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**CEO Gender Perspectives in Climate and Environmental
Governance: A Systematic Literature Review and
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CEO Gender Perspectives in Climate and Environmental Governance: A Systematic Literature Review and Bibliometric Analysis

Abstract

Purpose

This study explores the impact of CEO gender on climate and environmental governance by mapping existing literature using the Scopus database.

Design/Methodology/Approach

We employed a bibliometric analysis and systematic literature review to identify key themes, trends, and gaps in the research. The final sample of 127 documents comprising 124 articles and three reviews revealed a recent surge (2006-2024) in publications, with significant contributions from China, the United States, and the United Kingdom.

Findings

Our findings indicate that gender diversity at the top management level, particularly among CEOs, is increasingly recognized as an important factor influencing corporate environmental performance and governance. The analysis identified five main clusters: the impact of critical mass gender diversity on firm decisions, environmental performance and gender diversity, ESG disclosures and gender diversity, the interplay between CEO characteristics and gender diversity, and the institutional and cultural environmental role in gender diversity. Notably, the presence of women in leadership roles is associated with enhanced environmental and governance outcomes. However, regional disparities and mixed findings highlight the need for further research, particularly in underexplored regions like the Middle East and Africa.

Originality

This study contributes to a topic not extensively summarised in existing literature by examining comprehensive insights of gendered perspectives on climate governance initiatives, offering insights for future research and policy development.

Keywords: Gender diversity; CEO gender; Environmental governance; Climate; Bibliometric analysis.

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1. Introduction

In contemporary discussions surrounding climate change and environmental governance, the role of leadership is paramount (Scott & Becken, 2010; Chaffin et al., 2014; Arvidsson, 2023). Within this sphere, the influence of Chief Executive Officers (CEOs) has garnered increasing attention (Shahab et al., 2020; Francoeur et al., 2021; Mahran & Elamer, 2024). However, amidst the plethora of studies exploring leadership in environmental contexts, an aspect may be the intersection of CEO gender and its implications for climate and environmental governance (Oliver et al., 2024; Pradhan et al., 2024).

The theme of CEO gender perspectives in climate and environmental governance encapsulates a multifaceted intersection of gender dynamics, corporate leadership, and environmental stewardship (Heubeck, 2024a; Pradhan et al., 2024). Despite the growing awareness of climate issues and the increasing emphasis on gender equality in various spheres (Arora-Jonsson, 2014; Glass et al., 2016; Harakati et al., 2024), research exploring how CEO gender influences environmental decision-making remains sparse. This gap persists due to several factors, including traditional perceptions of leadership roles, ingrained gender biases within corporate structures, and the complex interplay of socio-cultural norms influencing environmental attitudes (Arora-Jonsson, 2014; Mahran & Elamer, 2024). By pinpointing this gap, our study aims to shed light on the nuanced relationship between CEO gender and environmental governance, enriching scholarly understanding and informing policy interventions.

Climate change and environmental degradation are among the most pressing challenges of our time, necessitating urgent and concerted action from individuals, organizations, and governments worldwide. In response, corporations have emerged as key stakeholders in environmental governance, with CEOs wielding considerable influence over organizational strategies, policies, and practices (Aguilera et al., 2021; Huang & Yang, 2024). However, despite the urgency of the environmental crisis, gender disparities persist at the upper echelons of corporate leadership, with women significantly underrepresented in CEO positions across industries and regions.

At the heart of this paper lies the exploration of how CEO gender perspectives intersect with climate and environmental governance practices. By examining the existing literature through a bibliometric lens (Donthu et al., 2021; Mukherjee et al., 2022), we map out the thematic landscape, identify key research trends, and uncover potential areas for further inquiry. This approach allows us to synthesize existing knowledge and discern patterns and gaps that may elude traditional review methodologies (Kumar et al., 2021; Lal et al., 2022, 2023; Pandey et al., 2024). Through rigorous analysis, we aim to elucidate the differential impacts of male and female leadership on environmental decision-making

within corporate settings, thus contributing to scholarly discourse and practical insights for organizational stakeholders.

The imperative to study this topic stems from its relevance to both academic inquiry and real-world implications. First, understanding how CEO gender influences environmental governance is crucial for advancing gender equity within corporate leadership and fostering more inclusive decision-making processes. Second, as environmental challenges escalate, the role of corporations in mitigating climate risks becomes increasingly pivotal, necessitating a nuanced understanding of leadership dynamics. Moreover, a bibliometric analysis offers unique advantages over traditional methodologies such as meta-analyses or reviews. While meta-analyses aggregate findings from existing studies, bibliometric analysis enables the systematic examination of publication patterns, authorship trends, and citation networks, providing insights into the evolution of research trends and knowledge dissemination within a specific field. This methodological choice is theoretically justified by its ability to uncover implicit biases, highlight overlooked research areas, and offer a holistic perspective on the scholarly landscape pertaining to CEO gender and environmental governance. By delving into this underexplored area, this paper seeks to elucidate the potential influence of CEO gender on organizational responses to climate change, environmental regulations, and sustainability initiatives.

Using bibliometric analysis and systematic literature review, the findings of this research suggest a final selection of 127 documents, consisting of 124 articles and three reviews. The analysis identified five primary clusters of research areas: the influence of critical mass gender diversity on firm decision-making, the correlation between environmental performance and gender diversity, the relationship between ESG disclosures and gender diversity, the interplay of CEO characteristics and gender diversity, and the role of institutional and cultural environments in shaping gender diversity. The presence of women in leadership correlates with enhanced environmental and governance results. Nonetheless, regional disparities and contradictory evidence highlight the necessity for further investigation, particularly in under-researched areas such as the Middle East and Africa.

Existing research has laid the groundwork for understanding the intersection of gender, leadership, and environmental governance. Studies examining gender differences in leadership styles, decision-making processes, and corporate social responsibility (CSR) initiatives have provided valuable insights into how gender dynamics may manifest within organizational contexts (Benjamin & Biswas, 2019; Oware & Mallikarjunappa, 2021; Heubeck, 2024a;). Moreover, research on environmental leadership has underscored the importance of visionary, transformative leadership in driving sustainability efforts (Glass et al., 2016; Hidayat-ur-Rehman & Alsolamy, 2023). However, the specific role of CEO gender in shaping environmental leadership remains relatively uncharted territory.

This paper makes several key contributions to the literature on gender, leadership, and environmental governance. First, synthesizing empirical evidence and theoretical insights from diverse disciplinary perspectives offers a comprehensive overview of current knowledge on CEO gender and environmental leadership. Second, by identifying patterns and gaps in existing research, this review informs future scholarly inquiries and practical interventions to promote gender equality and sustainability in corporate governance. Lastly, by highlighting the importance of gender-inclusive approaches to environmental leadership, this paper advocates for greater recognition of the role of diversity and inclusion in fostering organizational resilience and innovation in the face of environmental challenges. This study sheds light on the interplay between CEO gender, climate, and environmental governance, offering valuable insights for scholars, practitioners, and policymakers.

The paper is structured as follows. Section 2 provides a discussion on theoretical background. Section 3 elucidates the methodology adopted by the study. Section 4 presents the results of bibliometric and systematic literature review analysis. Section 5 identifies and discusses five common themes emanating from the selected papers. Section 6 offers future avenues of research and section 7 provides an overall conclusion.

2. Theoretical background

Prior studies have used a number of theoretical frameworks (e.g., agency theory, stakeholder theory, resource dependence theory, upper echelon theory, and critical mass theory) to explore the effect of board gender diversity on climate and environmental performance (Ntim & Soobaroyen, 2013; He and Jiang, 2019; Nguyen et al., 2024). However, in relation to the roles and effects of CEO characteristics, a large number of studies are underpinned by upper echelon theory (Hambrick & Mason, 1984). From the upper-echelon perspective, the composition and characteristics of the top management team shape the firm's decision-making (Bazel-Shoham et al., 2024).

In accordance with the upper echelons perspective, top executive management (such as CEO) plays a crucial role in selecting and implementing strategic decisions that ultimately influence the performance or growth of a firm (Hambrick & Mason, 1984; Bazel-Shoham et al., 2024). Therefore, CEO characteristics (including observable characteristics such as age, education, gender, career experience, etc.) are important determinants of strategic management processes and performance. Especially in relation to the implementation of climate and environmental practices, prior studies suggest that the characteristics of the CEO can serve as important antecedents of the extent of corporate sustainable environmental management, performance and reporting (Ntim & Soobaroyen, 2013; Shahab et al., 2018, 2020; Mahran & Elamer, 2024).

In the context of emerging markets, Tran and Pham (2020) find that female CEOs and CEOs' educational levels are positively related to the probability of corporate

environmental performance in the listed firms in Vietnam. Saeed et al. (2022) use penal data from listed firms in three highly polluted emerging countries (China, India and Pakistan) and find that the proportion of women in top management teams is positively related to the likelihood of ISO 14001 certification and renewal (an internationally agreed and recognized standard for environmental management systems).

Similarly, several studies in the context of developed markets, such as US, UK, Canada, EU, etc., also support the effect of top management characteristics on corporate environmental strategies and performance. For example, Triana et al. (2019) argue that senior management gender diversity fosters strategic change in US high-tech firms. Other studies highlight the importance of gender diversity in senior executive teams in relation to firm environmental policy and the improvement of corporate governance (Li et al., 2017).

In addition, the critical mass theory is also widely applied by numerous prior studies in exploring the impact of gender diversity on the top management team and identifying how many women in the top management were considered as a force to create an impact on firm decisions (Francoeur et al., 2008; Gabaldon et al., 2015; He and Jiang, 2019; Beji et al., 2020). Prior studies argue that a higher proportion of woman officers were successful for firms operating in complex environments in generating positive and significant abnormal returns. In terms of investment in environmental activities, He and Jiang (2019) state that when women have at least two seats on the board, they can exert a positive effect on green innovation policies of businesses. Similarly, Lu et al., 2019 found that the low representation of senior executives in senior management led to decreased corporate social responsibility performance, while Cambrea et al. (2023) suggest that having a critical mass of at least three female directors improves ESG performance.

