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Research Trends and Networks in Sustainability Reporting: A Bibliometric Approach

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Abstract

This study uses a bibliometric analysis method to examine the development and trends in sustainability reporting (SR) research from 2014 to 2024. Increased awareness of sustainability and the development of international regulations and standards have driven the importance of sustainability reporting, which includes reporting information on environmental, social, and governance (ESG) aspects, in the modern business world. We conducted this analysis using data from the Scopus database and VOSviewer software for network visualization and statistical analysis. The results show that SR topics are often associated with corporate social responsibility (CSR) and corporate governance, with the geographical distribution of research dominated by developed countries such as the UK, Italy, and the US. In addition, the author's network visualization reveals clustering by research topic, which facilitates the analysis of linkages and collaboration among authors. This research provides useful guidance for researchers and practitioners in understanding the sustainability research landscape and strategically directing future studies, as well as helping policymakers design more effective policies to encourage sustainability reporting.

Keywords: Corporate Governance, Corporate Social Responsibility, Sustainability Reporting

1. Introduction

1.1 Introduce the Problem

Sustainability reporting has become one of the important practices in the modern business world, which aims to present non-financial information related to environmental, social, and governance (ESG) aspects. In recent years, sustainability reporting has become a major concern for researchers, regulators, investors, and other stakeholders. Increased awareness of the importance of sustainability encourages companies to be more transparent in communicating their ESG performance, which in turn affects their reputation and competitiveness in the global market (Manita et al., 2018). The development of international reporting regulations and standards, such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and Task Force on Climate-related Financial Disclosures (TCFD), has played a significant role in driving the adoption of sustainability reporting practices across industries (De Micco et al., 2021). These standards provide a systematic

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and comprehensive framework for companies to report their sustainability performance in a structured and comparable manner (Bosi et al., 2022). As a result, more companies are realizing the strategic benefits of sustainability reporting, including increased transparency, risk mitigation, and improved long-term performance.

However, Santos et al. (2024) highlight several underlying issues that underscore the need for research on sustainability reporting, despite this increasingly common practice. First, there are significant gaps in the quality and consistency of sustainability reports between companies. Some companies may only report positive aspects of their performance and ignore or minimize information on negative impacts, known as greenwashing. Second, there remains a lack of clarity regarding the most relevant and meaningful metrics and indicators to include in sustainability reports. Different standards and approaches to sustainability reporting make it difficult to make comparisons across companies and sectors (Diwan & Amarayil Sreeraman, 2024). This lack of uniformity can hinder efforts to effectively assess and manage sustainability performance at the global level. Third, there is an urgent need to understand the true impact of sustainability reporting on investment decisions and firm performance (Hongming et al., 2020). Therefore, we need to conduct further research to elucidate the mechanisms and conditions that enable sustainability reporting to yield tangible benefits for firms.

Bibliometric research on sustainability reporting offers deep insights into research trends, geographical distribution, collaboration between researchers, as well as key themes developing in this literature. The bibliometric approach allows researchers to quantitatively analyze publication data, identify patterns in the literature, and understand the development of research over time (Donthu et al., 2021). Moreover, this analysis also helps in identifying existing research gaps and steering future studies in more promising directions. As the focus on sustainability grows, bibliometric analysis becomes crucial in assessing the academic literature's exploration of this topic. The purpose of this study is to identify the main trends, leading journals, most prolific authors, as well as key themes emerging in research on sustainability reporting. This analysis is expected to guide researchers and practitioners in understanding the sustainability research landscape and steer future studies in a more strategic and impactful direction (Amorelli & García-Sánchez, 2021). In addition, a deeper understanding of the dynamics of research in this field can assist policymakers in designing more effective policies to encourage sustainability reporting. For example, the identification of dominant research trends and themes can provide insights into the most pressing sustainability issues that require immediate attention. This will enable researchers, companies, and policymakers to work together to address sustainability challenges in a more holistic and coordinated manner (Rinaldi, 2020).

