

Sustainable institute: A bibliometric review



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Abstract Using bibliometric analysis of papers indexed in Scopus, this work aims to investigate current trends in sustainable institute research. The objective of this study was to pinpoint the areas of the shove that may be investigated in future studies. This paper comprised a bibliometric examination of research publications published in the sustainable institute area between 1999 and 2023. Using specific databases and inclusion criteria restricted to business, management and accounting, the researchers were able to extract 900 distinctive publications. R studio and VoSviewer were then used to explore the data that were retrieved. Finally, descriptive displays, talks on citations, keywords, authors, and journal contributions to the field's evolution were provided. Recently, sustainable institutes have become more popular research topics. Nonetheless, studies on this topic are rare. Future academicians have a wealth of opportunities to examine, as the authors found that prior studies on the subject concentrated on sustainability elements of the area. In this sense, the results highlighted a few uncharted sustainable institute-specific topics that need to be addressed by academics and stakeholders. To the best of our knowledge, this will be the first bibliometric paper in the area of sustainability. By highlighting existing sustainable institute research patterns and suggesting a path forward for upcoming academics, this paper could stand out from the others.

Keywords: bibliometric analysis, sustainable institute, social sciences, biblioshiny, Vosviewer, higher education

1. Introduction

The concept of sustainability remains unclear although the subject of "what is sustainability" has been quite popular in recent years. It is therefore often challenging to comprehend the notion of sustainability. Many trends in areas such as the abuse of natural resources, the linear consumption of energy and related goods, citizen lifestyles, and consumer purchasing have been characterized by the word "sustainability." To put it simply, sustainability is preserving the status quo, ensuring that things continue, and providing for (Onions, 1964). In summary, sustainability pertains to the ability of the human race to continue existing as a civilized and successful species, as stated by Sharma (2015) on page 82. The notion of sustainability has been examined by some scholars utilizing ecological methods, (Starik & Rands, 1995)while other researchers have used social and economic approaches (Gladwin et al., 1995). Alternatively, some authors use education-focused strategies to describe sustainability(Evans et al., 2017; Kowasch & Lippe, 2019; Taşçı & Titrek, 2019) . Developing a conceptual framework is made more difficult by the different interpretations of sustainability. Researchers regularly run across the issue of the idea of sustainability with several interpretations.

The United Nations has been actively addressing the idea of sustainable development in education for several years, but its implementation in underdeveloped nations has been mostly lacking. In addition to suggesting the viability of current initiatives, the UN suggested additional avenues for research and teaching along with new obstacles to achieve sustainability in higher education (Abd-Razak et al., 2011; Amaral et al., 2015; Lukman & Glavič, 2007). Universities need to build sustainable systems that can maintain them over the long run.

Furthermore, to sustain their genuine mission of educating for the advancement of society, universities need steady streams of funding (Lopez & Martin, 2018; Lozano et al., 2015a). The financial crisis has resulted in a sharp reduction in government financing, as evidenced by research conducted in Southern Europe. This has played a significant role in students' decision to attend a certain institution (Cattaneo et al., 2019). Thus, to do this, higher education institutions (HEIs) must align themselves with sustainable development goals (SDGs) to integrate sustainability into the educational process (Leal Filho et al., 2021; Pizzutilo & Venezia, 2021; Sonetti et al., 2021). Higher education institutions (HEIs) are undergoing radical transformation. They are now viewed as catalysts for sustainable change and are anticipated to use high-quality education to address the issue of sustainability (Pereira Ribeiro et al., 2021; Riad Shams & Belyaeva, 2019). Striking a balance between three factors—social (Lopez-Perez et al., 2017), environmental (Berryman & Sauvé, 2016), and economic targets—has been the subject of many prior studies on the topic of sustainable HEIs (Holden et al., 2017). (Lukman & Glavič, 2007; Talan et al., 2020)Sustainable development in higher education institutions was also evaluated in terms of the social and economic

environments. Nonetheless, very few studies have been conducted in an integrated conceptual framework on the subject of defining a university's attractiveness and sustainable university management system (Dumitrascu & Ciudin, 2015).