In this study, we conduct a systematic review of prior studies based on a combination of multiple theoretical frameworks (i.e., upper echelons theory, critical mass theory) to explore further the importance of CEO gender in relation to climate and environmental governance. These theories complement each other to understand how top management characteristics affects the decision making and organizational performance in relation to environmental and climate-related issues (Francoeur et al., 2008; Ntim & Soobaroyen, 2013; He and Jiang, 2019). For example, critical mass theory explains how gender diversity of the board and senior management influence the decision making of the board, due to the significance presence of women on board in relation to firm green innovation (He and Jiang, 2019), ESG performance (Romano et al., 2020) or CSR performance (Lu et al.; 2019). While the upper echelons perspective explains other characteristics of the top management and CEO. For example, the duality function of the CEO and the chair of the board bring more power to CEO in decision-making, under the lens of the upper echelons theory, duality CEO may not be always interested in environmental innovation activities (Phung et al., 2023) or ESG performance (Chebbi et

al., 2024). In addition, other characteristics of CEO, such as qualification, working experience, age or background also found to have an impact on organizational performance in different aspects of financial, social or environmental activities (Manner, 2010; Gull et al., 2018; Shen et al., 2022).

In order to understand how those theoretical frameworks have been applied by prior studies, the following sections provide details of data and research methodology and then discuss the results on the influences of CEO gender on climate and environmental performance.

3. Data and methodology

3.1. Data

This study aims to map the extant literature on CEO gender perspectives in climate and environmental governance. We use the Scopus database while extracting the bibliographic data for the study because it is multidisciplinary and includes high-quality peer-reviewed journals that eliminate the selection bias (Norris & Oppenheim, 2007; Bartol et al., 2014). We use the search string – (TITLE-ABS-KEY ("climate" OR "environment*") AND TITLE-ABS-KEY ("governance") AND TITLE-ABS-KEY ("ceo" OR "chief executive officer" OR "executive*" OR "top management")), getting 1732 documents. After that, we use automatic filters on the Scopus database for limiting the Subject Area to "Business, Management and Accounting," "Economics, Econometrics and Finance," and "Social Sciences"; Document Type to "Articles" and "Review"; Source type to "Journal"; and Language to "English." The automatic filter eliminated 584 documents, leaving 1148 documents. Reading the title, abstract, and keywords, we manually filtered 782 documents unrelated to CEO gender. The remaining 366 documents were given a thorough reading of the entire text which led to the exclusion of 238 unrelated documents. Finally, we had 128 documents. However, during the analysis, it was realized that one article was retracted. Hence, we removed the retracted article from our sample. Thus, the final sample has 127 documents, including 124 articles and three reviews. No time span was set by the authors, however, the final sample span from the year 2006 to March 2024.

3.2. Methodology

We use a combination of the bibliometric analysis and the systematic literature review. Previously bibliometric analysis was part of the library and information science (Broadus, 1987; Pritchard, 1969), but now it is being applied to uncover the under-explored research topics in every domain. This technique uses descriptive, network, and content analysis (Bhaskar & Bansal, 2022). The descriptive analysis helps present the most influential articles published in journals, the most influential and productive authors, organizations, countries, and journals (Cancino et al., 2018). The network analysis includes the co-authorship among authors, author keywords co-occurrences, co-citation, and

bibliographic coupling (Callon et al., 1983; Peters & Van Raan, 1991; Acedo et al., 2006; Koseoglu, 2016; Bahoo, 2020; Bahoo et al., 2020; Kumar et al., 2020; Schiuma et al., 2020). The analyses are done using VOSviewer software (van Eck & Waltman, 2017; Flores-Sosa et al., 2022) and visualized using Gephi software (Bastian et al., 2009). Further, the content analysis leads to the bibliographic coupling clusters of the articles published (Bhaskar & Bansal, 2022). The top documents have been systematically reviewed to extract the theoretical development and future research avenues.

4. Results

4.1. Descriptive analysis

The descriptive analysis provides the trend in publications and citations along with the gist of influential documents, prolific documents, and the most productive and influential journals.

4.1.1. Publication and citation trend

The extant literature is unevenly spread over 15 years in an 18-year period from 2006 to 2024¹ (See Table 1). Until 2018, only 20 documents have been published, which has resulted in 2072 citations. However, from 2019 to 2024 (March), 107 documents have been published, cumulating 2567 citations. While only 15.75 % of documents have been published in 13 years (2006–2018), most of the literature is accumulated in recent years (2019–2024). This suggests a recent surge of interest in this strand of literature. Figure 2 presents the trend in publications and citations.

<Insert Table 1 here>

<Insert Figure 2 here>

4.1.2. The most influential documents

Table 2 presents the most influential documents. Francoeur et al.'s (2008) – "Gender diversity in corporate governance and top management," with 534 citations, is the most influential document. They found that a substantial presence of women in leadership leads to significant abnormal returns for firms operating in complex environments. However, they conclude that female directors alone do not impact returns significantly; companies with a significant representation of women across management and governance structures exhibit value creation comparable to typical stock market returns.

¹ Since the data is up to 30 March 2024, we do not considerate as a full year.

Haque's (2017) – "*The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms*," with 294 citations, is the second most influential document. His findings suggest that board independence and BSD are positively correlated with carbon reduction initiatives. However, he found no discernible relationship between corporate governance factors and a firm's greenhouse gas emissions.

Husted and Sousa-Filho's (2019) – "*Board structure and environmental, social, and governance disclosure in Latin America*," with 246 citations, is the third most influential document. Their study concluded that larger board sizes and the presence of independent directors positively influence ESG disclosure. Conversely, the inclusion of women on the board and CEO duality were found to have a negative impact on ESG disclosure.

It is evident from Table 2 that the influential documents have been published in top-tier journals (for example, seven of these papers are published in journals having rated 3 in the ABS list), including the "*Journal of Business Ethics*," "*British Accounting Review*," "*Journal of Business Research*," "*Management Decision*," "*Corporate Social Responsibility and Environmental Management*," "*Social Responsibility Journal*," "*Business Strategy and the Environment*," and "*Sustainability Accounting, Management and Policy Journal*," indicating that the influential literature are accumulated in high-quality journals. The top-cited documents contribute to the agency theory (Francoeur et al., 2008; Haque, 2017; Tamimi and Sebastianelli, 2017; Arayssi, Jizi and Tabaja, 2020; Nguyen et al., 2021), upper echelons theory (Francoeur et al., 2008; Beji et al., 2021), stakeholder theory (Francoeur et al., 2008; Husted and Sousa-Filho, 2019), critical mass theory (Husted and Sousa-Filho, 2019), resource-dependence theory (Tamimi and Sebastianelli, 2017; Haque, 2017; Nguyen et al., 2021; Beji et al., 2021), glass cliff theory (Beji et al., 2021), social support theory (Arayssi, Jizi and Tabaja, 2020), political cost theory (Giannarakis, Konteos and Sariannidis, 2021), and legitimacy theory (Giannarakis, Konteos and Sariannidis, 2021; Nguyen et al., 2021).

<Insert Table 2 here>

4.1.3. The most prolific authors

Table 3 presents the list of most prolific authors with at least two documents. Giannarakis, is the most productive author, with four documents having received 329 citations, followed by Jarboui, Konteos, and Nadeem, with three documents having received 72, 163, and 130 citations, respectively. Among Giannarakis documents, Giannarakis, Konteos, and Sariannidis (2014) – "*Financial, governance and environmental determinants of corporate social responsible disclosure*" is the most cited document with 138 citations and contributes to the political cost and legitimacy theory. They find that the number of women on board positively influences social disclosure, highlighting women's sensitivity to social concerns. However, it does not impact ESG, environmental and governance disclosures. They argue that the limited impact of women on the extent of CSR

disclosure likely stems from their equal access to education, training, and employment opportunities compared to men in developed economies.

<Insert Table 3 here>

4.1.4. The most productive and influential journals and countries

Table 4a presents the most productive journals in the examined domain. "Sustainability (Switzerland)" ranked first with 15 documents having received 264 citations, followed by "Corporate Governance (Bingley)" and "Business Strategy and the Environment" with nine and eight documents having received 250 and 301 citations, respectively. "Journal of Business Ethics" and "Corporate Governance: An International Review" are ranked fourth, with five documents having received 858 and 272 citations, respectively. These journals attract studies on sustainability, environmental issues, and corporate governance. Table 4b presents the most influential journals in terms of citations. "Journal of Business Ethics" is the most influential journal with 858 citations (171.60 average citations), followed by "Management Decision" and "Business Strategy and the Environment" with 424 (106 average citations) and 301 (37.63 average citations), respectively. Francoeur et al.'s (2008) – "Gender diversity in corporate governance and top management" has attracted the most citations (534) for the "Journal of Business Ethics." "British Accounting Review" and "Journal of Business Research" have attracted 294 (Haque, 2017) and 246 (Husted and Sousa-Filho, 2019) citations, respectively, having published only one document. These top-cited papers have extended discussions on the stakeholders, agency, critical mass and resource-dependence theories.