1.2 Literature Review

Sustainability reporting has become a major focus in academic literature and business practice in recent years. Mahmood et al. (2024) emphasize that sustainability reporting involves disclosing information on environmental, social, and governance (ESG) aspects, with the goal of enhancing the transparency and accountability of companies towards their stakeholders. It provides a comprehensive picture of how companies manage the impact of their operations on the environment and society. Research shows that sustainability reporting can improve corporate reputation, financial performance, and stakeholder relationships. Manita et al. (2018) mentioned that sustainability reporting helps companies build trust with investors and the wider community, which in turn can increase company value. Rinaldi (2020) also found that companies with good sustainability reporting practices tend to have more stable and sustainable financial performance due to better risk management and increased operational efficiency.

In addition, sustainability reporting also plays an important role in ensuring that companies meet international regulations and standards related to sustainability (Moodaley & Telukdarie, 2023). As global awareness of environmental and social issues increases, many governments and international organizations have established sustainability reporting standards to ensure companies are accountable for their operational impacts (Khemakhem et al., 2023). Research shows that sustainability reporting is not only beneficial for companies in meeting regulatory obligations but also as a strategic tool to achieve a competitive advantage. In this context, sustainability reporting allows companies to demonstrate their commitment to sustainable business practices, which can be a determining factor in investment decisions by investors concerned with ESG (Haque & Jones, 2020).

Research on sustainability reporting has grown rapidly, with a significant increase in the number of publications in recent years. Donthu et al. (2021) found that bibliometric analysis helps identify global trends, geographical distribution, and collaboration among researchers in sustainability reporting research. Developed countries such as the United States, United Kingdom, and Germany lead in the number of sustainability reporting-related studies, reflecting the high level of adoption and reporting in these regions. This suggests that in these countries, companies are more likely to report on their sustainability performance, either due to regulatory pressure or stakeholder demands (Murdayanti & Khan, 2021). On the other hand, research also shows that developing countries are starting to show improvements in sustainability reporting, although there are still significant challenges related to awareness and limited resources (Haque & Jones, 2020).

Inter-researcher and inter-organizational collaboration is an important element in sustainability reporting research. The study by Rinaldi (2020) shows that collaboration improves the quality and impact of research, with universities in Europe and North America often at the center of collaboration, accelerating the spread of knowledge and best practices in sustainability reporting. This collaborative research often results in more comprehensive and innovative insights, as it involves diverse perspectives from different disciplines and geographical contexts. These partnerships also help solve methodological and technical problems in research on sustainability reporting. For example, they help make more accurate metrics to measure sustainability performance and learn more about the factors that affect the adoption of sustainability reporting in various industries and regions (Di Vaio et al., 2021). Overall, the literature on sustainability reporting shows the importance of it in academic research and business practice. Through bibliometric analysis, researchers were able to identify key trends, research themes, and collaborations between researchers and institutions in this field (Donthu et al., 2021). This research not only provides an in-depth insight into the development of sustainability reporting but also helps steer future research in a more strategic and impactful direction. As the field progresses, we anticipate a greater integration of sustainability reporting practices into daily business operations, thereby enhancing corporate responsibility and promoting global sustainability (Benameur et al., 2024).

2. Method

This research uses the bibliometric analysis method to examine developments and trends in sustainability reporting research. Bibliometric analysis allows researchers to identify publication patterns, author collaboration, and major research themes within a field of study. This method is very useful for exploring scientific evolution, geographical distribution, and individual or institutional contributions in sustainability reporting research (Donthu et al., 2021). We obtained the research data from the Scopus database, a reliable source of scientific information spanning a wide range of disciplines. We conducted the search using the keywords "corporate social responsibility," "ESG," "corporate governance," and "sustainability reporting" to ensure comprehensive coverage. We selected articles published within the last 10 years (2014-2024) to gain a current understanding of sustainability reporting research trends.

We screened the articles from the initial search using inclusion and exclusion criteria. Articles focused on sustainability reporting and published in peer-reviewed journals met the inclusion criteria. We excluded irrelevant articles, such as those focused on other topics or not peer-reviewed, from the analysis. This screening process is important to ensure that the data analyzed is representative and relevant to the research topic (Donthu et al., 2021). Bibliometric analysis was conducted using VOSviewer software that allows network visualization and statistical analysis.