Bibliometric indicators are becoming popular tools for evaluating a theme's research success while examining the literature on a certain topic. Numerous researchers have already employed bibliometrics as a cross-disciplinary analytical technique such as management (Podsakoff et al., 2008). According to (Bjork et al., 2014), these papers scrutinized wide overviews of the relevant research area and included analyses of prominent academics, nations, and universities. Although these methods are largely thought of as quantitative, they can also produce important qualitative results. Bibliometric methods, as opposed to peer review, make it simple to assess a large number of publications. For this purpose, the authors of the present paper carried out bibliometric analysis of sustainable institute research to pinpoint existing and emerging patterns that are pertinent to the field's advancement.

To find solutions to the following questions, the current study is being conducted:

- Q1. What is the current state of research on sustainable institutes?
- Q2. Which unknown areas in the domain may be suggested for further research?

To fulfill the study's intended purpose, the researchers performed a bibliometric analysis of information about sustainable institute research in business, management and accounting that was taken from the Scopus database. Many theoretical and managerial ramifications are anticipated from the study to make pertinent strategic recommendations to the appropriate parties. The following is a summary of the study: Section 2 provides a concise overview of the pertinent literature on sustainable institutes, Section 3 discusses the methodological approaches used in implementation, and Section 4 discusses the findings of the bibliometric study. The results and recommendations for future research, taking limitations into consideration, are presented in Section 5.

2. Literature review and justification for study

Nationally and internationally, there is increasing rivalry in higher education institutions. Higher education exports are among the finest ways for institutions and economies to profit economically and nonconstitutionally (Lombardi & Ghellini, 2019; Restaino et al., 2020). University attractiveness plays a critical role in attracting prospective domestic and foreign students to higher education institutions (HEIs) and helps these institutions position themselves in the educational services market (Kusumadewi et al., 2020; Moreira and Gomes, 2019). According to Dorozhkin et al. (2016), a university's attractiveness is largely determined by its ability to fortify its internal resources and build a reputation for itself in the market for educational services. The range of programs provided, financial aid available to students, the institution's fame, institution rankings, teaching quality, research activities, technological advancements and students' degree of satisfaction all affect an institution's internal strength(Cattaneo et al., 2019; Columbu et al., 2021; Falk & Hagsten, 2018). According to Dorozhkin et al. (2016), education professionals and administrators of educational institutions may therefore make wise selections regarding creating university attraction to influence a prospective student's decision to enroll at a certain site.

According to Caird and Roy (2019), higher education institutions are involved in tertiary-level teaching-related activities. The growth of information and skills, as well as the shaping of citizen behavior for the advancement of a community and economy in general, are all facilitated by these HEIs. Representing social, economic, and environmental goals for the sustainable development of an economy, sustainable higher education comprises both domestic and foreign organisations that work with a range of sustainable educational initiatives (Leal Filho et al., 2021). According to various studies (Albrecht et al., 2007; Hernández García De Velazco et al., 2020; Lozano, 2010), sustainable education at any university involves building internal strength with respect to education processes, the current curriculum, research-oriented activities, and student outreach activities. According to (Pereira Ribeiro et al., 2021), these kinds of activities help students build the knowledge and skill sets that are necessary for the long-term viability of higher education institutions.

Using bibliographic sources, these techniques help researchers find the most noteworthy displays. Additionally, they may be applied to a range of tasks, such as offering a thorough synopsis of a study subject and carrying out an investigation of top scholars, organisations, and nations (Bjork et al., 2014). More specifically, the anticipated results might be used for a brief synopsis of the literature that is accessible for analyzing and classifying bibliographic data (Sindhu & Bharti, 2021). Numerous researchers have employed this technique to assess keywords (Gurzki & Woisetschläger, 2017; Rey-Martí et al., 2016), institutes (Merigó et al., 2019), nations (Mas-Tur et al., 2019), and journals (Valenzuela-Fernandez et al., 2019). These methods are useful for revealing the intellectual confluence of the most well-known sources and trends (Kessler, 1963). Other frequent approaches employed by earlier researchers in bibliometric studies include co-occurrences in references and co-authorship among researchers (Koseoglu, 2016).

The aforementioned discoveries helped writers identify the key domains for bibliometric analysis of sustainable institute research in business management and accounting using the software programs VoSviewer and Biblioshiny. The purpose of the study is to look at current trends in the sector and indicate areas that could be investigated further. Therefore, it is anticipated that this article will help academics better understand current sustainable institute research and open up new avenues for future study in the field. In the next portion of the manuscript, the methodology used to conduct the analysis is thoroughly explained.

