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BIBLIOMETRIC ANALYSIS OF ACCOUNTING AND CORPORATE SUSTAINABILITY RESEARCH: TRENDS AND INSIGHTS

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Abstract

This study aims to identify prominent current and future trends within the realm of accounting and corporate sustainability, drawing from the Web of Science database and focusing on publications from 2014 to 2023. Additionally, this literature review seeks to highlight pivotal concepts and establish a foundation for future research in accounting and corporate sustainability through bibliometric analysis. The investigation identifies key popular keywords, influential authors, highly cited journals, and the countries with the greatest impact in the field. Utilizing the VOSviewer tool, the study analyzes data regarding keyword relationships and their geographical distribution. Overall, 1,574 publications collected from the Web of Science are designated. The discoveries emphasize the substantial scholarly attention directed towards topics in accounting and corporate sustainability, highlighting the current theoretical understanding of the profound transformation in sustainable accounting practices and corporate social responsibility. This reflects the dynamic and coordinated nature of the green ecosystem.

Keywords: Accounting, Corporate Sustainability, Green accounting, Environmental accounting, Sustainable development.

1. INTRODUCTION

Following escalating environmental and social demands, the gathering of accounting practices and corporate sustainability has become a crucial area of both academic inspection and practical application (Laine et al., 2021). Recognizing the important role of sustainable development, a growing number of large corporations are adopting environmental policies and sustainability management practices (Awan et al., 2019; Al-Faouri et al., 2024a). These

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practices not only help preserve resources and reduce costs but also protect the environment from harmful impacts and operations (Izzo et al., 2020). Environmental accounting, an emerging field within social science, serves as a tool for observing environmental activities within industrial facilities, aiming to diminish environmental violations and related costs (Krishna et al., 2017; Pramanik et al., 2007). Faced with progressively severe global environmental changes, organizations encounter countless challenges in their efforts to reduce their negative environmental effects (Buckingham & Nilakant, 2016).

One leading approach that has captured the attention of both academics and practitioners is Environmental Management Accounting (EMA) (Ascani et al., 2021; Schaltegger et al., 2008). EMA connects management accounting and corporate environmental strategies, including cleaner production, and plays a major role in supplying essential information for corporate sustainable development (Bouten & Hoozée, 2013). This shift towards sustainability is driven by environmental regulations and growing environmental alertness among customers, who demand eco-friendly products and services (Suki et al., 2016).

With the rising acknowledgment of environmental issues, particularly global warming, there is a crucial demand for research to help businesses in resource allocation and decision-making (Ren et al., 2018). The challenge of economic sustainability lies in implementing constructive environmental and social management as cost-effectively as possible (Reed et al., 2016; Luque-Vílchez et al., 2023). Profit-oriented companies, operating in competitive environments, are designed and managed primarily to attain economic objectives (Brunner & Rechberger, 2015). Thus, environmental conservation and social liability must strengthen value, contribute to profitability, or at least reduce costs (Okpara & Idowu, 2013).

This paper undertakes a comprehensive bibliometric analysis to discover the vast amount of works of literature at the intersection of accounting and corporate sustainability. Through systematic examination and quantitative assessment of research publications, this study aims to clarify the evolving landscape of this integrative multidisciplinary field, assessing the prevailing trends, key contributors, and emerging insights.

The complexity of the relationship between accounting methodologies and corporate sustainability practices has considerable implications for corporate firms, policymakers, and society at a large scale (Gatto, 2020). As firms face incremental pressures to implement environmental and social responsibility into their operative actions, accounting's role in estimating, disclosing, and managing sustainability performance has become increasingly urgent (Taliento et al., 2019). Scholars and practitioners recognize the urgency of understanding the relationship between these realms, leading to a high demand for research activity in recent years.

Through a comprehensive overview, this paper presents the scholarly work on accounting and corporate sustainability. It directs key questions, including the identification of main research themes and subfields, influential authors and institutions, and important trends and intuitions. Using accurate bibliometric analysis, the study aims to offer valuable insights to guide and map future research, inform policymakers, and help practitioners navigate a path through the dynamic landscape of corporate sustainability and accounting.

In recent years, transparency, accountability, and sustainability in business operations have emerged as imperative critical priorities for corporate shareholders worldwide. This heightened focus underscores the need for a deeper understanding of how organizations can align their practices with ethical standards and sustainable development goals. In response to this demand, the present bibliometric analysis offers a timely and comprehensive exploration of the intersection between accounting and corporate sustainability—a domain with profound implications for organizational resilience, ethical governance, and global societal well-being.

2. METHODOLOGY

Bibliometric analysis serves as a cornerstone in the systematic evaluation of scholarly research, particularly within the domains of accounting and corporate sustainability. This methodological approach involves a quantitative examination of publication patterns, citation networks, and collaborative dynamics among authors, journals, and nations (Aljawarneh et al., 2023). By leveraging statistical techniques to analyze large datasets, bibliometric studies provide valuable insights into the structure, evolution, and dynamics of research landscapes. Such analyses not only illuminate prevailing trends but also identify influential contributors and high-impact research outputs, thereby enhancing the understanding of academic progress within specific fields (Albalawee et al., 2024; Oh & Lee, 2020).

The utility of bibliometric methods extends beyond mere enumeration of publications or citations. These studies enable researchers to map intellectual networks, assess the impact of seminal works, and recognize key opinion leaders who shape disciplinary discourse. Furthermore, they offer a mechanism for evaluating the quality and relevance of research contributions, ensuring that scholars remain abreast of emerging paradigms and shifting priorities (Abu Huson et al., 2024; Al-Faouri et al., 2024b). In an era characterized by rapid knowledge production and interdisciplinary collaboration, bibliometric tools are indispensable for navigating the complexities of modern academia and fostering evidence-based decision-making.