<Insert Table 4a here>

<Insert Table 4b here>

Table 5a presents the most productive countries in the extant literature. China leads the list of most productive countries with 20 documents, having received 651 citations, followed by the United States and the United Kingdom with 12 documents each, having received 474 and 385 citations, respectively. Italy ranked third with 10 documents, having received 276 citations. Australia, India, Malaysia, Spain, and Tunisia ranked fourth with seven documents each, having received 221, 146, 130, 291, and 301 citations, respectively. When segregated across different regions, the data indicates interesting results. Table 5b, while indicating the top productive regions, highlights the dearth of literature in the African and Middle East context. While authors from Europe (56), Asia-Pacific (53), and pan-America (22) account for most studies and citations, the Middle East and Africa account for only 12 and 9 studies with meagre 370 and 329 citations, respectively. These insights suggest an immense need to focus future research on the Middle East and African regions. The limited research from Africa and the Middle East may stem from structural barriers, particularly the intersection of gender norms and leadership dynamics within these regions.

Given that environmental governance is deeply intertwined with local economic structures, resource availability, and socio-political factors, future studies in line with the neo-institutional theory (like Kilincarslan, 2020) could provide insightful outcomes. Additionally, more localized research accounting for distinct regional challenges and socio-cultural perceptions of female leadership in corporate sustainability could be desired. For instance, theories like critical mass, image motivation, and resource dependence need to be explored (Tawiah et al., 2024). Additionally, fostering policy-driven research agendas and encouraging cross-regional collaborations can help bridge this gap, offering a more comprehensive global perspective on the role of gender in climate and environmental governance.

<Insert Table 5a here>

<Insert Table 5b here>

4.2 Network analysis

The network analysis encompasses author keywords co-occurrence, co-citation analysis of authors and journals, and bibliographic coupling analyses of authors, countries, journals and documents. The analyses are done using the VOSviewer, and the visualization is improved using Gephi. Gephi also helps generate the PageRank, elucidating the relative significance of keywords, authors, countries, journals and documents.

4.2.1 Keyword analysis of at least three occurrences

Of 370 author keywords, 34 have occurred in at least three documents. Figure 3 presents the network of these keywords linked across two clusters. This analysis helps in finding the intellectual similarity of the content, focusing on the actual content of the published documents rather than citations (Bhaskar et al., 2022; Bhaskar & Bansal, 2022). Donthu et al. (2020, 2021) suggest that in the absence of keywords, title and abstract words may be used (Donthu et al., 2020, 2021). "Corporate Governance" (60), "CSR" (20), "Board of Directors" (14), "ESG" (9), "Agency Theory" (7), "Environmental Performance" (7), and "Financial Performance" (6) are the most prominent keywords in Cluster 1, indicating its focus on "Corporate Governance" and "Sustainability," exploring Board Dynamics, CSR, and Performance (see Figure 4). Conversely, "Gender Diversity" (32), "Board Characteristics" (7), "ESG Disclosure" (6), "CEO Duality" (6), "ESG Performance" (6), and "Female Executives" (6), are the most prominent keywords in Cluster 2, indicating its focus on the impact of "Gender Diversity" on ESG Performance and Reporting (see Figure 5). Interestingly, the keyword "Gender Diversity" has the highest PageRank score of 0.135822 among all the 34 keywords, indicating that this keyword is strongly linked in the literature.

<Insert Figure 3 here>

<Insert Figure 4 here>

<Insert Figure 5 here>

<Insert Table 6 here>

4.2.2. Co-citation analysis of authors and journals

While the keyword analysis is important to assess the current themes, co-citation analysis identifies relationships between documents/journals/authors based on their co-citation patterns. It examines which documents are cited together by other documents/journals/authors, with the assumption that documents/journals/authors frequently cited together are likely to be related in subject matter or have some form of intellectual connection (Kessler, 1963; Small, 1973; Backhaus et al., 2011). Co-citation analysis is used to map the intellectual structure of a field, identify influential works, and uncover emerging trends or research fronts (Small, 1980; Bahoo, 2020; Bahoo et al., 2020). Figure 6 presents the co-citation network of 41 authors who met the threshold of at least 30 citations out of 11923 authors. Post, Ntim, Tang, Jensen, and Luo have the highest total link strength and are highly co-cited with each other, indicating that these authors are intellectually connected on the theme. When two authors are mostly cited together, it indicates that they work on similar themes. For instance, Jensen's works on agency theory, Post's and Tang's works on gender diversity, Ntim's works on corporate governance, and Luo's works on carbon disclosure and ESG indicate that the literature citing these authors revolves around the intersection of corporate governance, gender diversity, carbon disclosure and related theories. These keywords have also highly occurred in the citing literature.

<Insert Figure 6 here>

Figure 7 presents the co-citation network of 25 journals, which meet the threshold of minimum 50 citations, out of 3007 sources. "Journal of Business Ethics," "Business Strategy and The Environment," "Corporate Governance: An International Review," "Corporate Social Responsibility and Environmental Management," and "Strategic Management Journal" have the highest total link strength and are highly co-cited with each other, suggesting that these journals share similar themes.

<Insert Figure 7 here>

4.2.3. Bibliographic coupling of authors

In the previous section we discussed the relatedness of the authors/journals using the co-citation analysis, the bibliographic coupling provides further insights into the relationships. If two authors cite a third author in their published document, it indicates these two authors share common theme (Boyack & Klavans, 2010; Ma, 2012). Figure 8 presents the bibliographic coupling of 89 connected authors with at least one document and

30 citations. Of 344 authors, 91 met the threshold, but only 89 were connected. Francoeur, Labelle and Sinclair-Desgagne share one document with 584 citations. Giannarakis has published four documents, with 329 citations. Haque has published one document with 294 citations. Husted and Sousa-Filho share one document with 246 citations. These authors appear as the contributors to the most influential documents.

<Insert Figure 8 here>

4.2.4. Bibliographic coupling of countries

Alike bibliographic coupling of authors, examining the coupling of affiliated countries provide insights into how authors from different countries are contributing to common themes. Figure 9 presents the bibliographic coupling of authors' affiliated countries. It presents the network of 27 out of 49 countries meeting the minimum threshold of 2 documents and at least 10 citations. The node size representing the weight citations suggests that Canada, China, the United States, the United Kingdom, and Greece have more cited documents. Concomitantly, China, the United Kingdom, the United States, Tunisia, and Italy have the highest total link strength, suggesting that authors from these countries are connected well with the authors contributing to the examined theme.

<Insert Figure 9 here>

4.2.5. Bibliographic coupling of journals

While the bibliographic coupling of countries indicated how authors from different countries working on common themes are interconnected, exploring the bibliographic coupling of journals suggest the common themes shared by them. Figure 10 presents the bibliographic coupling of 16 out of 69 journals that met the minimum threshold of 2 documents and at least 10 citations. While the "Journal of Business Ethics" is highly cited, represented with the biggest node followed by "Management Decision" and "Business Strategy and the Environment," "Sustainability (Switzerland)" followed by "Business Strategy and the Environment," "Corporate Governance (Bingley)," and "Journal of Business Ethics" have the highest total link strength, suggesting their strong intellectual association with other journals.

<Insert Figure 10 here>

4.2.6. Bibliographic coupling of documents

While the bibliographic coupling of journals indicates the intellectual association among the journals, the coupling of documents highlight the common themes in the literature. Figure 11 presents the bibliographic coupling network of documents, which is an integral part of this study. Sixty-one documents met the threshold of at least ten citations, but 59 were intellectually connected. The figure suggests that the extant literature is scattered across five thematic clusters. Beji (2021) in Cluster 1 has the highest total link

strength, followed by Nguyen (2021) and Kilincarslan (2020) in Cluster 2. Beji's (2021) – "Board Diversity and Corporate Social Responsibility: Empirical Evidence from France" suggest that BSD is positively associated with human rights and corporate governance dimensions in France. Nguyen et al. (2021) – "Environmental performance, sustainability, governance and financial performance: Evidence from heavily polluting industries in China" suggests that board independence and gender diversity are positively but insignificantly associated with firms' environmental performance in China. Kilincarslan (2020) – "Impact of governance structures on environmental disclosures in the Middle East and Africa" found a positive influence of BSD on voluntary environmental disclosures by Middle East and African firms. The top 4 influential documents are scattered across Cluster 1, Cluster 2, Cluster 3, and Cluster 4, respectively.

<Insert Figure 11 here>

5. Clustering based on bibliographic coupling

Bibliographic coupling of the documents exhibits the common intellectual connection among documents (see Figure 11). Bibliographic coupling occurs when a document is cited by two or more documents (Kessler, 1963). The contents of the documents in different clusters are analyzed to mark the similarity of contents among these documents (Pattnaik et al., 2020). The list of documents in different clusters is provided in Table 7.

<Insert Table 7 here>

5.1. Cluster 1: Impact of critical mass of gender diversity on firm decisions

Cluster 1 has 15 research papers with 1471 citations. This research cluster's unifying theme relates to the critical mass theory, which examines the number of women in senior leadership positions required to influence corporate decisions. The cluster explores how gender diversity affects the governance processes and strategic results of organisations. The research by Francoeur et al. (2008) is the top-cited document in this cluster, with 534 citations that examined the impact of gender diversity in the board of directors and senior management on firm performance. The study reported that a higher proportion of female officers were successful in firms operating in complex environments and generating positive and significant abnormal returns. The second-highest cited document in this cluster reported a similar result of a higher proportion of female directors positively impacting corporate governance dimensions and human rights (Beji et al., 2021). The research by He and Jiang (2019) is the third highest cited document in this cluster, with 128 citations, suggesting that only when women have at least two seats on the board can they positively affect green innovation. Gabaldon et al. (2016), with the fourth highest citations of 121, examined the theoretical frameworks concerning women's presence on corporate boards, investigated the various factors influencing their opportunities, proposed

strategies for enhancing their representation, and identified areas in need of further research. The findings suggest the impediment of women's entry into corporate boards can be attributed to the presence of disjointed research silos, which fail to offer a holistic perspective on effective strategies to address obstacles, particularly within varied cultural settings. At 53 citations, Romano et al. (2020) concluded the presence of both male and female directors on the BoD has a positive effect on ESG performance, especially when there is a balanced mix of genders, thus contributing to the enhancement of sustainability practices. The paper by Lu et al. (2019) suggests that a decrease in CSR performance is observed when female executives in the senior management team are not represented. Conversely, an enhancement in CSR performance is noted as the number of female executives reaches a specific threshold. In particular, female executives with international work experience demonstrate a substantial improvement in CSR performance, particularly within a conducive institutional framework. A more recent research paper with 14 citations by Cambrea et al. (2023) argues having a critical mass of at least three female directors improves ESG performance.