3. Methodology

The present study was inspired by the methodology proposed by (Tranfield et al., 2003) for employing literature reviews as a tool to examine present and emerging trends. Initially, bibliometric data on sustainable institute research were extracted from the Scopus database for the years 1999 to 2023. Next, data cleaning techniques were used to eliminate redundant and incomplete data through manual editing. Additionally, the titles, abstracts and keywords of the extracted papers were manually screened on the basis of the theme of the bibliometric analysis. Finally, researchers used the guidelines provided by (Fahimnia et al., 2015) to conduct bibliometric analysis to determine the state of the current research and offer recommendations for the future as a result of the study. The macro level keyword definitions were made using the standards (Chen & Xiao, 2016) suggested. Next, the retrieved results from the chosen databases underwent another round of micro level filtering. The Boolean operation for bibliometric data is given below:

TITLE-ABS-KEY ((("higher education" OR "universit*" OR "hei" OR "higher educational institute") AND ("sustainable education" OR "education for sustainable development" OR "education for sustainability" OR "sustainable development")) AND PUBYEAR > 1998 AND PUBYEAR < 2024 AND (LIMIT-TO (SUBJAREA , "busi")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j") AND (LIMIT-TO (LANGUAGE , "english")

The study's focus was restricted to the fields of business, management and accounting. The articles that were chosen were only available in English. A total of 1152 bibliometric records were extracted under these study settings. After carefully reviewing the retrieved data to remove any duplicate or redundant items and manual screening of the "Articles, Abstracts and Keywords", 900 entries remained for analysis.

Bibliometric analysis is a collection of tools that use quantitative methods to analyze and quantify text and data (Goyal & Kumar, 2021; Mishra et al., 2018). This method makes it possible to extract fresh data from the literature reviews, which may subsequently be included in the study (Suominen et al., 2016). To do this, it is necessary to create and publish biographies on themes, identify patterns within a study field, and assess research publications that serve as a road-map for understanding the state of the field (Gao et al., 2021; Hossain et al., 2022). Scholars employ several bibliometric analysis techniques, such as authorship, citation, bibliographic coupling, and co citation analysis, to examine biographical data published by Donthu et al. (2021).

4. Results and Discussion

In this section, the results of the bibliometric analysis of the extracted literature are examined. Scholars employ bibliometric analysis techniques such as authorship, citation, bibliographic coupling, and co citation to examine biographical data published by Donthu et al. (2021).

4.1. Main Information

Table 1 provides all the relevant information about the 900 documents selected for the analysis. The average number of citations per document is 38.76. An analysis of 900 papers chosen for the study revealed that, on average, 3.12 writers worked together. There were 270 distinct journals that published the chosen works. Throughout the research period, the yearly publishing growth rate was 11.51%, demonstrating a tendency toward an increase in the number of publications on the subject.

4.2. Performance Analysis

The publication patterns in sustainable institute research are depicted in the bar diagram (Figure 1). Although Oksana et al. (1999) started their research in this field, 2019 was the most productive year. From 2015 to 2019, there was a steady increase in the number of publications in the area of sustainable institutes due to the 2030 Agenda for Sustainable Development started by the United Nations Member State in 2015. Research on sustainable institutes became popular in India and around the globe in 2015, and since then, the rate at which sustainable institutes are produced annually has expanded dramatically. Generally, based on the pattern of the current year, there will be more research in this area in the coming years.

4.3. Source Analysis

Table 2 lists the top ten noteworthy journals that have made regular contributions to the field of sustainable institute research. Source analysis finds publications that regularly publish research on the topic and provides aspiring researchers with a way to organize their submissions. With respect to the quantity of papers published on sustainable institutes, the Journal of Cleaner Production held the top spot, followed by the Journal of Professional Issues in Engineering Education and Practice and the International Journal of Management Education account for 2.8% and 2.1% of all publications,

respectively, while the Journal of Cleaner Production has contributed 35.77% of all publications in the field, with a maximum of 322 contributions published over the past 24 years.

Table 1 Main Information.