Furthermore, in this study, scientific mapping was incorporated into the bibliometric analysis, an approach which consolidates domain analysis and visualization, assisting the handling of extensive scientific literature. Visualizing the conceptual framework of the study topic is aided by scientific mapping, allowing present and future research trends to be identified, highlighting literature gaps, and identifying influential figures in the field of accounting and corporate sustainability across authors, journals, and nations (Albalawee et al., 2024; Pessin et al., 2022). Evidence-based recommendations can be provided by this integrated approach for academic future research, advancing knowledge in these fields of the domain. Researchers can be empowered to make informed decisions, identify research gaps, and add meaningful value to scholarly debates with quantitative insights through this strong framework. The research plan is outlined in four sections, as detailed below.

2.1 Data Gathering

To move further with knowledge in the academic field, identifying research gaps and trends is important (Abu Huson et al., 2024). Even though accounting and corporate sustainability have been studied, a detailed evaluation is crucial to roadmap future research. Scientific metric analysis is employed to pinpoint focus areas of concentrated research and literature gaps related to sustainable development, environmental accounting, and corporate social responsibility.

The analysis was conducted using the Web of Science (WoS) core collection of research publications, with targeted keyword-based search queries covering the period from 2014 to 2023. This timeframe ensures coverage of the latest trends and contributions in accounting and corporate sustainability. This methodology guarantees accuracy and comprehension by selecting relevant, accessible, and credible literature from accounting, economics, and management journals following a vast screening process. The analysis included 1574 papers, employing both theoretical and empirical methods to analyze titles and keywords.

2.2 Research Database Selection

Dimensions, Google Scholar, Web of Science (Clarivate), and Scopus were all considered for selection as the research database for analyzing bibliographic data. For this scientometric investigation into accounting and corporate sustainability, Web of Science was ultimately selected to expand the possible number of scientific papers. The WoS Core Collection database, specifically "the Science Citation Index Expanded" and "the Social Sciences Citation Index", was utilized due to its comprehensive index of peer-reviewed articles containing dependable bibliographic information.

The selection of the WoS database was influenced by its widespread recognition and use among researchers, and its advantageous status for exploring scientific articles. WoS entries involve important details such as publication year, title, summary, authors, author affiliations, journal source, subject categories, and references (Albalawee et al., 2024).

2.3 Keywords and Document Identification

For the selection of relevant scholarly papers, the appropriate keywords were identified based on previous studies on accounting and corporate sustainability. The sentences in Table 1 were entered into the Web of Science Core Collection database using the field tag (ALL). As of September 25, this keyword combination resulted in 1574 publications published between 2014 and 2023. The central focus within the Web of Science Categories was accounting, economics, and management.

Table 1. Keyword detection in the WoS core collection database

Selected Search Terms	Quantity of Documents Exported
ALL=("Sustainable development" AND "Environmental accounting")	52 documents
ALL=(" Sustainable accounting practices")	2 documents
ALL=("Green accounting")	86 documents
ALL=("Corporate Social Responsibility" AND "Corporate sustainability")	752 documents
ALL=("Sustainability reporting" AND "Accounting")	682 documents

2.4 Choosing a Science Mapping Tool

Science mapping is essential for discovering scientific domains, with several notable software tools, such as CiteSpace, HistCite, VOSviewer, and Gephi, now available for this purpose. This study applied data from the Web of Science (WOS) Database, employing VOSviewer to generate maps displaying the networks of scientific articles, journals, researchers, research institutes, countries, keywords, and concepts. These networks encompass co-authorship, co-occurrence, citation, bibliographic coupling, and co-citation connections (Mejia et al., 2021; Abu Orabi et al., 2024). VOSviewer offers three types of visualizations—network, density, and overlay—that foster map visualization and analysis (Qudah et al., 2024). Its scrolling and zooming features enable detailed analysis, specifically for a large amount of maps. Originally intended for bibliometric network studies, VOSviewer can build, display, and analyze maps using various network data (McAllister et al., 2022).

In this paper, VOSviewer was used to reveal patterns in accounting and corporate sustainability, identify less explored research areas, explore promising research directions, and highlight important countries, sources, and authors. Scientometric methods, including bibliographic data analysis, were given priority to achieve this. Co-occurrence analysis was used to identify and assess the most common words in publication titles, keywords, and abstracts. The authors and nationalities contributing to important recent articles were identified using bibliographic coupling (Li et al., 2021).

Scientometrics, which quantitatively studies scientific communication, influence, and policy, estimates the impact of academic research on scientists, collaboration networks, and research corporations (Blümel & Schniedermann, 2020; Al-Faouri et al., 2025). Consequently, this research sheds light on fundamental research publications that contribute to advancing knowledge in sustainable accounting. Accurate statistical methods quantify research outputs, through citation rates, identifying prestigious journals, significant scientists, and the engagement of diverse countries and areas in scientific development. Visualizing these perspectives helps identify areas for research enhancement or excessive representation (Abu Huson et al., 2024).

3. ANALYSIS AND DISCUSSION

3.1 Analysis of Publication Production and The Associated Growth Trend

Publication activity standardizes the output from a diversity of journals, institutions, nations, or other organizations, within a specified timeframe. Measurements of publication activity supply quantitative insights into the development and corporate organization of a field, helping to distinguish top publications, organizations, and countries (Abu Orabi et al., 2024; Kulczycki et al., 2018). These indicators contribute to pinpointing urgent study topics. Microsoft Excel® spreadsheets were employed to investigate qualitative characteristics such as sector, study dimension (cross-sectional or longitudinal), and research methodologies.

