sustainability of organizations lacks reference to managerial theory (Daddi et al., 2018). Organizational and cultural issues in sustainability recur (Boons, Lüdeke-Freund, 2013), but the research mostly presents the activities, with no explanation of how to combine them into systems (Dembek et al., 2023). Manningen and Huiskonen (2022) refer to an integrated strategy, which drives managers to sustainability performance (Manninen, Huiskonen, 2022). Some studies agree on the need for new business models, redesign, and development of technological, social and organizational processes to bridge the gap between innovation and economic performance (Durán-Romero et al., 2020; Mendoza et al., 2017; Witjes, Lozano, 2016). Other studies perceive new business models as partial solutions (Abdelkafi et al., 2023), emphasizing circular approach or organizational institutionalism conditioned by norms, rules, and practices (Stål, Corvellec, 2018) or cultural-cognitive pillars (Hoepner et al., 2021). The regulatory considerations include decoupling theories - organizational buffering to protect the organization core operations from institutional demands. Decoupling typically entails the mitigation of the environmental footprint associated with economic activity and advancement through the enhancement of resource efficiency and reduction of natural resources use (Santa-Maria et al., 2022; Benstead et al., 2018). Environmental changes lead to a new unpredictable external business environment and new climate risks to be managed (Alexander et al., 2018; Allen et al., 2021).

A frequent aspect of sustainable management is sustainable leadership (Blas et al., 2022) with many contexts that appear on Scopus search:

- green transformational leadership for high innovation and effectiveness (García-Morales et al., 2008; Zhao, Huang, 2022),
- sustainable leadership for transforming sustainable culture (Streimikiene et al., 2021),
- servant leadership (Jit et al., 2017;Feng, Adams, 2023),
- ethical leadership for better performance and influencing the culture (Kawiana et al., 2023),
- responsible leadership for building trustful relationships with stakeholders (Maak, 2007; Muff et al., 2020),
- collaborative agency as alternative to leadership, where diverse stakeholders are involved (Raelin, 2016).

Responsible leaders leverage organizational intelligence to achieve desired outcomes, integrate effectiveness and quality of performance (Dellve, Eriksson, 2017). Sustainable leadership aims to improve environmental performance and generate business value (Armani et al., 2020). The integration of sustainable concerns leads to sustainable organizational excellence and resilience using interrelated concepts like organizational change, policies, structure, and performance (Carayannis et al., 2017) or use of tools and management models (Val et al., 2020). Quality for sustainability underlines the role of quality management in achieving sustainable goals (Fundin et al., 2020).

3.4. Innovation

New business models include new ways to create (do how) and capture (do why) value, focusing on new ways of generating revenues and creating value for customers, suppliers, and partners (Manninen, Huiskonen, 2022).

Sustainability is often connotated with innovation processes that motivate establishing new business models (Lüdeke-Freund, 2020). The innovative approach aligns with the existing economic focus, but is organized differently. Sustainable business models create monetary and non-monetary value added by e.g. manipulating existing resource (Santa-Maria et al., 2022), resource extraction or energy transition (Lüdeke-Freund, 2020). Technologically, sustainable innovation (inputs), are converted into economic outputs (Lüdeke-Freund, 2020) that create long-term outcomes (impacts and risks). Sustainable business models promote outcomes for society and the environment under condition of economic sustainability (Bocken, Short, 2021). The environmental pressure brings also innovation strategies or diversity of innovation portfolio (Carayannis et al., 2017).

Another conclusion here is that research tends to be focused on specific issues, such as: digitalization (Acciarini et al., 2022), plastic management (Dijkstra et al., 2020), or agile manufacturing (Mohaghegh et al., 2023).