Description	Results
MAIN INFORMATION ABOUT DATA	
Time span	1999:2023
Sources (Journals, Books, etc.)	270
Documents	900
Annual Growth Rate %	11.51
Document Average Age	8.64
Average citations per doc	38.76
References	40558
DOCUMENT CONTENTS	
Keywords Plus (ID)	2917
Author's Keywords (DE)	2537
AUTHORS	
Authors	2473
Authors of single-authored docs	156
AUTHORS COLLABORATION	
Single-authored docs	161
Co-Authors per Doc	3.12
International co authorships %	24.33
DOCUMENT TYPES	
Article	900

Source: Scopus Database



Figure 1 Sustainable Institute Research publication trends. Source: Author's compilation.

Table 2 Top 10 sources in the domain.

Sources	Articles
Journal Of Cleaner Production	322
Journal Of Professional Issues In Engineering Education And Practice	26
International Journal Of Management Education	19
Technological Forecasting And Social Change	16
International Journal Of Innovation And Sustainable Development	15
Sustainability Accounting, Management And Policy Journal	11
Administrative Sciences	10
Industry And Higher Education	10
Transformations In Business And Economics	10
International Journal Of Educational Management	9

Source: Scopus Database

4.4. Most influential articles on sustainable institute research

Table 3 lists the most cited articles in sustainable institute research. The article titled "Social entrepreneurship: Creating new business models to serve the poor" by Seelos and Mair (2005) is the most cited article in the sustainable institute research domain. It has received 703 citations. The authors focused on the concept of social entrepreneurship in the article. Understanding social entrepreneurship may help spark ideas for sustainable and socially conscious company models and organisational structures. Social entrepreneurship may also inspire well-established companies to assume more social responsibility, as it directly advances globally acknowledged sustainable development (SD) goals. The paper titled "The New Field of Sustainable Entrepreneurship: Studying Entrepreneurial Action Linking "What Is to Be Sustained" With "What Is to Be Developed" "is the second influential paper authored by Shepherd and Patzelt (2011). The total number of citations of this paper is 670. The authors present a research agenda that draws from the perspectives of economics, institutions, and psychology to highlight the variety of possible study directions that will further this topic. The authors propose research topics that address the concerns of "what is to be developed" and "what is to be sustained" in the context of sustainable entrepreneurship. With 585 citations, Alshuwaikhat and Abubakar (2008) conducted the study "An integrated approach to achieving campus sustainability: assessment of the current campus environmental management practices". The authors highlighted the ways in which campuses can reduce the negative effects of environmental pollution and make campuses more environmentally sustainable. To ensure greater sustainability, the authors suggest a framework for a more appropriate method of achieving campus sustainability. This framework integrates three strategies: the university Environmental Management System (EMS); public participation and social responsibility; and promoting sustainability in teaching and research. The framework could address the shortcomings of the current environmental management practices at universities.

Table 3 Most influential article in the sustainable institute research.

Authors	Title	
		Citations
Seelos and Mair (2005)	Social entrepreneurship: Creating new business models to serve the poor	703
Shepherd and Patzelt (2011)	The New Field of Sustainable Entrepreneurship: Studying Entrepreneurial Action Linking "What Is to Be Sustained" With "What Is to Be Developed"	
Alshuwaikhat and Abubakar (2008)	An integrated approach to achieving campus sustainability: assessment of the current campus environmental management practices	585
Lozano (2006)	Incorporation and institutionalization of SD into universities: breaking through barriers to change	546
Gulbrandsen and Smeby (2005)	Industry funding and university professors' research performance	519
Lozano et al(2015)	A review of commitment and implementation of sustainable development in higher education: Results from a worldwide survey	516
Rieckmann (2012)	Future-oriented higher education: Which key competencies should be fostered through university teaching and learning?	501
Kuckertz and Wagner (2010)	The influence of sustainability orientation on entrepreneurial intentions - Investigating the role of business experience	467
Patzelt and Shepherd (2011)	Recognizing opportunities for sustainable development	372
Salvia (2019)	Assessing research trends related to Sustainable Development Goals: local and global issues	307

Source: Scopus Database

Figure 2 lists the most prominent authors in sustainable institute research. Leal Filho W is the most prominent author in the domain of sustainable institute research. He has published 18 papers in the area of sustainable institutes. Huising D and Salvia AL have published 13 and 9 papers, respectively, in the area of sustainable institutes. Other prominent authors in the field of sustainability are Lozano R, Rieckmann M and Adombent M.