This section presents the key findings from bibliometric analysis, examining the literature on accounting and corporate sustainability from 2014 to 2023. The analysis explores the most influential institutions, countries, and authors, and their connections, indicating substantial growth in the literature on accounting and business sustainability.

Figure 1 illustrates the exponential growth of both citations and publications over recent years. The extensive history and evolution of these subjects makes pinpointing their conceptual inception year challenging. In 2014, there were 86 publications, and subsequent years witnessed a notable increase, reaching various peaks. Particularly of note is 2022, in which there was a peak of 233 publications. However, by September 2023, there was a slight decline to 194 publications. Notably, as the year was still ongoing, total publications for 2023 were expected to increase. In total, the 1574 publications had accumulated 8784 citations at the point of data collection, averaging 5.58 citations per publication.

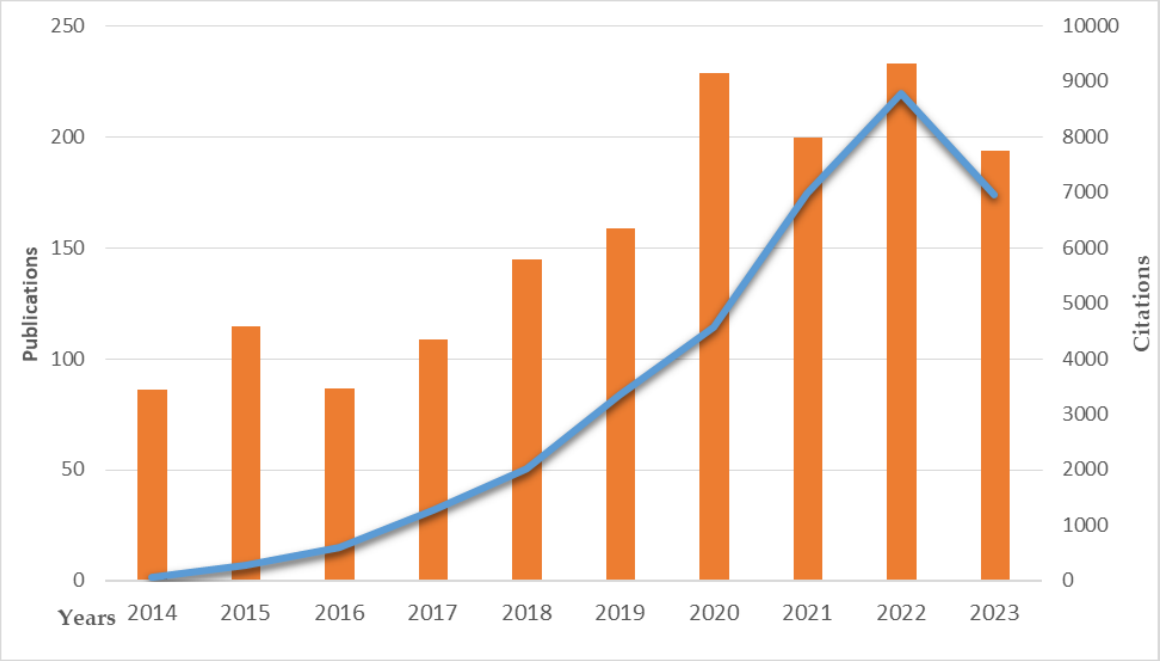
3.2 Top Publications, Journals, and Publishers

In this section, we present the most significant contributions from publications, journals, and publishers pertaining to the topic at hand.

Figure 2 provides a roster of journals that exhibit the highest number of publications and citations in the domain of accounting and corporate sustainability. Leading the list is Sustainability, with an impressive 141 publications and 1741 citations, constituting 23% of the overall citation count. Following closely is Corporate Social Responsibility and Environmental Management with 104 publications and 1547 citations, with other key contributors being the

Journal of Cleaner Production with 84 publications and 978 citations, the Sustainability Accounting Management and Policy Journal with 77 publications and 1025 citations, and Accounting Auditing Accountability Journal with 50 publications and 474 citations. These five journals collectively contribute to 75% of all papers published in the top-tier journals.

Figure1. Publication Years from 2014 to 2023



Note: Bars represents the number of publications each year, while the line graph represents the total number of citations from all articles published that year.