5.2. Cluster 2: Environmental performance and Gender diversity

Cluster 2 encompasses studies examining gender diversity in relation to environmental or carbon management. Overall, this group of papers presents varied outcomes, indicating either no connection, a positive correlation, or a negative link between gender diversity and environmental performance. It is important to highlight the diverse contextual elements, such as the type of industry, company size, and cultural background, which may influence these findings. There are a total 15 papers having 869 citations in this cluster. The research paper with the highest citation in this cluster reported that board gender diversity positively correlates with carbon reduction initiatives for UK-based firms (Haque, 2017). This finding was consistent with the research papers of UK FTSE 350 (Al-Qahtani & Elgharbawy, 2020), Middle East and Africa (Kilincarslan et al., 2020), Brazil (Bueno et al., 2018) and global firms (Córdova Román et al., 2021) that also showed board gender diversity to positively impact the disclosure and management of greenhouse gas information. Similarly, firms listed on the European Index 500 showed higher environmental investments if they had female directors (Bhuiyan et al., 2021). The second-highest cited paper in this cluster suggests no significant association between gender diversity and environmental performance for Chinese firms (Nguyen et al., 2021). This is similar to the findings that board gender diversity had no impact on supplemental environmental projects (Nadeem, 2021), or three pillars of corporate social performance (Kouaib et al., 2020), or CSR quality (Pratamaa et al., 2020). This contrasts with the third highest cited research, whereby gender diversity was associated with good environmental performance of Chinese enterprises (Khan et al., 2021). Some of the research in this cluster also demonstrated a negative relationship between gender diversity, green supply chain

decision-making (G. Li et al., 2019), and carbon emission performance (Narsa Goud, 2022).

5.3. Cluster 3: ESG disclosures and Gender Diversity

Cluster 3 is predominantly dominated by the themes of gender diversity and its role in ESG disclosures. It included 12 papers and a total of 1264 citations. The most cited paper in this cluster was by Husted and Sousa-Filho (2019), who reported that women on boards negatively influenced ESG disclosures in Latin America. This result was also consistent with India's BSE-listed firms using CSR disclosure, which was informed by the research having the eighth highest citations in this cluster (Fahad & Rahman, 2020). This finding contrasts with Lagasio and Cucari (2019), who suggest through a meta-analytical review that gender diversity enhanced ESG disclosures. These results were consistent for the GCC region (Arayssi et al., 2020), S&P 500 firms (Giannarakis et al., 2014), Thailand (Suttipun, 2021), Europe (Ben Fatma & Chouaibi, 2021) and India (Bhatia & Marwaha, 2022). On the other hand, research argues that gender diversity has no impact on CSR disclosures for USA-based firms (Giannarakis, 2014) and Palestinian firms (Zaid et al., 2019).

5.4. Cluster 4: CEO Characteristics and Gender Diversity

This cluster was characterized by gender diversity and CEO characteristics, precisely CEO duality. It included 11 papers and a total of 556 citations. The research paper with the highest total citations in this cluster was by Tamimi and Sebastianelli (2017), who reported that S&P 500 firms had the highest level of transparency on governance and the lowest on the environment of the ESG components. Firms with high gender diversity and those that allowed CEO duality had high ESG disclosures. On the other hand, Aabo and Giorici (2023) suggested that CEO duality has no impact on ESG disclosures but improves with more female CEOs. The findings of the second-highest cited paper suggest that a high percentage of board gender diversity also leads to increased intellectual capital disclosure (Nadeem, 2020). However, if the firms practised CEO duality, they would be less likely to disclose intellectual capital disclosures. In contrast, Amran et al. (2014) reported through their findings that firms with low gender diversity and those that practised separation of CEO-board chair role were more likely to have better climate-related disclosures in Asia-Pacific-based countries. The fourth-highest cited paper argues that Pakistani firms with CEO duality have more available leverage when there is a higher proportion of female directors on the board (Amin et al., 2022). Indian firms, on the other hand, perform better in the presence of CEO duality (Kaur & Singh, 2019). However, this performance declines if female CEOs lead it. CEO duality is associated with higher risk-taking, whereas the gender-diverse board have low risk-taking in Canadian firms (Chakraborty et al., 2019). The last three papers in this cluster have all investigated CEO compensation whereby findings suggest higher gender diversity on board and CEO duality led to lower CEO compensation (Patnaik & Suar, 2020) whereas CEO males out-earn the

female CEOs and CEO duality led to better-negotiated pay (Chen et al., 2022; Gómez-Bezares et al., 2019).

5.5. *Cluster 5: Institutional and cultural environment role in Gender Diversity influence*

This cluster indicates the research papers that discussed the role of institutional and or cultural factors affecting the impact of gender diversity on firm outcomes. It included five papers and a total of 260 citations. For example, the research on global sample firms by Lu and Wang (2021) with the highest citation reported evidence of a positive relationship between gender-diversified firms and environmental performance. However, firms in countries with strong legal systems had less voluntary CSR disclosure. Also, the cultural influence represented by low individualism, femininity, and power distance performed better in the environment. The second-highest citation paper provided evidence for global firms that gender diversity promoted dividend payouts (Ye et al., 2019). A good institutional environment was found to weaken the effect of board gender diversity on dividend payouts. Country-specific evidence from the third-highest citation paper indicated the presence of female CEOs was associated with higher investment efficiency (Ullah et al., 2020). This relationship did not hold for state-owned enterprises, and the results were affected by socio-political factors. Alshirah et al. (2022) found no impact of gender diversity on firm performance in an emerging market like Jordan, characterized by low female representation on boards of Jordanian firms. Thus, this cluster predominantly suggests significant role institutional and cultural factors play in achieving gender diversity.

The five clusters collectively enhance our understanding of various research outcomes concerning gender diversity, climate and environmental governance. These findings have significant implications for research, emphasising the need to incorporate contextual elements such as culture, industry and governance frameworks. They also highlight the importance of adopting multidisciplinary approaches that aim to bridge the gap between gender, environmental and governance studies, whilst promoting more policy-oriented and practical recommendations. Consequently, the subsequent section explores future research directions within this context.

6. **Future Research Avenues**

6.1 *Female diversity, other diversity attributes, disclosures*

The existing literature has not considered the various other diverse attributes of board members, such as ethnicity or socioeconomic background. Thus, future research can consider these diverse attributes that could potentially alter the significance of female directors within ESG (Cambrea et al., 2023). Similarly, board gender reforms have been studied in the context of firm performance, ESG disclosures, and capital structure. However, future studies can extend the impact of board gender reforms on other corporate

behaviors (Wagner et al., 2024). The impact of CSR board committees on ESG disclosures is another area for future research to explore (Husted & Sousa-Filho, 2019). While most studies take a broad organizational perspective towards examining attributes that impact firm choices or outcomes, exploring how women's perspective of being a board member impacts firm performance (Ouni et al., 2020). Studies can also be directed towards female directors' backgrounds (for example, education, environmental expertise, political connection) and demographic features that could influence on climate change innovation (García-Sánchez et al., 2023; Tawiah et al., 2024). Further, Liu (2018) argue that firms (in the United States) with higher female representation face fewer environmental lawsuits. Accordingly, future studies can examine similar outcomes in lesser-developed economies.

6.2 *Institutional and cultural role, gender diversity, ESG/climate governance*

Future studies can consider the impact of board gender diversity on climate governance within the institutional contexts of mandatory versus non-mandatory quotas (Naveed et al., 2021). Research can also be conducted on national laws and policies introduced during specific event periods and how these influence the impact of gender diversity on ESG (Gupta et al., 2022; Issa & In'airat, 2024). The country-level regulations, corruption controls, and market competition affect corporation decisions and outcomes. Future research can consider the interaction of bribery payments and other institutional factors in the relationship between gender diversity and climate governance (Doan et al., 2022). Studies can also examine companies from different cultural orientations, as the concept of CSR tends to vary across them (Giannarakis, 2014). Consideration can be given to the role of government policies on subsidies for adopting renewable energy influencing the gender diversity and climate governance relationship (Makpotche et al., 2024).

6.3 *Research methodology, gender diversity, ESG/climate governance*

Gender diversity is measured as the proportion or percentage of women on the board of directors, which makes it a more quantitative approach. Future research can use participant observation or ethnographic design to capture the behavior of individuals as a result of gender diversity and dynamics within the board and how that affects ESG disclosures (Ouni et al., 2020). Researchers can also explore using multiple research methods (experimental or surveys) to gain a more in-depth understanding of mechanisms employed by female directors towards climate or environmental governance (Issa & In'airat, 2024; Liu et al., 2024).

6.4 *External stakeholders, gender diversity, ESG/climate governance*

There could be various factors that could induce the boards to make certain specific decisions. Future studies can explore the influence of gender diversity or other corporate governance attributes on ESG or voluntary disclosures in the context of citizens or other stakeholders' priorities towards SDGs (Taglialatela et al., 2023). Studies can consider the

role of NGOs and other environmental activists in influencing offending firms to take reparative actions and how the firms approach this to regain their legitimacy (Nadeem, 2021). Media attention has been found to improve state-owned enterprises' performance and promote ESG performance (Lin & Guan, 2024). Further studies can explore the role of media attention (Lin & Guan, 2024) or society trust level (Qureshi et al., 2024) in influencing the relationship between gender diversity and climate governance.