4.5. Knowledge foundations of sustainable institute research through cocitation analysis

Co citation analysis demonstrates the foundational knowledge of a topic through semantic connections of cocited references (Donthu et al., 2021). The co citation map of references cited at least seventy times in the review corpus's articles is shown in Figure 3. Rieckmann, Sterling, Godemann and Ferrer-balas (red nodes) have highly cited papers in a definite area of sustainable institute research. Lozano, Huising, Lambrechts and Culemans (green nodes) have highly cited the work of a definite area of sustainable institute research. Leal Filho, Caeiro and Shiel (blue nodes) have highly cited the study of a specific area of sustainable institute research. However, Trencher and Zilahy (yellow nodes) have highly cited the work of a particular area of sustainable institute research.

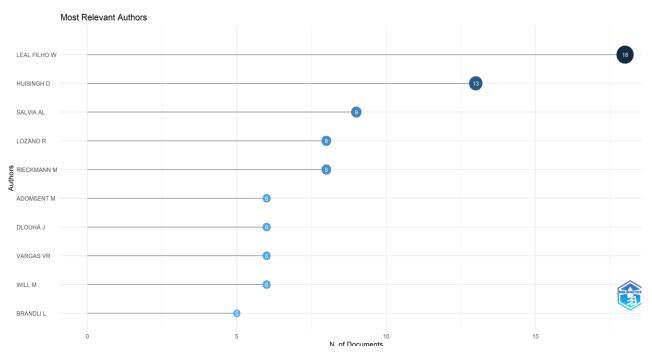


Figure 2 Prominent authors for sustainable institute research.

Source: Author's compilation.

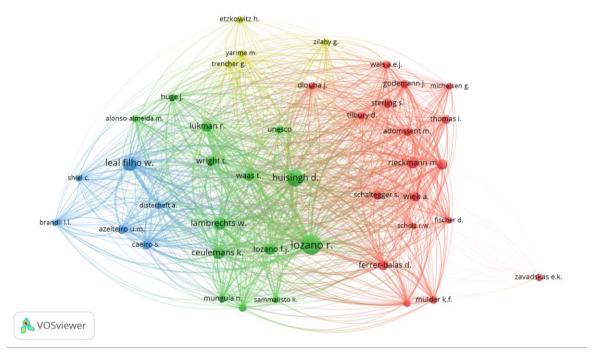


Figure 3 Cocitation of references cited by articles on sustainable institute research. *Source:* Author's compilation.

4.6. Thematic and influence structure analysis through bibliographic coupling

Table 4 illustrates the theme clusters of sustainable institute research using bibliographic coupling. The five issue groups are sustainability education, innovation and research, social responsibility and environmental management, sustainable development and curricula and sustainable development goals. The highly cited papers from each cluster are shown in Table 4. All facets of sustainable institute research are covered by five categories.

Sustainability education is explained in cluster 1.(Hess & Maki, 2019) contributed to the area of sustainability education and climate change. The research, which uses a survey of American people with college degrees, shows conflicting findings about reluctance to change one's beliefs and substantial evidence for selective exposure bias. To overcome selective exposure bias and, for certain students, resistance to belief change, this study supports the policy aim of making climate

education a required curriculum subject. (Aurandt & Butler, 2011) designed two methods to incorporate sustainability into engineering curricula. Two strategies are presented: (1) redesigning current courses by creating fresh curriculum materials that fulfill the course objectives and (2) creating upper division elective courses that go in-depth on particular sustainability-related subjects such as life-cycle assessment or manufacturing.

Table 4 Thematic clusters of sustainable institute research through bibliographic coupling.