Figure 2. The Most Highly Contributing Journals

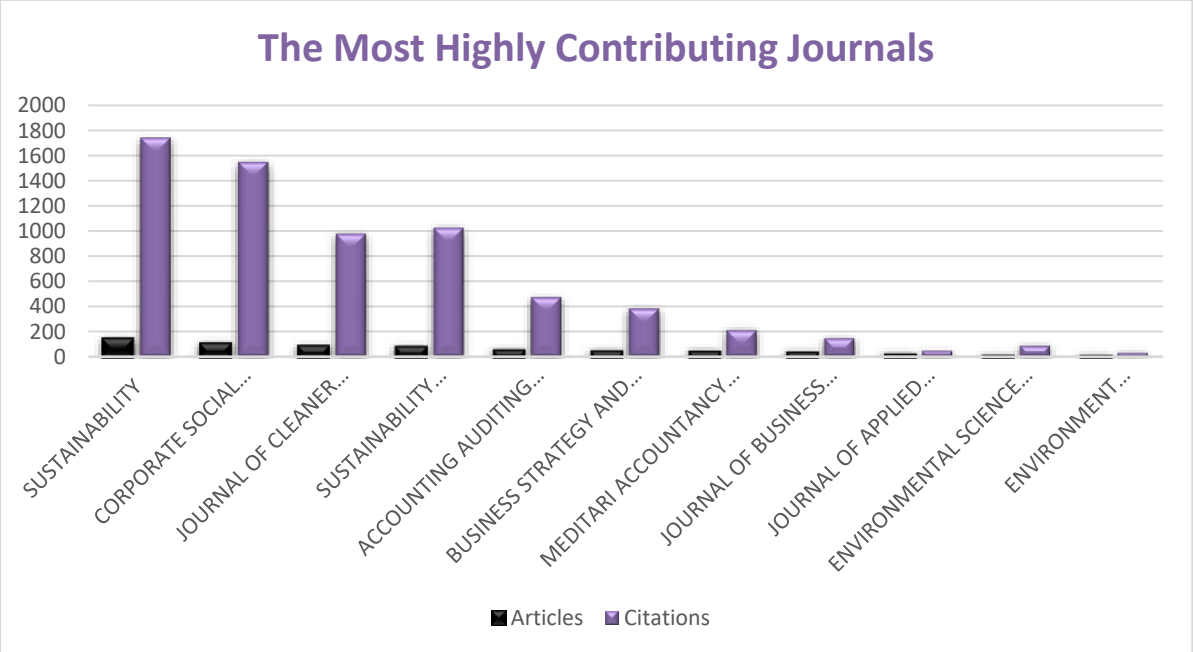
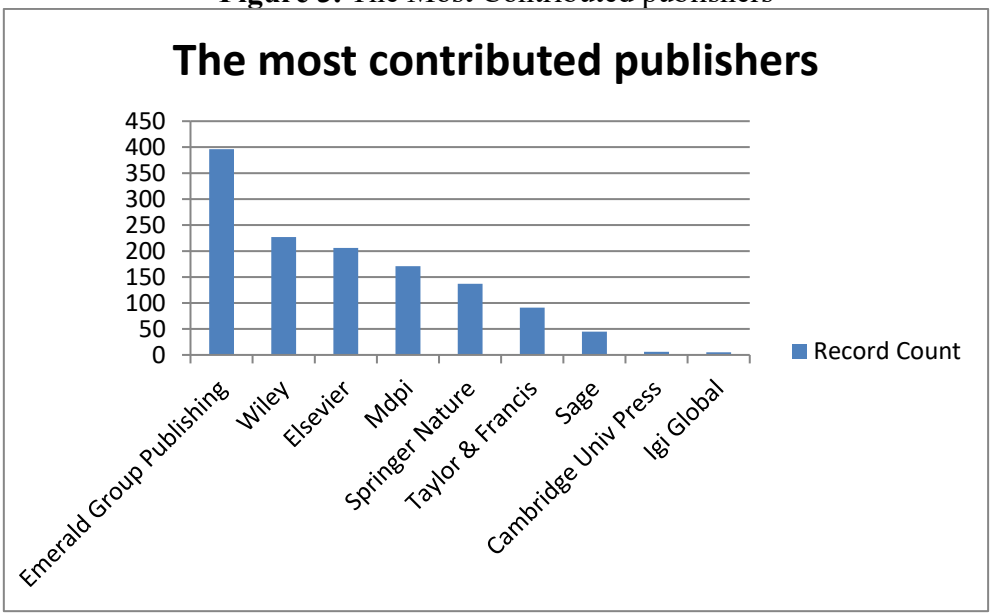


Figure 3 provides a list of publishers who have demonstrated the greatest number of record counts within the field of accounting and corporate sustainability. Taking the top position is Emerald Group Publishing with an impressive 396 record counts, constituting 30%

of the overall tally. Following closely is Wiley with 227 record counts, while Elsevier secures the third position with 206 record counts. These three distinguished publishers together account for a substantial 64% of the entire record counts documented across all publishers as per the WoS database.

Figure 3. The Most Contributed publishers



3.3 Bibliometric Mapping

Bibliometric mapping refers to the process of visually representing and analyzing the patterns and relationships within a body of scholarly literature using bibliometric data. The subsequent sections analyze the various maps generated by VOSviewer, first with a keyword co-occurrence analysis and advancing to a bibliographic coupling of nations and authors.

3.3.1 Keyword Co-occurrence Analysis

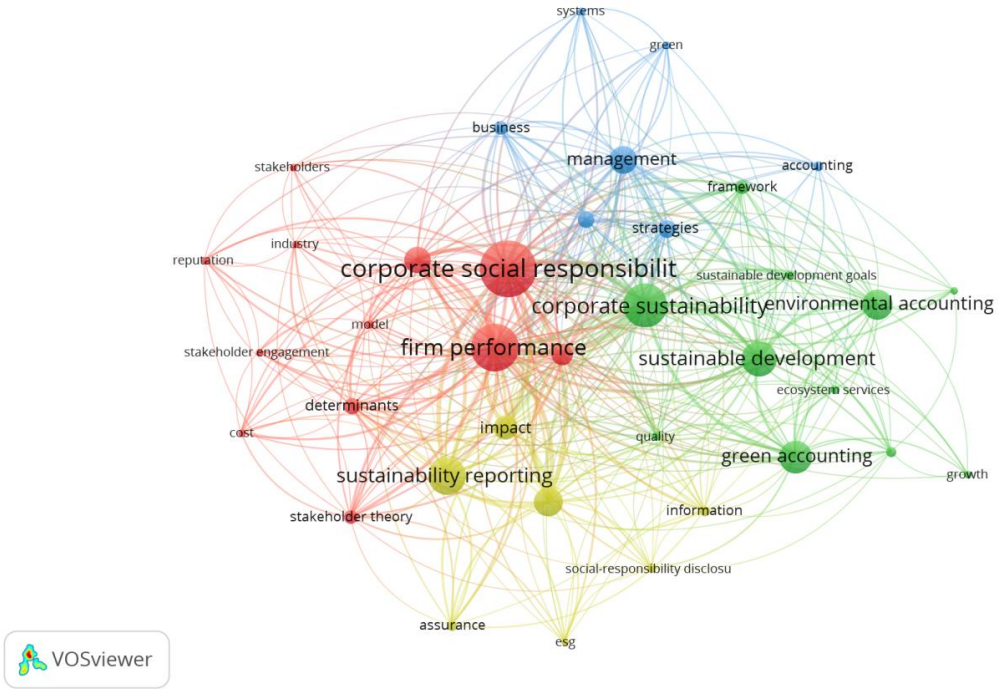
A field's trends and new research fields can be identified via co-occurrence analysis. For the conceptual and thematic structure of a scientific topic, co-word analysis evaluates the combined occurrences of two terms in the specified texts (Weismayer & Pezenka, 2017). Construction of co-occurrence networks yields similarity metrics after selecting phrases of interest. Statistics such as clustering and multidimensional scaling examine these metrics. Science maps show author-document-journal-keyword relationships. Keywords are prevalent in papers when they appear in titles, abstracts, and keywords. Many bibliometric and scientometric investigations involve mapping and clustering (Markscheffel & Schröter, 2021).