3.5. Circular economy and circular business models (CBM)

The circular economy (CE) received a lot of attention as a trigger for the transformation of business models (Tura, Hanen et al., 2019). CE - first derived in the ecology discipline, aims at reducing the environmental impact by better resources using. Mendoza et al. (2017) refer to resource consumption, waste generation, and management. There are a number of frameworks for the circular economy. BEDE (Backcasting and Eco-design for the Circular Economy), proposed by Mendoza et al. (2017) and Heyes et al. (2018), supports implementing innovations within circular approach. Often mentioned in research is the Ellen MacArthur Foundation which proposes ReSOLVE checklist of six actions for circular economy implementation (Heyes et al., 2018). In contrary to the take-make-use-dispose model, circular – the closed-loop approach meets the tension between economic and environmental issues (Murray et al., 2017; Tura, Hanen et al., 2019). It also decouples economic pressure from environmental impacts and

consumption (Mendoza et al., 2017). Decoupling in a sustainable approach also applies to economic and socio-cultural aspects (Ismail, Jaafar, 2022). A circular approach in an economic orientation can lead to a transition into a cost-saving concept both environmental and socio-economic issues (Witjes, Lozano, 2016).

The strong focus on circular business models (CBMs) derives from the belief that they are main contributors to sustainable development (Heyes et al., 2018; Stål, Corvellec, 2018; Santa-Maria et al., 2022). Researchers note insufficient knowledge on the implementation of the circular approach, sector specific issues or small companies (Heyes et al., 2018; Stål, Corvellec, 2018). Also, not enough incorporation of the circular economy into strategic thinking is underlined. Mendoza et al., after reviewing the circular economy models, classified such models into 4 categories: sustainable innovation, sustainable product design, closed-loop supply chains and product-service systems (Mendoza et al., n.d.).

A lot of sector or topic-specific studies on circular sustainability derive from diverse types of organizations and specific operations (Agrawal et al., 2022), industry 4.0 in circular economy transition (Bai et al., 2020; Chari et al., 2022; Ciliberto et al., 2021; García-Muiña et al., 2021; Shayganmehr et al., 2021) or logistics role (Mishenin et al., 2018). Still, there is no single agreed or universal sustainable business model. In addition, net-positive environmental value and circular economy are already not enough in organization activity (Bocken, Short, 2021).

3.6. Sustainable supply chain management

Sustainable supply chains are perceived as pivotal in mitigating dependencies and resource price reduction (Tura, Keränen et al., 2019). The substantial significance of this shift is under pressure of that 13% of the environmental pollution can be attributed to activities within the supply chains (Alzoubi et al., 2020).

Aligning a sustainable supply chain strategy with the principles of the circular economy is imperative (Genovese et al., 2017). So, supply chains are increasingly incorporating the tenets of the circular economy (Allen et al., 2021). Various supply chain models, including open-loop, closed-loop, and circular supply chains, may exert varying influences on sustainability outcomes contingent upon the specific contextual factors at play (Vegter et al., 2020).

The most cited article refers to the integration of Green Supply Chain Management (GSCM) and Green Human Resource Management (GHRM) (Jabbour, De Sousa Jabbour, 2016). The study also focuses on the perception and networks of stakeholders regards sustainable supply chains (McLoughlin, Meehan, 2021; Rane et al., 2021).

Studies address a myriad of topics: encompassing green product development, eco-friendly procurement, ethical sourcing, sustainable transportation, eco-conscious operational and production practices, matters about corporate governance and reporting, as well as the management of product carbon emissions (Glover et al., 2014). Research reveals a clear and direct association between sustainable supply chains and company performance (Alzoubi et al., 2020).

4. Discussion

As can be noticed, there is no complex perception of sustainable organizations in research. Certain topics appear more often in keyword co-occurrence. With regard to the main research question, the general perception of sustainable organizations is not concrete. However, there are some trends in research highlighted: circularity, decoupling socio-economic approach, supply chains and innovation. What is missing here are the elaborated elements that make up sustainable organizations, such as do value drivers for value based management. An issue worthy of inclusion in the study is green human resource management, highlighted as important but not the result of co-occurrence.