Theme	Authors	Title	TC
Sustainability education	Hess D.J.; Maki A.	Climate change belief, sustainability education, and political values: Assessing the need for higher-education curriculum reform	42
	Aurandt J.L.; Butler E.C.	Sustainability education: Approaches for incorporating sustainability into the undergraduate curriculum	39
Innovation and research	Gulbrandsen M.; Smeby J C.	Industry funding and university professors' research performance	519
	Horbach J.; Oltra V.; Belin J.	Determinants and Specificities of Eco-Innovations Compared to Other Innovations-An Econometric Analysis for the French and German Industry Based on the Community Innovation Survey	257
social responsibility and environmental management	Setó-Pamies D.; Papaoikonomou E.	A Multilevel Perspective for the Integration of Ethics, Corporate Social Responsibility and Sustainability (ECSRS) in Management Education	118
	Alshuwaikhat H.M.; Abubakar I.	An integrated approach to achieving campus sustainability: assessment of the current campus environmental management practices	585
sustainable development and curricula	Lozano R.; Ceulemans K.; Alonso-Almeida M.; Huisingh D.; Lozano F.J.; Waas T.; Lambrechts W.; Lukman R.; Hugé J.	A review of commitment and implementation of sustainable development in higher education: Results from a worldwide survey	516
	Lozano R.	Diffusion of sustainable development in universities' curricula: an empirical example from Cardiff University	289
sustainable development goals	Salvia A.L.; Leal Filho W.; Brandli L.L.; Griebeler J.S.	Assessing research trends related to Sustainable Development Goals: local and global issues	307
	Leal Filho W.; Shiel C.; Paço A.; Mifsud M.; Ávila L.V.; Brandli L.L.; Molthan-Hill P.; Pace P.; Azeiteiro U.M.; Vargas V.R.; Caeiro S.	Sustainable Development Goals and sustainability teaching at universities: Falling behind or getting ahead of the pack?	298

Source: Scopus Database

Cluster 2 involves research on innovation and research activities.(Gulbrandsen & Smeby, 2005) investigated the correlation between industry funding and research performance. The authors find that there is a significant correlation between industry funding and research performance based on data from a questionnaire study among all tenured university professors in Norway (N = 1967). Professors with industrial funding describe their research as applied more often, collaborate with other researchers in academia and industry more frequently, publish more scientific articles, and report more entrepreneurial results. Despite variations in national innovation systems, (Horbach et al., 2013) are able to identify striking commonalities regarding the many causes of eco-innovations using a fully harmonized econometric model for the two nations. The findings validate that, in contrast to other breakthroughs, regulation and cost reductions play a pivotal role in driving eco-innovations. Additionally, additional outside expertise and information sources are needed for eco-innovative operations.

Cluster 3 includes research on social responsibility and environmental management. To enhance students' knowledge and attitudes, (Setó-Pamies & Papaoikonomou, 2016) suggest an integrated and comprehensive method to direct the integration of sustainability, corporate social responsibility, and ethics in management education. The institutional, curricular, and instrumental levels of analysis are the three interdependent levels of analysis that are taken into consideration in this approach. When combined, these levels of analysis have a leverage impact on student learning. The authors identify the primary concerns and factors for each level based on a thorough evaluation of the relevant literature. Through the integration of three strategies—the university environmental management system (EMS), public participation and social responsibility, and promoting sustainability in teaching and research—this paper by (Alshuwaikhat et al., 2016) offers a framework for a more appropriate approach to achieving campus sustainability. This framework could address the shortcomings of the current environmental management practices at universities and ensure greater sustainability.

Cluster 4 included research on sustainable development and curricula. (Lozano et al., 2015b) conducted a study on the implementation of sustainable development practices in their education system. The results revealed that a primary factor in

the adoption of sustainable development and the signature of a declaration, charter, or initiative was the dedication of academic leadership. The research team made recommendations for leaders in higher education, such as recognizing that the system of higher education institutions is composed of multiple interconnected elements; planning to integrate sustainability into policies and strategies; and demonstrating commitment by endorsing a declaration, charter, or initiative.(Lozano, 2010) conducted a study to implement sustainable development practices in curricula. According to the analysis of the adoption and diffusion of sustainable development, some schools may be "innovators" in a certain sense, but when the total contribution of sustainable development—that is, the connections and synergies between social, environmental, economic, and cross-cutting themes—is considered, these schools may not necessarily be classified as "innovators."