This study used VOSviewer for keyword co-occurrence analysis, creating a network representation of connection strengths and quantities. Each item's circle size indicates phrase significance. Cluster analysis was used to discover accounting and corporate sustainability study areas and trends. The program includes bibliometric map visualization pathways that emphasize distinct characteristics. This study exhaustively counted keywords.

Figure 4 shows accounting and corporate sustainability research keyword co-occurrences and network visualization. This visualization tool identifies keyword frequency and relationship strength. Circles indicate keyword clusters, while lines show the links between clusters. Shorter distances usually signify stronger bonds. Using term co-occurrence analysis, four primary clusters were found, indicating research tendencies. These clusters were found

and characterized through relationship number and strength, yielding four clusters, 376 linkages, and 1315 links.

Figure 4. Keyword Co-occurrence Analysis



The red cluster contains important keywords and phrases, such as "corporate social responsibility" and "firm performance", at high frequencies. This cluster's contents focus on a corporation's obligation to its community and society's right to a part of economic earnings. The red and green clusters form a category consisting of works on environmental and green accounting in corporate sustainability for sustainable development. In contrast, the blue cluster includes phrases such as "accounting", "green management," and "green strategies", addressing ecologically responsible management and accounting. Figure 4 shows the yellow cluster at the bottom of the map with phrases such as "sustainability reporting", "social responsibility disclosure", and "corporate governance". This cluster focuses on ESG assurance in sustainability reporting.

3.3.2 Research Trends Related to Accounting and Corporate Sustainability

Four co-occurrence networks were created using WoS data and VOSviewer (www.vosviewer.com; Van Eck and Waltman 2010). All keywords in paper titles, abstracts, and accounting and corporate sustainability citation contexts were used to create these networks.

To generate a keyword co-occurrence map, the VOSviewer text-mining program retrieved phrases from abstracts, titles, and citation contexts. When keywords appeared together in titles, abstracts, or citation contexts, it was a sign of their analogy, and that they were close together. The likelihood of the occurrence of words being together was higher. Terms were then grouped according to their co-occurrence using VOSviewer's clustering capability (Van Eck and Waltman, 2017). The most pertinent network keywords for this inquiry were included in the map, which was created using the same VOSviewer parameters. Readability guided selection of the number of clusters on the map, while irrelevant terms were carefully removed from the analysis.

Cluster 1: "Corporate Social Responsibility Disclosure and Firm Performance"

As depicted in Table 2, the thematic analysis reveals a "red cluster" comprising twelve keywords central to the discourse on "Corporate Social Responsibility Disclosure and Firm Performance". These keywords, along with their respective occurrence frequencies and interrelationships, are presented to highlight their significance within this research domain.

Due to its extensive connections to most other clusters, this cluster is an important topic of debate for future and current trends. There is disagreement about the impact of these aspects on smart contracts, despite the fact that several research studies have looked at how they affect corporate social responsibility (CSR) (Chen et al., 2015). The main distinctions are ascribed to the use of different tools and intended audiences. CSR indicates that companies should prioritize social impacts over profit (Platonova et al., 2018). Various definitions of corporate social performance (CSP) state its informative influence on business actions and its linkages with society, stakeholders, and the corporation (Adams & Larrinaga, 2019).

Many corporation firms over the past several years have increased CSR disclosure, spurring academic studies on the benefits of accumulating and sharing CSR data (Vollero et al., 2019). Regarding the disclosure of information on sustainability, charitable activities, and ethical business practices by CSR companies, the relationship found between CSR disclosure and firm performance has been extensively studied in business and accounting literature (Bebbington et al., 2008). These disclosures allow investors and consumers to evaluate a company's ethical and social impacts while also demonstrating the company's commitment to responsible business behavior (Zerbini, 2017). According to Al-Qudah et al. (2022) these disclosures can improve a company's market index position and financial success. A variety of research methods, including but not limited to, content analysis, event studies, and financial performance measures, have been employed to investigate the complex connection between CSR disclosure and firm performance (Chen et al., 2015; Platonova et al., 2018).

Academic research on CSR disclosure and corporate performance provides helpful data for firms, governments, and investors. It illustrates the complicated relationship between social responsibility and financial output, allowing businesses to make more informed decisions about their CSR strategy (Li et al., 2022). This cluster contributes to a more sustainable and socially responsible corporate landscape by guiding businesses on how to reconcile social effects and profitability.