6.5 *Critical mass theory, gender diversity, climate governance*

Based on critical mass theory, it would be helpful in future studies to consider the thresholds below which the effect of gender diversity on climate governance may not continue to hold or could reverse (Ouni et al., 2020). Factors affecting the threshold effect of board gender diversity can be explored while examining its interaction with ESG performance (Heubeck, 2024b). Further studies should consider conceptualizing different pinkwashing constructs and determine if gender thresholds can reduce it (Venturelli et al., 2024). Studies can explore the shareholding ratios of female directors or executives to understand their participation and also how it affects climate governance disclosures (Yan et al., 2024).

7. **Conclusion**

This study provides a comprehensive bibliometric analysis and systematic literature review on CEO gender perspectives in climate and environmental governance. Using a robust methodology, we identified and analyzed 127 relevant documents from the Scopus database, focusing on board gender diversity, ESG disclosures, and CEO characteristics.

Our findings reveal a growing body of literature in recent years, particularly from 2019 onwards, highlighting an increasing interest in the intersection of gender diversity and environmental governance. The descriptive analysis indicates that influential documents are predominantly published in high-quality journals, such as the "Journal of Business Ethics" and "Business Strategy and the Environment." These journals are central to the discourse, reflecting the importance of gender diversity in corporate governance and its impact on environmental and social outcomes.

The network analysis sheds light on key themes and clusters within the literature. The keyword analysis identifies two major clusters: one focusing on "Corporate Governance" and "Sustainability," and the other on "Gender Diversity" and its impact on ESG performance. Notably, the keyword "Gender Diversity" emerges as a central theme, indicating its significance in the literature.

The co-citation and bibliographic coupling analyses further elucidate the intellectual structure of the field, identifying influential authors and journals that shape the discourse. Authors like Francoeur et al. (2008) and Haque (2017) are notable contributors,

providing seminal works on gender diversity's role in corporate governance and environmental performance.

The bibliographic coupling analysis unveils five distinct thematic clusters. Gender diversity has been explored in the context of major themes related to organizational outcomes (Cluster 1), environmental performance (Clusters 2), ESG disclosures (Cluster 3), CEO characteristics (Cluster 4) and institutional and cultural landscape (Cluster 5). Additionally, the content analysis reveals five key underexplored areas for future research.

The review has suggested key implications for regulators and companies underscoring the importance of gender diversity and climate governance. Regulators can promote gender quotas or targets for leadership and governance related positions considering the positive outcomes. This can be further enhanced by providing tax incentives or subsidies to companies complying with diverse leadership. Regulators should establish an assessment framework that oversees how CEO attributes work with board diversity. Companies can use the prior study findings by encouraging diversity reflecting regulatory, local, cultural and institutional norms. They can develop mentorship and sponsorship programmes for women to take over leadership roles. Organizations can use the leadership skills and experience of diverse board members to establish innovative environment targets.

Towards home, this study underscores the importance of gender diversity in shaping corporate governance and environmental strategies. The increasing volume of literature and citations reflects a growing recognition of the critical role that gender diversity plays in fostering sustainable business practices. However, the findings also highlight gaps and inconsistencies in the literature, particularly regarding the impact of gender diversity on environmental performance and ESG disclosures. Future research should aim to address these gaps, with a particular focus on underexplored regions like the Middle East and Africa. Additionally, there is a need for more empirical studies to understand the mechanisms through which gender diversity influences firm outcomes, particularly in the context of CEO characteristics and board dynamics. This study provides a foundation for further exploration and contributes to the ongoing discourse on the role of gender diversity in climate and environmental governance.

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Table 1. Trend in publications and citations

Year	TP	TC	AC
2006	1	18	18.00
2008	1	534	534.00
2010	1	55	55.00
2012	2	21	10.50
2013	1	112	112.00
2014	6	525	87.50
2016	4	228	57.00
2017	2	495	247.50
2018	2	84	42.00
2019	13	854	65.69
2020	16	634	39.63
2021	15	837	55.80
2022	15	109	7.27
2023	38	127	3.34
2024	10	6	0.60

Notes: TP, TC, and AC indicate total publications, total citations, and average citations, respectively.

Table 2. Top cited documents

Authors	Title	Source title	TC	ACY	ABS
Francoeur et al. (2008)	Gender diversity in corporate governance and top management	Journal of Business Ethics	534	33.38	3
Haque (2017)	The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms	British Accounting Review	294	42.00	3
Husted and Sousa-Filho (2019)	Board structure and environmental, social, and governance disclosure in Latin America	Journal of Business Research	246	49.20	3
Tamimi and Sebastianelli (2017)	Transparency among S&P 500 companies: an analysis of ESG disclosure scores	Management Decision	201	28.71	2
Beji et al. (2021)	Board Diversity and Corporate Social Responsibility: Empirical Evidence from France	Journal of Business Ethics	199	66.33	3
Lagasio and Cucari (2019)	Corporate governance and environmental social governance disclosure: A meta-analytical review	Corporate Social Responsibility and Environmental Management	183	36.60	1
Giannarakis (2014)	Corporate governance and financial characteristic effects on the extent of corporate social responsibility disclosure	Social Responsibility Journal	166	16.60	1
Nguyen et al. (2021)	Environmental performance, sustainability, governance and financial performance: Evidence from heavily polluting industries in China	Business Strategy and the Environment	152	50.67	3
Arayssi, Jizi and Tabaja (2020)	The impact of board composition on the level of ESG disclosures in GCC countries	Sustainability Accounting, Management and Policy Journal	145	36.25	2
Giannarakis, Konteos and Sariannidis (2021)	Financial, governance and environmental determinants of corporate social responsible disclosure	Management Decision	138	13.8	2

Notes: TC and ACY indicate total citations and average citations per year, respectively. ABS indicate the ranking based on Academic Journal Guide 2021.

Table 3. Top prolific authors with at least two documents

Authors	TLS	TP	TC	AC	PGR
Giannarakis, G.	2036	4	329	82.25	0.004472
Jarboui, A.	1215	3	72	24.00	0.005082
Konteos, G.	1615	3	163	54.33	0.006498
Nadeem, M.	1095	3	130	43.33	0.007678
Cucari, N.	889	2	197	98.50	0.003923
Elmagrhi, M.H.	1996	2	194	97.00	0.004191
Goergen, M.	903	2	135	67.50	0.004662
Issa, A.	1209	2	65	32.50	0.005113
Sariannidis, N.	1220	2	140	70.00	0.011531
Wang, M.	1676	2	114	57.00	0.025657
Zafeiriou, E.	441	2	35	17.50	0.05141

Notes: TLS, TP, TC, AC, and PGR indicate total link strength, total publications, total citations, average citations, and PageRank, respectively.

Table 4a. Top prolific journals

Source title	TP	TC	AC	ABS
Sustainability (Switzerland)	15	264	17.60	*
Corporate Governance (Bingley)	9	250	27.78	2
Business Strategy and the Environment	8	301	37.63	3
Journal of Business Ethics	5	858	171.60	3
Corporate Governance: An International Review	5	272	54.40	3
Management Decision	4	424	106.00	2
Journal of Cleaner Production	4	53	13.25	2
Journal of Global Responsibility	3	67	22.33	1
International Journal of Disclosure and Governance	3	127	42.33	2

Table 4b. Most impactful journals

Source title	TP	TC	AC	ABS
Journal of Business Ethics	5	858	171.60	3
Management Decision	4	424	106.00	2
Business Strategy and the Environment	8	301	37.63	3
British Accounting Review	1	294	294.00	3
Corporate Governance: An International Review	5	272	54.40	3
Sustainability (Switzerland)	15	264	17.60	*
Corporate Governance (Bingley)	9	250	27.78	2
Journal of Business Research	1	246	246.00	3
Journal of Corporate Finance	2	235	117.50	4
Corporate Social Responsibility and Environmental Management	2	187	93.50	1

Notes: TP, TC, and AC indicate total publications, total citations, and average citations, respectively. ABS indicate the ranking based on Academic Journal Guide 2021. * indicates not ranked.

Table 5a. Top prolific countries

Country	TP	TC	AC
China	20	651	32.55
United States	12	474	32.08
United Kingdom	12	385	39.50
Italy	10	276	27.60
Australia	7	221	31.57
India	7	146	20.86
Malaysia	7	130	18.57
Spain	7	291	41.57
Tunisia	7	301	43.00
Canada	6	682	113.67
France	6	226	37.67
Greece	5	341	68.20
Saudi Arabia	5	62	12.40
United Arab Emirates	5	296	59.20

Notes: TP, TC, and AC indicate total publications, total citations, and average citations, respectively.

Table 5b. Top prolific regions

Region	TP	TC	AC
Europe	56	2027	36.20
Asia-Pacific	53	1451	27.38
pan-America	22	1431	65.05
Middle East	12	370	30.83
Africa	9	329	36.56

Notes: TP, TC, and AC indicate total publications, total citations, and average citations, respectively.