Cluster 5 includes research on sustainable development goals.(Salvia et al., 2019) conducted a study on the main sustainable development goals implemented by different experts from different countries. A total of 266 professionals from the following regions participated in the survey: Africa, Asia, Europe, Oceania, Latin America/Caribbean, and North America. It may be concluded from the sample that there is a relationship between the primary areas of interest of the experts polled and the local issues or challenges seen in certain places, with a focus on goals 4, 11, and 13. This study examines the degree to which some sustainable development goals are being investigated globally and provides a number of examples of both favorable and unfavorable circumstances in various areas based on the collected data.(Leal Filho et al., 2019) investigated the advantages of implementing sustainable development goals in teaching. This research is unique since it provides a summary of how much importance certain colleges now focus on the SDGs for the first time. Ultimately, it advances the existing state of knowledge by describing a few steps that colleges might take to further their implementation.

5. Future research directions

Various studies have been conducted on the implementation of sustainability in higher education institutions. However, very few studies have been conducted on how to incorporate policies and practices related to sustainability in higher education institutions. Future researchers can analyze the various types of sustainability practices that HEIs can implement to achieve the goal of sustainability. Research and development activity is one of the most important activities in a higher educational institute and the most genuine way of new knowledge creation. Therefore, future researchers can also study how to incorporate sustainability in the R&D activities of higher educational institutes.

Future researchers can also conduct studies on social responsibility activities organized by higher educational institutes. Various institutes organize blood donation camps, helping the children of slum dwellers in education, etc., to uplift society. Future researchers can conduct research on how these social responsibility activities can incorporate sustainability into the higher education system. Very few universities around the globe have an efficient environmental management system and how it influences the sustainability of the institute. Therefore, future researchers can perform research on the environmental management system within the institute.

The curriculum is a crucial element of a higher educational institute. There are various studies on how to implement sustainability elements in the curriculum, but very few studies have investigated how to design a complete subject or course solely dedicated to sustainability teaching for students. Therefore, future researchers can define a unique course on sustainability for students that will help them to be conversant with major sustainability principles. Future researchers can study the type of leadership trait and its impact on the implementation of sustainability in higher educational institutes. Future researchers can also conduct studies on all 17 sustainable development goals and how directly or indirectly they can impact higher education institutions.

Many studies have identified the variables that can promote sustainability in higher education; however, no thorough and integrated conceptual framework explaining the contextual relationship between the variables and identifying all of the enablers has been investigated up to this point in the Indian context. Future researchers can build a framework that will explain all the enablers of sustainability of a higher educational institute. To date, there is no suitable scale for measuring the sustainability of a higher education institution, so future researchers can develop and validate a scale.

6. Final considerations

Bibliometric studies may help with building collections, explaining citation patterns and institutional scholarly strengths, and identifying observable networks of cocited schools of thought. The research trends, topic development, and significant studies in sustainable institute research have all been visualized in this paper. Data extraction and analysis were performed using the largest biographies database, Scopus. This study outlined the history of sustainable institute research as well as potential future research areas for academics. To provide policymakers and practitioners with greater insights, researchers may look into the new field of sustainable institute research. In this sense, the current study has advanced the knowledge of the evolving fields, future directions, and research development of sustainable institute areas.

The scope of the study is restricted to the bibliometric examination of biographical information taken from the Scopus database alone. Since numerous high-quality papers are included in only one of Scopus or Web of Science, future

research might be conducted utilizing integrated bibliographies data from both sources. Furthermore, to comprehend the research paradigm from high-quality publications, future studies may employ bibliometric analysis of publications published on the SCI, SSCI, and ABDC lists. While extracting the data from Scopus, the researcher only considered publications in the English language and ignored publications in languages such as French, German, Spanish, and Chinese. Future researchers may consider journals in such languages to further explore the area of sustainable institute research. Furthermore, the researchers considered bibliometric data only from the business and management domain. Future researchers may also include bibliometric data from other domains to achieve greater insights into sustainable institute research.

7.Implications of the Study

There are several ramifications of the current study for academics, researchers, marketers, and business owners. A general understanding of the current research in this field should be provided. By being aware of the significant and well-known researchers in this field and the factors that led them to assume such a role, readers will be able to use these articles to address current issues in academia and business. In addition, it would help them identify gaps in the current literature and prospective study areas that will support their ability to carry out more investigations. Additionally, it will help researchers publish their papers in highly influential journals.

Acknowledgment

The authors are very thankful to their universities (IFCAI university and UPES, Dehradun) for providing all the support.

Ethical considerations

Not applicable.

Conflict of Interest

The authors declare no conflicts of interest.

Funding

This research did not receive any financial support.

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