Table 2 Keywords in cluster 1 related to corporate social responsibility disclosure and firm performance

Keywords	Links	Total link strength	Occurrences
corporate social responsibility	35	320	81
firm performance	35	271	63
disclosures	30	120	28
corporate	32	103	21
determinants	22	70	14
stakeholder theory	21	58	12
model	16	25	6
cost	14	27	5
industry	14	20	5
reputation	12	22	5
stakeholder engagement	14	21	5
stakeholders	12	14	5

Cluster 2: "A Framework for Environmental and Green Accounting in Pursuit of Corporate Sustainability and Sustainable Development"

The "A Framework for Environmental and Green Accounting in Pursuit of Corporate Sustainability and Sustainable Development" cluster, denoted as the green cluster, comprises a total of 11 keywords. As detailed in Table 3, this table presents the keywords corresponding to cluster 2, along with their frequency and the connections to these terms. The map demonstrates that the green cluster maintains extensive linkages with most other clusters, rendering it vital for discussions concerning current and future trends. Several studies have examined the influence of these aspects on environmental and green accounting or corporate sustainability, but no consensus has been reached.

Businesses are crucial to green development and transformation, but motivating organizations to overcome barriers to green transformations is difficult (Qudah et al., 2024). These reforms require significant capital, and long return cycles, while they are also subject to increased investment risks and externalities (Jia et al., 2018; Aloqaily, 2023). Green talents are widely seen as a key driver of sustainability success in numerous industries (Saether et al., 2021). This understanding spurs the creation of comprehensive and effective models and methods to improve corporate social performance through the acquisition and application of green competency (Strauss et al., 2017).

Stakeholders are increasingly asking corporations to take responsibility for environmental issues and supply chain implications (Airike et al., 2016; Albalawee et al., 2024). Accountability is key to sustainability goals. Meanwhile, businesses increasingly recognize ESG performance as a driver of green transformation, helping them to overcome financial restrictions, resolve stakeholder issues, and boost R&D (Burckart & Lydenberg, 2021).

Table 3 Keywords related to a framework for environmental and green accounting in pursuit of corporate sustainability and sustainable development

Keywords	Links	Total link strength	Occurrences
corporate sustainability	32	179	56
sustainable development	29	117	42
green accounting	23	69	37
environmental accounting	22	66	33
framework	23	54	12
indicators	16	26	7
ecosystem services	13	20	6
quality	20	32	6
sustainable development goals	19	31	6
energy	9	13	5
growth	7	10	5

Cluster 3: "Green Accountability in Management: Strategies and Accounting Systems"

The cluster titled "Green Accountability in Management: Strategies and Accounting Systems", designated as the blue cluster, encompasses seven key terms that collectively contribute to understanding the role of accountability in environmental management. As illustrated in Table 4, this cluster plays a crucial role in contemporary discourse on environmental and green accounting. The mapping analysis indicates that the blue cluster

exhibits extensive interconnections with most other clusters, underscoring its significance in shaping current trends and future trajectories in corporate sustainability and sustainable development.

In response to the global environmental crisis, green accountability has emerged as a critical concept in corporate management (Rana et al., 2023). This approach mandates firms to transparently disclose their environmental impact and sustainability efforts, ensuring that sustainable practices are effectively implemented and monitored (Cleveland & Kalamas, 2015; Kijkasiwat, 2021). By fostering transparency and accountability, green accountability facilitates corporate commitment to environmental responsibility.

A fundamental component of green accountability is the integration of corporate responsibility and environmental governance into management strategies (Schaltegger et al., 2017). This entails the development of clear environmental policies, embedding sustainable practices into daily operations, and encouraging eco-friendly initiatives throughout organizations (Ye & Dela, 2023). These measures not only enhance an organization's environmental stewardship but also align corporate activities with sustainability principles.

Sustainability reporting serves as a pivotal mechanism for operationalizing green accountability. Organizations utilize established frameworks such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) to structure their sustainability disclosure (Salehi et al., 2014). These reports frequently include data on carbon emissions, resource utilization, waste management, and corporate social responsibility initiatives (Goswami et al., 2023). Public disclosure of such information reinforces corporate commitment to sustainability and enhances stakeholder trust.

In contemporary management, green accountability is no longer a voluntary initiative but an essential component of corporate strategy (Qudah et al., 2024). Organizations increasingly employ a range of methodologies, including sustainability reporting, Environmental Management Systems (EMS), carbon accounting, Life Cycle Assessment (LCA), environmental cost accounting, Key Performance Indicators (KPIs), and stakeholder engagement, to assess and mitigate their environmental footprint (Amjad et al., 2021; Maas et al., 2016). These tools enable firms to systematically track and improve their environmental performance, ensuring alignment with regulatory requirements and global sustainability goals.

The integration of green accountability into corporate management not only mitigates environmental risks but also yields substantial benefits for both businesses and society. Firms that prioritize sustainability enhance their reputation, bolster stakeholder confidence, and achieve a competitive advantage in the market (Gonzalez & Peña-Vinces, 2023). By adopting a strategic approach to environmental challenges, organizations contribute to long-term value creation while reinforcing their commitment to sustainable development.

Table 4 Keywords related to green accountability in management: strategies and accounting systems

Keywords	Links	Total link strength	Occurrences
management	31	142	30
strategies	23	75	16
accountability	24	53	14
assurance	18	51	11
accounting	12	19	7
green	13	25	5
systems	13	27	5

Cluster 4: "Enhancing Assurance in ESG Information for Sustainability Reporting"

The cluster labeled as "Enhancing Assurance in ESG Information for Sustainability Reporting" is illustrated in yellow and comprises a total of seven keywords. Table 5 provides a breakdown of the keywords associated with cluster 4, along with their frequencies and connections to related terms. The visual representation on the map illustrates that the yellow cluster is intricately interconnected with a majority of the keywords, notably having significant associations with terms such as "sustainability reporting" and "ESG." Consequently, it exhibits numerous connections with both the red and green clusters.