Table 6. Keywords with at least three occurrences

Cluster 1. Corporate Governance and Sustainability: Exploring Board Dynamics, CSR, and Performance

Label	Occurrences	PageRanks
Corporate Governance	60	0.02903
CSR	20	0.022039
Board Of Directors	14	0.014117
ESG	9	0.030978
Agency Theory	7	0.011993
Environmental Performance	7	0.023009
Financial Performance	6	0.047588
Governance	5	0.042147
Stakeholder Theory	5	0.086745
Board Composition	5	0.011993
Climate Change	5	0.011993
Firm Performance	4	0.018604
Executive Compensation	4	0.019174
Critical Mass Theory	3	0.014874
Earnings Management	3	0.016577
Critical Mass	3	0.016755
Corporate Sustainability	3	0.016063
Ownership Structure	3	0.015728
CEO Characteristics	3	0.011993
India	3	0.02627
CEO Compensation	3	0.011993
Disclosure	3	0.014871
Gender	3	0.013168

Cluster 2. Impact of Gender Diversity on ESG Performance and Reporting

Label	Occurrences	PageRanks
Gender Diversity	32	0.135822
Board Characteristics	7	0.012843
ESG Disclosure	6	0.026873
CEO Duality	6	0.01928
ESG Performance	6	0.016427
Female Executives	6	0.021852
Voluntary Disclosure	4	0.097762
Board Size	4	0.015391
Sustainability	4	0.092621
Sustainable Development	3	0.021431
Board Independence	3	0.011993

Notes: This table presents the author keywords with at least three occurrences.

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Table 7. Bibliographic coupling-based clusters

Cluster 1. Impact of critical mass of gender diversity on firm decisions					
Authors	Title	Source title	TC	ACY	
Francoeur et al. (2008)	1. Gender diversity in corporate governance and top management	Journal of Business Ethics	534	33.38	
Beji et al. (2021)	2. Board Diversity and Corporate Social Responsibility: Empirical Evidence from France	Journal of Business Ethics	199	66.33	
He and Jiang (2019)	3. Does gender diversity matter for green innovation?	Business Strategy and the Environment	128	25.60	
Gabaldon et al. (2016)	4. Searching for Women on Boards: An Analysis from the Supply and Demand Perspective	Corporate Governance: An International Review	121	15.13	
Darmadi (2013)	5. Do women in top management affect firm performance? Evidence from Indonesia	Corporate Governance (Bingley)	112	10.18	
Adriaanse (2016)	6. Gender Diversity in the Governance of Sport Associations: The Sydney Scoreboard Global Index of Participation	Journal of Business Ethics	78	7.09	
Yang and Wang (2014)	7. The impacts of top management team characteristics on entrepreneurial strategic orientation: The moderating effects of industrial environment and corporate ownership	Management Decision	66	6.00	
Jiang and Akbar (2018)	8. Does increased representation of female executives improve corporate environmental investment? Evidence from China	Sustainability (Switzerland)	58	5.27	
Romano et al. (2020)	9. ESG (Environmental, social and governance) performance and board gender diversity: The moderating role of CEO duality	Sustainability (Switzerland)	53	13.25	
Lu et al. (2019)	10. Female executives and corporate social responsibility performance: A dual perspective of differences in institutional environment and heterogeneity of foreign experience	Transformations in Business and Economics	30	6.00	
Naveed et al. (2021)	11. Board gender diversity and corporate social performance in different industry groups: Evidence from China	Sustainability (Switzerland)	24	8.00	
Ouni, Mansour, and Arfaoui (2020)	12. Board/executive gender diversity and firm financial performance in Canada: The mediating role of environmental, social, and governance (ESG) orientation	Sustainability (Switzerland)	20	5.00	
Ahmad-Zaluki (2012)	13. The pre- and post-IPOs gender composition of board of directors in Malaysia	Gender in Management	20	1.67	
Ma et al. (2022)	14. Sustainable Governance and Green Innovation: A Perspective from Gender Diversity in China's Listed Companies	Sustainability (Switzerland)	14	7.00	
Cambrea, Paolone, Cucari (2023)	15. Advisory or monitoring role in ESG scenario: Which women directors are more influential in the Italian context?	Business Strategy and the Environment	14	14.00	
Cluster 2. Environmental performance and Gender diversity					
Authors	Title	Source title	TC	ACY	

Haque (2017)	The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms	British Accounting Review	294	42
Nguyen et al. (2021)	Environmental performance, sustainability, governance and financial performance: Evidence from heavily polluting industries in China	Business Strategy and the Environment	152	50.67
Khan et al. (2021)	Board composition and social & environmental accountability: A dynamic model analysis of chinese firms	Sustainability (Switzerland)	47	15.67
Al-Qahtani and Elgharbawy (2020)	The effect of board diversity on disclosure and management of greenhouse gas information: evidence from the United Kingdom	Journal of Enterprise Information Management	46	11.50
Nadeem (2021)	Corporate Governance and Supplemental Environmental Projects: A Restorative Justice Approach	Journal of Business Ethics	44	14.67
Kilincarslan, Elmagrhi, and Li (2020)	Impact of governance structures on environmental disclosures in the Middle East and Africa	Corporate Governance (Bingley)	42	10.50
Li, Shao, Zhang (2019)	Green supply chain behavior and business performance: Evidence from China	Technological Forecasting and Social Change	41	8.20
Khairiddine et al. (2020)	Impact of board characteristics on governance, environmental and ethical disclosure	Society and Business Review	35	8.75
Bhuiyan, Huang, and de Villiers (2021)	Determinants of environmental investment: Evidence from Europe	Journal of Cleaner Production	27	9.00
Bueno et al. (2018)	The role of the board in voluntary disclosure	Corporate Governance (Bingley)	26	4.33
Kouaib, Mhiri, and Jarboui (2020)	Board of directors' effectiveness and sustainable performance: The triple bottom line	Journal of High Technology Management Research	22	5.50
Narsa Goud (2022)	Corporate governance: Does it matter management of carbon emission performance? An empirical analyses of Indian companies	Journal of Cleaner Production	19	9.50
Córdova Román, Zorio-Grima, and Merello (2021)	Economic development and CSR assurance: Important drivers for carbon reporting... yet inefficient drivers for carbon management?	Technological Forecasting and Social Change	17	5.67
Jarboui, Dammak Ben Hlima, and Bouaziz (2023)	Do sustainability committee characteristics affect CSR performance? Evidence from India	Benchmarking	15	15.00
Pratama, Che-Adam, Kamardin (2020)	Corporate governance and corporate social responsibility disclosure quality in Indonesian companies	International Journal of Innovation, Creativity and Change	12	3.00
Cluster 3. ESG disclosures and Gender Diversity				
Authors	Title	Source title	TC	ACY
Husted and Sousa-Filho (2019)	Board structure and environmental, social, and governance disclosure in Latin America	Journal of Business Research	246	49.20
Lagasio and Cucari (2019)	Corporate governance and environmental social governance disclosure: A meta-analytical review	Corporate Social Responsibility and Environmental Management	183	36.60
Giannarakis (2014)	Corporate governance and financial characteristic effects on the extent of corporate social responsibility disclosure	Social Responsibility Journal	166	16.60

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Arayssi, Jizi, and Tabaja (2020)	The impact of board composition on the level of ESG disclosures in GCC countries	Sustainability Accounting, Management and Policy Journal	145	36.25
Giannarakis et al. (2014)	Financial, governance and environmental determinants of corporate social responsible disclosure	Management Decision	138	13.80
Atif et al. (2021)	Does board gender diversity affect renewable energy consumption?	Journal of Corporate Finance	129	43.00
Sueyoshi and Goto (2014)	Environmental assessment for corporate sustainability by resource utilization and technology innovation: DEA radial measurement on Japanese industrial sectors	Energy Economics	70	7.00
Fahad and Rahman (2020)	Impact of corporate governance on CSR disclosure	International Journal of Disclosure and Governance	64	16.00
Zaid, Wang, and Abuhijleh (2019)	The effect of corporate governance practices on corporate social responsibility disclosure: Evidence from Palestine	Journal of Global Responsibility	50	10.00
Suttipun (2021)	The influence of board composition on environmental, social and governance (ESG) disclosure of Thai listed companies	International Journal of Disclosure and Governance	40	13.33
Ben Fatma and Chouaibi (2021)	Corporate governance and CSR disclosure: evidence from European financial institutions	International Journal of Disclosure and Governance	23	7.67
Bhatia and Marwaha (2022)	The Influence of Board Factors and Gender Diversity on the ESG Disclosure Score: A Study on Indian Companies	Global Business Review	10	5.00
Cluster 4. CEO Characteristics and Gender Diversity				
Authors	Title	Source title	TC	ACY
Tamimi and Sebastianelli (2017)	Transparency among S&P 500 companies: an analysis of ESG disclosure scores	Management Decision	201	28.71
Nadeem (2020)	Does board gender diversity influence voluntary disclosure of intellectual capital in initial public offering prospectuses? Evidence from China	Corporate Governance: An International Review	86	21.50
Amran et al. (2014)	Determinants of climate change disclosure by developed and emerging countries in asia pacific	Sustainable Development	79	7.90
A.A Zaid et al. (2020)	Corporate governance practices and capital structure decisions: the moderating effect of gender diversity	Corporate Governance (Bingley)	64	16.00
Kaur and Singh (2019)	Do CEO characteristics explain firm performance in India?	Journal of Strategy and Management	28	5.60
Giannarakis et al. (2016)	The impact of corporate social responsibility on financial performance	Investment Management and Financial Innovations	23	2.88
Aabo and Giorici (2023)	Do female CEOs matter for ESG scores?	Global Finance Journal	20	20.00
Chakraborty, Gao, and Sheikh (2019)	Corporate governance and risk in cross-listed and Canadian only companies	Management Decision	19	3.80
Patnaik and Suar (2020)	Does corporate governance affect CEO compensation in Indian manufacturing firms?	Journal of Public Affairs	16	4.00
Chen et al. (2022)	International differences in the CEO gender pay gap	Corporate Governance: An International Review	10	5.00

Gómez-Bezares et al. (2019)	Corporate sustainability and CEO-employee pay gap-buster or booster?	Sustainability (Switzerland)	10	2.00
Cluster 5. Institutional and cultural environment role in Gender Diversity influence				
Authors	Title	Source title	TC	ACY
Lu and Wang (2021)	Corporate governance, law, culture, environmental performance and CSR disclosure: A global perspective	Journal of International Financial Markets, Institutions and Money	109	36.33
Ye et al. (2019)	Does board gender diversity increase dividend payouts? Analysis of global evidence	Journal of Corporate Finance	106	21.20
Ullah et al. (2020)	Female CEOs and investment efficiency: evidence from an emerging economy	Pacific Accounting Review	17	4.25
Velte (2023)	Does sustainable board governance drive corporate social responsibility? A structured literature review on European archival research	Journal of Global Responsibility	16	16.00
Alshirah et al. (2022)	Do Corporate Governance and Gender Diversity Matter in Firm Performance (ROE)? Empirical Evidence from Jordan	Economies	12	6

Notes: TC and ACY indicate total citations and average citations per year, respectively.