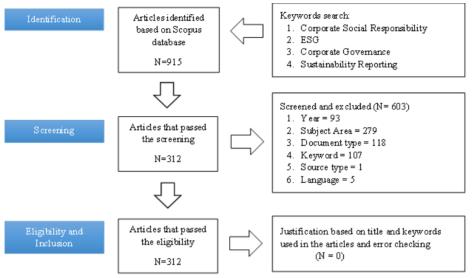


Figure 1: Research Protocol Source: Data Processed, 2024

3. Results and Discussion

The graph in figure 2 shows the number of publications published per year related to a specific topic in the Scopus database from 2014 to 2024. Overall, there is an increasing trend in the number of publications published from 2014 to 2024, albeit with some fluctuations in certain years. In 2020, there was a significant increase in the number of publications published—almost doubling from the previous year, from 20 publications in 2019 to around 40 publications in 2020. This indicates a surge in interest or attention to sustainability reporting. The significant spike in 2020 and peak in 2023 could be due to various factors, such as increased awareness and attention to sustainability reporting, the introduction of new policies, or increased research funding in related fields. The decline in 2024 occurs because it is still in the mid-year period. Since the previous year saw a significant increase, the possibility of an increase in the number of publications in 2024 is very high.

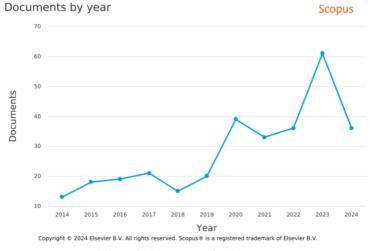


Figure 2: Documents by Year Source: secondary data (processed, 2024)

Figure 3 and Table 1 show the geographical distribution, with some countries dominating in the number of publications. Based on data from Scopus, the United Kingdom takes the top spot with 54 publications, reflecting the high level of attention and commitment to sustainability reporting research in the country. Italy and the United States follow close behind with 38 publications each, demonstrating the important role these countries play in academic contributions to sustainability reporting. Australia and Spain also show strong contributions with 24 and 22 publications, respectively, followed by Germany with 19 publications and Canada with 17 publications. These countries show that sustainability reporting is not only a concern in English-speaking countries but also in Europe more broadly.

In Asia, Malaysia emerged as a significant contributor with around 19 publications. Indonesia, with 11 publications, completes the list, reflecting a strong start in research contributions in the Southeast Asian region. With 16 and 14 publications, respectively, India and Bahrain demonstrate the widespread attention to sustainability reporting across continents and diverse economies. This distribution suggests that sustainability reporting has become a global research topic with significant contributions from both developed and developing countries. This distribution also reflects differences in regulations, policies, and awareness of sustainability in different countries. As environmental, social, and governance (ESG) issues gain more attention, we anticipate an increase in the number of countries contributing to sustainability reporting research.

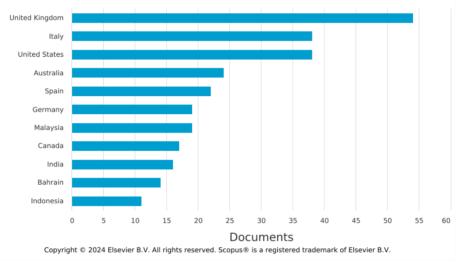


Figure 3: Documents by Country or Territory Source: secondary data (processed, 2024)

Table 1: Documents by Country or Territory

Documents by	Number of
Country or Territory	Publications
United Kingdom	54
Italy	38
United States	38
Australia	24
Spain	22
Germany	19
Malaysia	19
Canada	17
India	16
Bahrain	14
Indonesia	11

Source: secondary data (processed, 2024)

The visualization of Figure 4 shows that sustainability reporting (SR), corporate social responsibility (CSR), and corporate governance are the most prominent terms, located at the center of the network and larger in size. This suggests that these three topics are often the main focus of sustainability-related research. We can divide the findings into four clusters. The green cluster reveals a relationship between corporate governance, the board of directors, and ownership structure, suggesting that numerous studies establish a connection between SR and corporate governance. This reflects the importance of governance structures in the implementation and reporting of sustainability practices in companies. Furthermore, the red cluster frequently features corporate social responsibility (CSR), voluntary disclosure, and sustainable development goals (SDGs) as research topics, suggesting that CSR and voluntary disclosure frequently inform discussions on SR. Research in this cluster highlights how companies integrate SR into their CSR framework and their contribution to sustainable development goals.