Many papers present the organizations' commitment to sustainability, however with no a precise explanation of possible strategies and behaviors. Also, the existing research doesn't bring answers to how the sustainability approach influences corporate economic performance (Maletič et al., 2014) or generate the value for organization (Manninen, Huiskonen, 2022).

Ogutu et al. (2023) made a Web of Science bibliometric meta-data analysis on current trends in sustainable organization management to distinguish popular keywords, which were: management, impact, model and framework. The popular trend topics occurred: performance, impact, tourism, management and innovation (Ogutu et al., 2023). Lozano uses ANOVA test to examine how the organizations address the dimensions of sustainability (Lozano, 2023). In a survey study published in 2018, Lozano aimed to conceptualize a framework for organizational sustainability (Lozano, 2018). Ikerd, in the study on managing business for sustainability analyze different aspects – metrics, motives and management implications concluding that economies are nested in societies that are nested in nature (Ikerd, 2024).

Delbridge et. al skeptically confirm that the exchange between organization studies and sustainability management has been limited. The authors notice that sustainability is often used in research as a case or metaphor (Delbridge et al., 2024). The authors seek the research potential on organizing sustainability in: social justice, bridging the local and global scale concerns, democratizing governance and collectivity (Delbridge et al., 2024).

Despite attempts already made to define and prioritize the dimensions of sustainable organizations, and conceptualization of them is still evolving and not matured. Some aspects are well developed, such as leadership, while the issues of circularity and its impact are not yet.

The conceptualization of sustainable organization can include double materiality and the socio-economic impact of an organization's performance on users and other affected stakeholders through the implementation of circularity, leadership, innovation and sustainable chain management.

5. Conclusions

There is a growing number of research on sustainability, but still with no consensus on sustainable organization model. The study brings the considerations on the attractive sustainability topics in academia research and gives input to the Triple Helix Model boosting the innovation proposals for sustainability approach. The Triple Helix Model triggers interactions and transfer between three helices: (1) Academia (knowledge, research), (2) Business (industry) and (3) Government (regulations) (Cai, Etzkowitz, 2020; Kopczynska, Ferreira, 2021).

It is useful to bring academic research into practice as part of the Triple Helix Model approach and its more developed forms, clearly addressing regulatory challenges and practical application in business.

In trying to understand the sustainable development of organizations, external regulations pressure results in the internal frameworks, such as economic or managerial that incorporate sustainable development through circular economy or sustainable supply chains (Dwivedi et al., 2021). In a sustainable approach, organizations seek solutions oriented on the environment, and social goals, along with the economic perspective (Henry et al., 2019), ensuring effective intra-organizational relationships, particularly to enhance the credibility of organizational actions and efficient management. The business framework includes organizational components and structures enabling sustainable approach. Managerial and legal concerns of sustainable organizations bring new concepts and business models.

The aim of the study was achieved and, although the research did not develop organizational drivers of sustainable organizations, it might be a contribution to further research and exchange between helixes. The research - "academic helix" is worth expanding to other databases (e.g. Web of Science) to obtain irrefutable conclusions about sustainable organizations. The academic research on sustainable organizations is mature in sectoral and specific approach, but still with no generalizations. The limitation of the study can be data source bias as an overrepresentation of certain journals has been observed. Also field scope and definitions might be interpreted differently across studies. Despite a diligent selection of sources, emerging topics could be not fully integrated into the literature.

Both the overrepresentation of certain journals in which specific topics are repeatedly addressed and the mere question of the popularity of specific issues can lead to the omission of important aspects and valued authors. A very important aspect that interferes with the possibility of realizing a satisfactory study is the issue of lack of access to the full content of important articles in the database.

In the case of this study, a topic that was not included in the analysis based on the popularity of co-occurring terms and the possibility of accessing the texts was green human resource management. Among the Polish authors indexed in Scopus who refer to this issue are Piwowar-

Sulej (Piwowar-Sulej, 2024; Sołtysik et al., 2024; Piwowar-Sulej, 2021). Lack of full text access is undoubtedly an important problem facing academics in Poland.

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