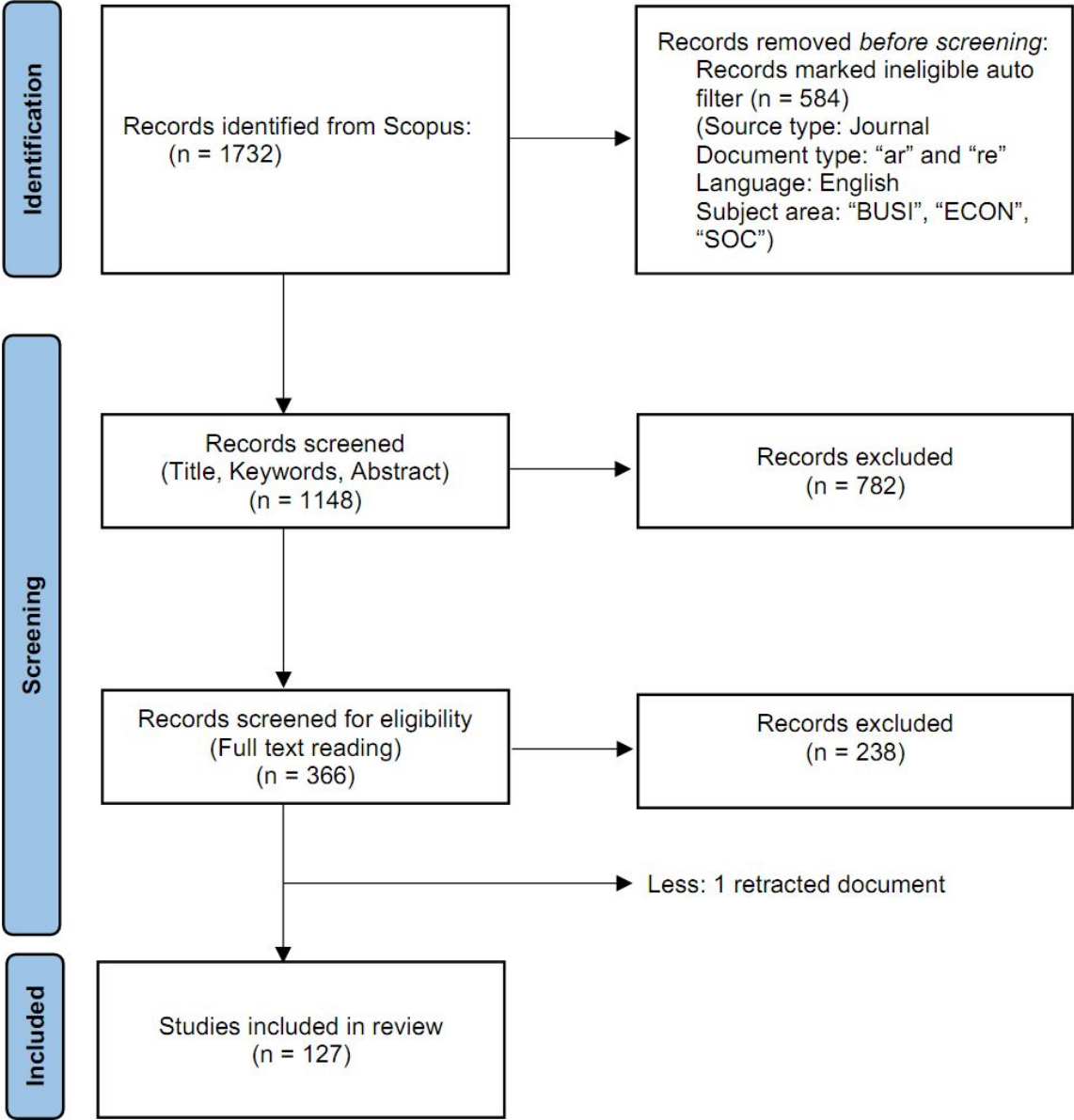


Figure 1. Represents the PRISMA framework of extracting the data from the Scopus database and screening them for final review (Note: Retrieval date is 30 March 2024)

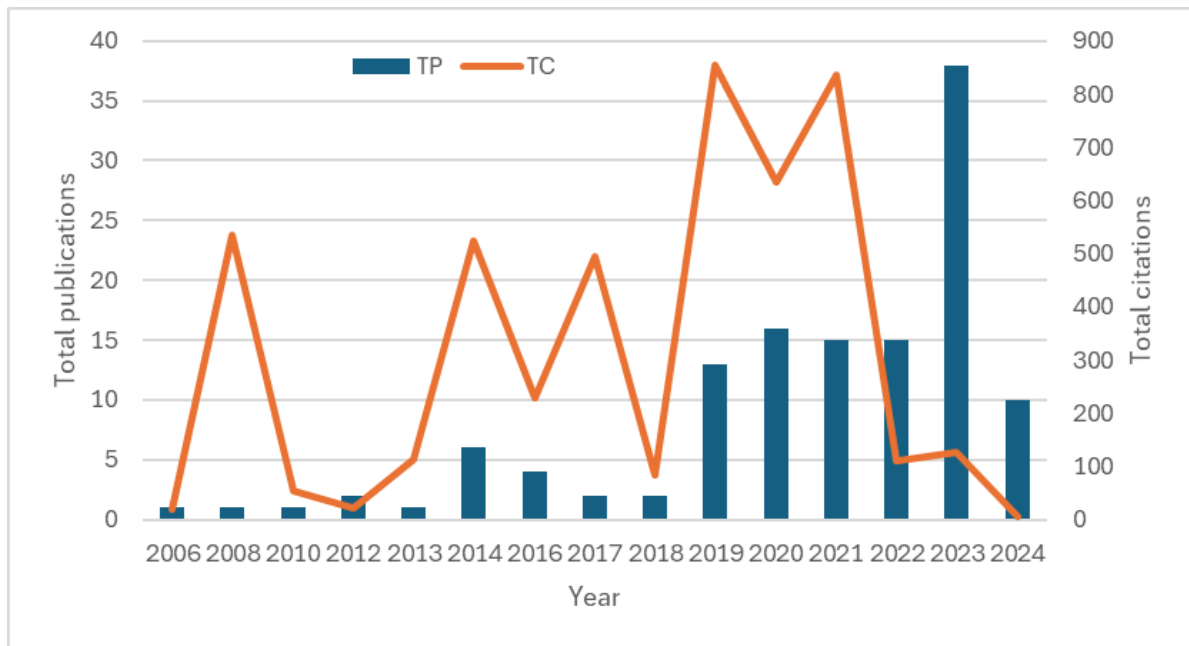


Figure 2. Publication and citation trend (Note: 2024 includes publications from Jan to Mar 2024)

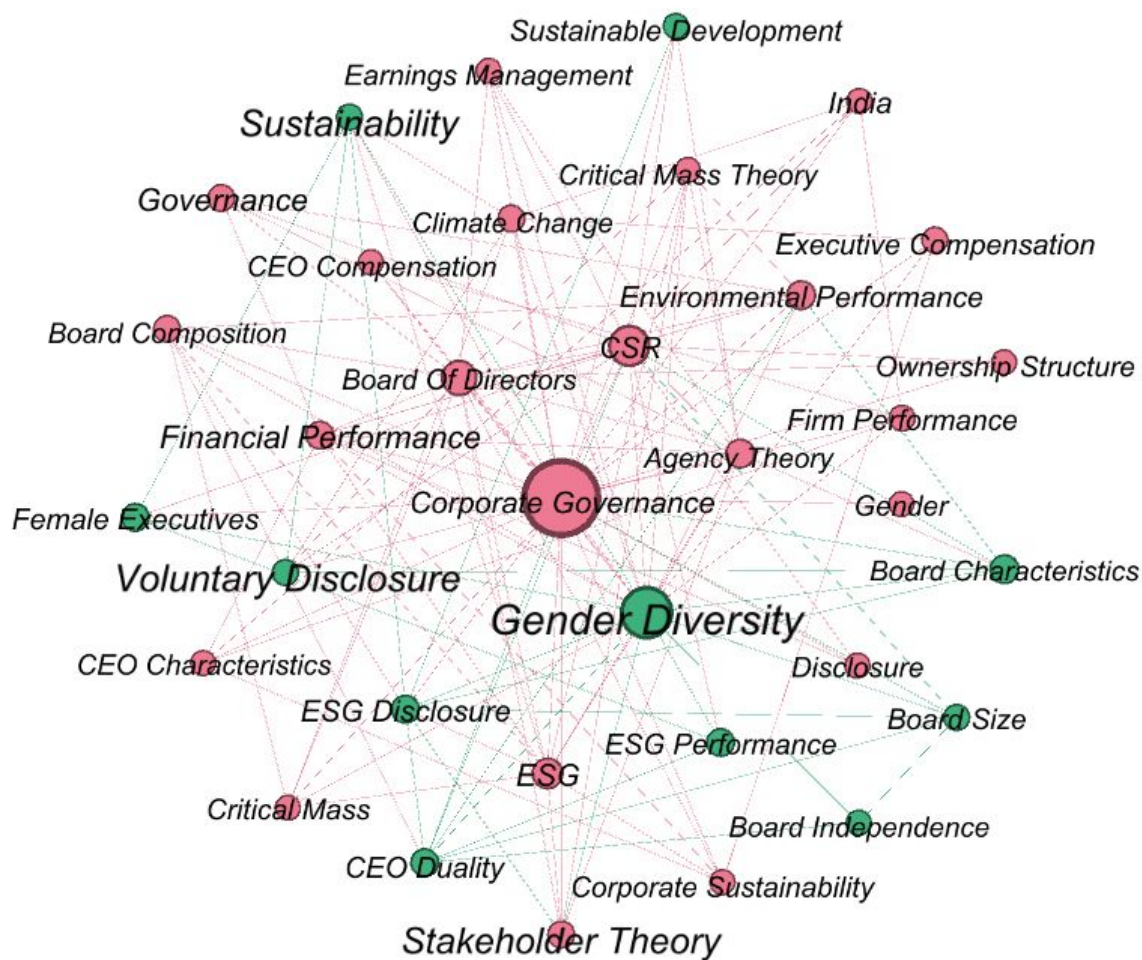


Figure 3. Co-occurrences of 34 author keywords in at least 3 documents. Notes: The node size indicates the weight occurrence, and the size of label is based on PageRank. Total keywords 370.