Corporate and investing communities prioritize ESG factors. Companies are under pressure to demonstrate their sustainability, responsible business practices, and positive impacts on society and the environment (Bebbington & Unerman, 2018; Huson et al., 2024). ESG information promotes confidence, openness, and accountability in sustainability reporting, hence this shift in focus has increased its importance (Matos, 2020).

Sustainability reporting details a company's environmental, social, and governance performance (Qudah et al., 2024), showing investors, customers, regulators, and the public how the company addresses ESG risks and opportunities. Sustainability reporting requires analysis, interpretation, and actionable insights to inform decision-making (Adams & Abhayawansa, 2022). Demand for ESG information increases the need for assurance. Sustainability report stakeholders are increasingly seeking assurances to validate ESG data integrity and dependability. For investors making ESG-driven investments and consumers choosing products and services from socially responsible enterprises, assurance provides legitimacy and trust in reported information (Rau & Yu, 2023).

As ESG elements gain importance, stakeholders are urging the energy sector to switch to green energy and prioritize social governance. Companies with strong ESG performance are more likely to avoid risks by building positive stakeholder connections, which benefits their financial performance (Baran et al., 2022). ESG performance makes business data more transparent, allowing financial institutions and investors to identify green initiatives and investment risks, affecting corporate financial restrictions (Tan & Zhu, 2022).

ESG information for sustainability reporting must be more reliable to promote confidence, openness, and accountability in modern companies (Hoang, 2018). As sustainability and ethical business practices become more important elements of corporate behavior and investment decisions, organizations that prioritize trustworthy and validated ESG reporting will win (Henderson, 2021).

Table 5 Keywords related to enhancing assurance in ESG information for sustainability reporting

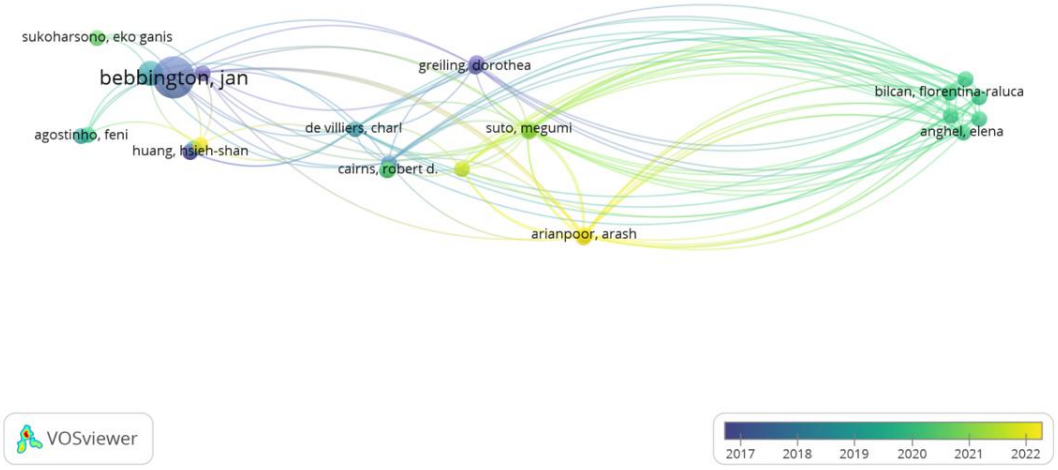
Keywords	Links	Total link strength	Occurrences
sustainability reporting	29	140	45
corporate governance	30	151	32
impact	26	116	24
assurance	12	37	8
information	22	42	8
social-responsibility disclosure	15	22	6
ESG	14	24	5

3.3.3 Author-bibliographic Connection

Author bibliographic coupling builds upon the concept of bibliographic coupling, where two authors reference the same articles in their individual publications. This approach assumes that the more shared references between two authors, the greater the similarity in their research. The utility of document bibliographic coupling for mapping research frontiers and creating science maps has been extensively investigated.

Figure 5 ranks prominent authors based on their citation counts. Notably, Jan Bebbington stands out as the most cited author in accounting and corporate sustainability from 2014 to 2023, with 5 documents and an impressive 778 citations.