The yellow cluster, which includes studies on gender diversity, board gender diversity, and foreign ownership, focuses on the demographic and structural factors in corporate governance that can impact sustainability reporting (SR). This research often explores how gender diversity and foreign ownership impact sustainability reporting practices. Lastly, the orange cluster showcases research on the disclosure index and environmental reporting, emphasizing the tools and metrics utilized for SR assessment. Research in this cluster typically focuses on how companies measure and report their environmental performance and the development of disclosure indices as evaluation tools.

This visualization shows that SR is a complex and interconnected research area with various aspects of corporate governance, social responsibility, and disclosure. We cannot separate the study of SR from the broader context of corporate responsibility and good governance due to the strong interconnections between "sustainability reporting," "corporate social responsibility," and "corporate governance." In addition, research that focuses on demographic and structural factors in corporate governance, such as gender diversity on boards of directors, indicates a concern for inclusion and diversity in the context of SR. The emphasis on measurement tools such as the "disclosure index" also suggests that there is an ongoing effort to develop reliable metrics to assess corporate sustainability performance. Overall, this bibliometric analysis provides an in-depth understanding of the key themes in SR research and their interconnections. This visualization assists in pinpointing extensively explored research areas and highlighting potential areas that necessitate additional investigation. For example, as depicted in the yellow cluster, corporate governance mechanisms frequently associated with SR research include board characteristics and ownership structure. This finding suggests that research on SR has not fully explored the role of audit committees, whose primary responsibility is to monitor a company's financial reporting quality (Agyei-Mensah, 2019; Al Lawati et al., 2021; Rochmah Ika & Mohd Ghazali, 2012). Hence, it provides a suggestion that future research may explore the role of audit committees in the disclosure of SR.

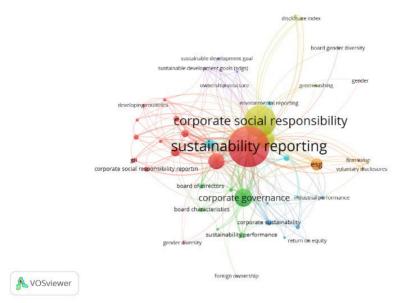


Figure 4: Co-Occurance Network relationship graph Source: secondary data (processed, 2024)

Figure 5 depicts a visualization of the author network divided into four clusters marked in red, blue, green, and yellow. Each cluster represents a close-knit group of authors in their respective research areas. The red, blue, green, and yellow clusters represent groupings based on specific research areas covering topics such as sustainability reporting (SR), corporate social responsibility (CSR), and corporate governance. This visualization provides a clear picture of how these authors relate to each other and form collaborative networks based on their research interests and focus. This clustering reveals that authors within the same cluster often share similar research topics, simplifying the analysis of their links and collaborations. This also helps in understanding the research map in SR, CSR, and corporate governance and how authors contribute to the development of knowledge in these areas.

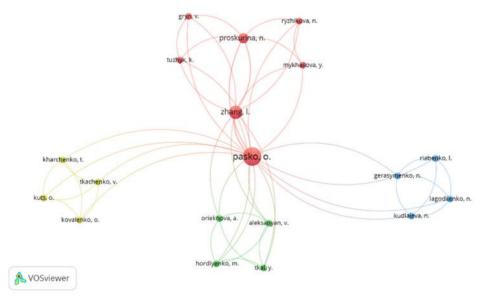


Figure 5: The Author's Network relationship graph Source: secondary data (processed, 2024)

4. Conclusions

This study provides in-depth insights into developments and trends in sustainability reporting (SR) research through bibliometric analysis. Corporate social responsibility (CSR) and corporate governance often link to the

topic of SR, reflecting the complexity and interconnectivity of sustainability issues in the modern business context. Developed countries such as the UK, Italy, and the US lead in the number of publications, but developing countries are also beginning to show their contributions. Inter-researcher and inter-institutional collaborations, especially in Europe and North America, are improving the quality and impact of SR research. The author network visualization shows clustering by research topic, facilitating analysis of linkages and collaborations among authors. This analysis assists researchers in identifying future studies, including a suggestion to explore the effectiveness of audit committees in SR research. The findings also assist practitioners and policymakers in comprehending the sustainability research landscape and crafting more effective policies to promote sustainability reporting.

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