Figure 5 Author-bibliographic connections

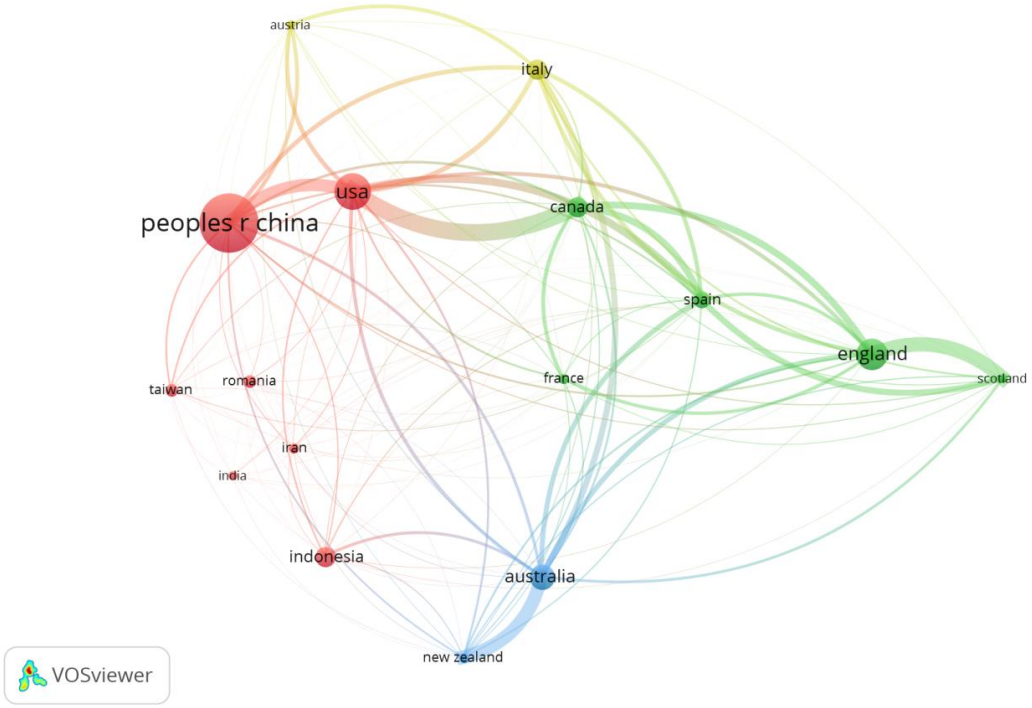


3.3.4 Coupling Countries Bibliographically

Figure 6 illustrates the collaborative network among different countries and territories in a specific context. The data is generated with a minimum threshold of one document for inclusion, showcasing up to sixty notable bibliographic connections. Each element, identified by a label, is typically represented as a default circle. The size of both the label and circle corresponds to the element's significance, with the largest indicating the most relevant element. Connecting lines represent the relationships between these elements, and the distance between them signifies the degree of relatedness among countries in this research field. One notable advantage of this map is its ability to emphasize countries or territories with similar characteristics, often leading to clustering of countries from the same continent.

As we can observe in Fig. 6, the most prominent circle in the visualization corresponds to China, which is closely connected to other nations such as Taiwan, Austria, and the USA. China has 32 publications and 109 citations, while the USA boasts 20 publications and 771 citations. Notably, England stands out with 17 publications and an impressive 922 citations. This discrepancy underscores the remarkable impact and recognition of research and publications from England within the research community, resulting in a substantially higher number of citations.

Figure 6 Coupling countries bibliographically



4. CONCLUSION

This study offers valuable insights into the intersection of accounting and corporate sustainability through a comprehensive analysis of the extensive body of literature. It highlights current trends, key contributors, and emerging insights in this dynamic field, emphasizing the profound implications for organizations, policymakers, and society, as they navigate the integration of environmental and social responsibility into business operations. The powerful methodology, consolidating bibliometric analysis and science mapping, quantitatively assesses publication patterns, citations, and collaboration, aiding in the identification of influential authors, reputable journals, and emerging research directions.

By concentrating on specialized publications from the reliable Web of Science database, the study assures the relevance and reliability of the examined literature. The identification of keywords and relevant documents provides an overview of current research themes, while the VOSviewer software enables insightful visualizations that show research trends, gaps, and key contributors. This approach improves our understanding of accounting and business sustainability, guiding future research, legislative choices, and ethical behavior in response to environmental and social concerns.

Theoretical Implications

In the theoretical framework of accounting and corporate sustainability, the study yields some significant findings. Underlining the importance of integrating CSR disclosures into financial performance analysis, thus expanding the traditional boundaries of accounting to include environmental and social dimensions. A well-organized framework for upcoming theoretical investigations is provided by the identification of important study clusters, such as CSR disclosure and business performance, environmental and green accounting, green responsibility in management, and ESG assurance. These clusters demonstrate the

interconnectedness between sustainability practices and accounting systems, implying that a comprehensive approach is required to analyze and improve business sustainability.

Practical Implications

From a practical point of view, the study offers actionable insights for businesses and policymakers. The robust relationship identified between CSR activities and financial performance, suggests that corporate businesses can effectively enhance their market position and shareholder trust by adopting transparent and full overviews of their sustainability practices. The frameworks and strategies discussed in the clusters provide a guide for organizations to implement effective environmental management systems, sustainability reporting, and ESG assurance mechanisms. Decision-makers can use these insights to develop regulations and guidelines that drive start-ups and large corporations to implement & integrate sustainability into their core operations, thereby fostering a more sustainable and responsible corporate landscape.

Future Research Directions

Many pathways have been opened due to this study. Firstly, there is an urgent need for longitudinal studies to examine the long-term impact of CSR disclosure on firm performance and stakeholder relations. Secondly, further research should explore the integration of emerging technologies, such as blockchain and IoT, especially within this era of AI, in strengthening the transparency and accountability in sustainability reporting. Thirdly, comparative studies across different regions and industries can provide a more nuanced understanding of how cultural and economic contexts influence the adoption of green accounting practices. Lastly, interdisciplinary research that combines insights from environmental science, economics, and management could ultimately offer more comprehensive diverse perspectives on the challenges and opportunities in corporate sustainability.

Limitations

Despite its contributions, this study has several limitations. The exclusive reliance on data from the Web of Science Core Collection may have led to the omission of relevant studies not included in this database. The focus on English-language only articles also introduces language bias by excluding potential non-English research contributions. The timeframe from 2014 to 2023 may have missed recent advancements in the era of commitment to sustainability. Furthermore, the interpretation of bibliometric data is inherently subjective, and the evolving terminology within the field may not have been fully captured. Future research should address these limitations by incorporating a larger variety of data sources, languages, and timeframes to provide a more comprehensive analysis.

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