Figure 4. Cluster 1. Keyword co-occurrence keyword cloud



Figure 5. Cluster 2. Keyword co-occurrence keyword cloud

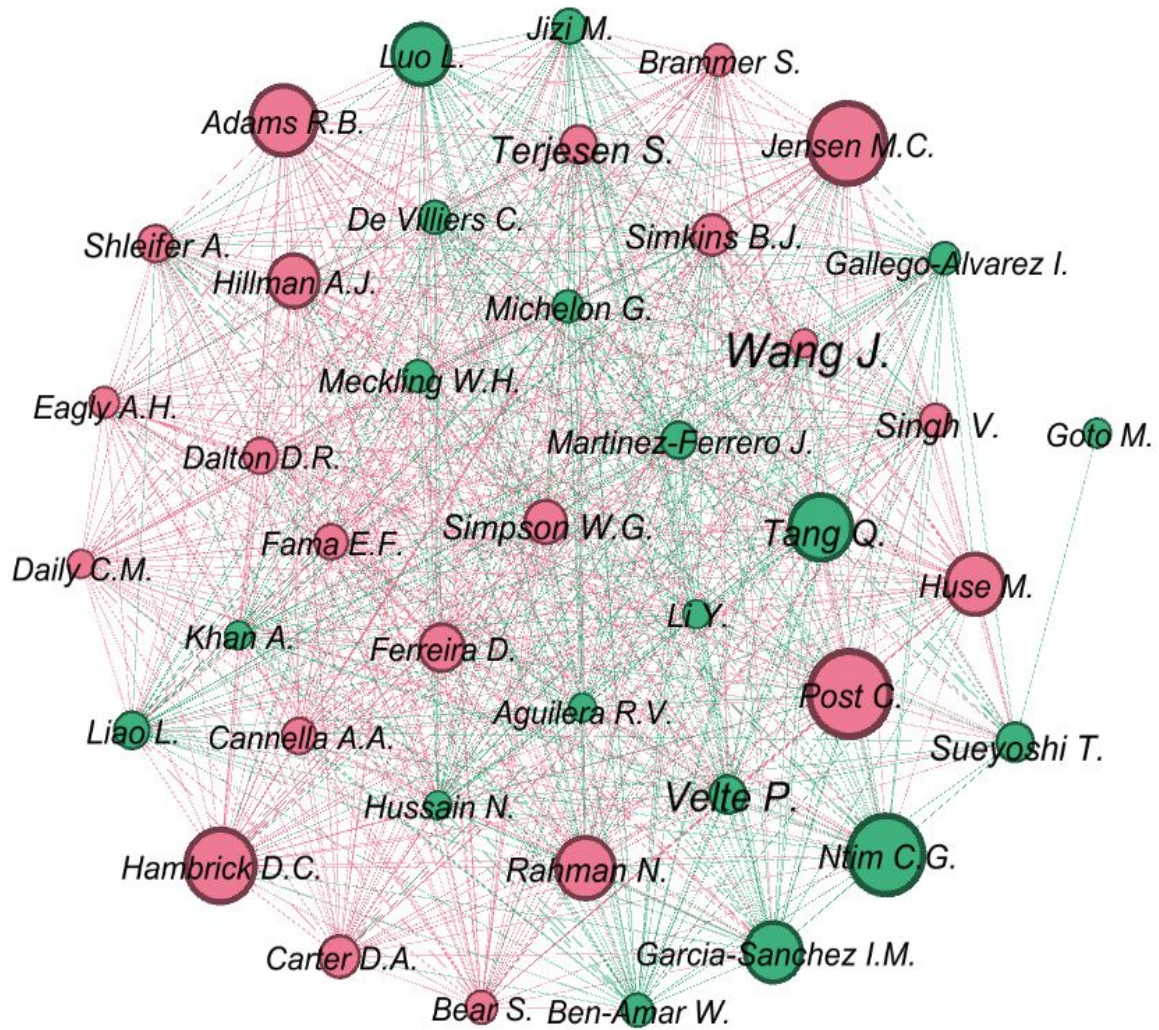


Figure 6. Co-citation network of 41 authors. Notes: The node size indicates the weight citation, and the size of label is based on PageRank. Of 11923, 41 meet threshold of at least 30 citations



Figure 7. Co-citation network of journals. Notes: The node size indicates the weight citation, and the size of label is based on PageRank. (Minimum 50 citations, out of 3007 sources, 25 meet the threshold)

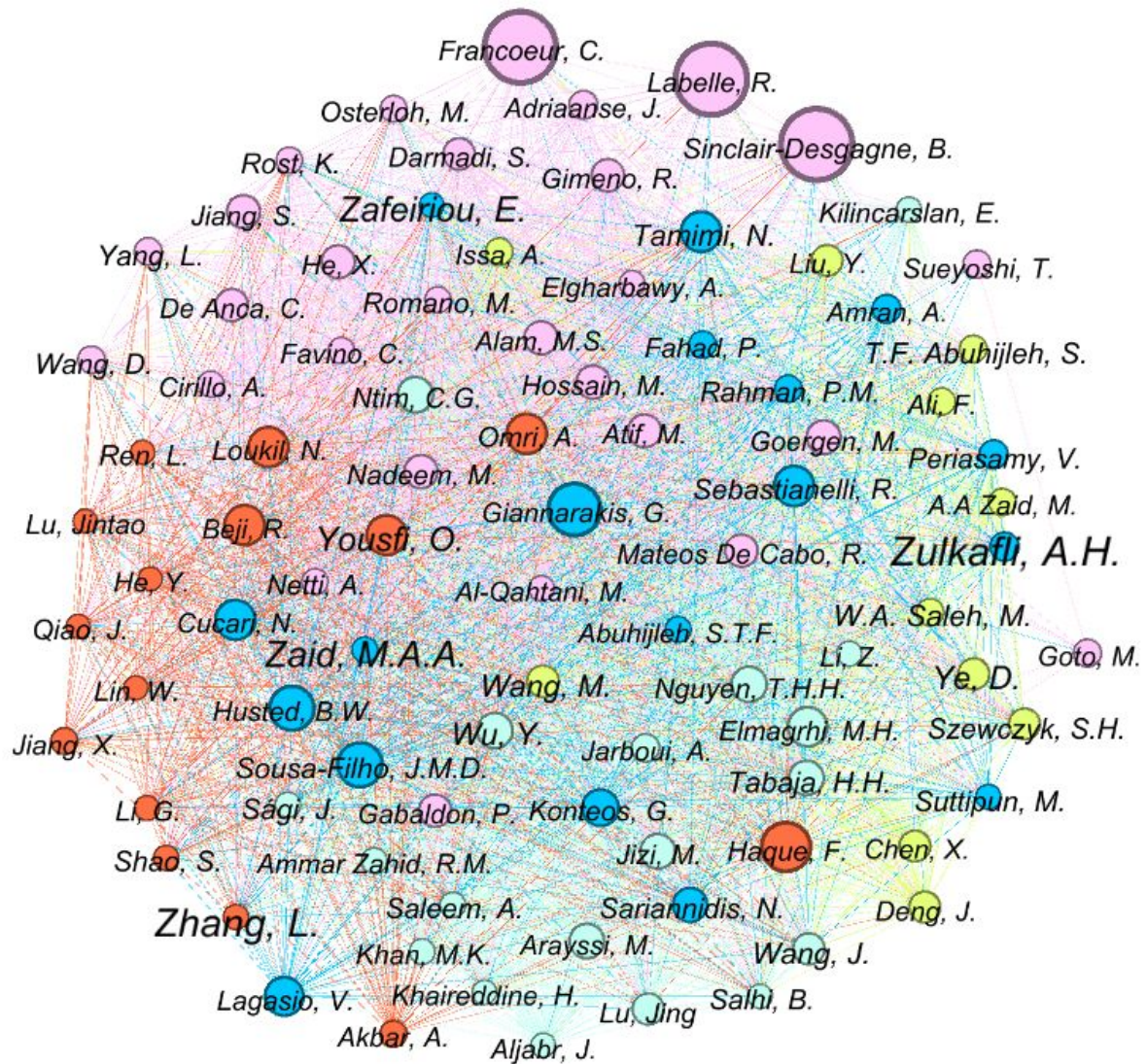


Figure 8. Bibliographic coupling of authors. Notes: 1 document 30 citation 344 found 91 matches 89 connected, size of node based on weight citations and label size based on PageRank.

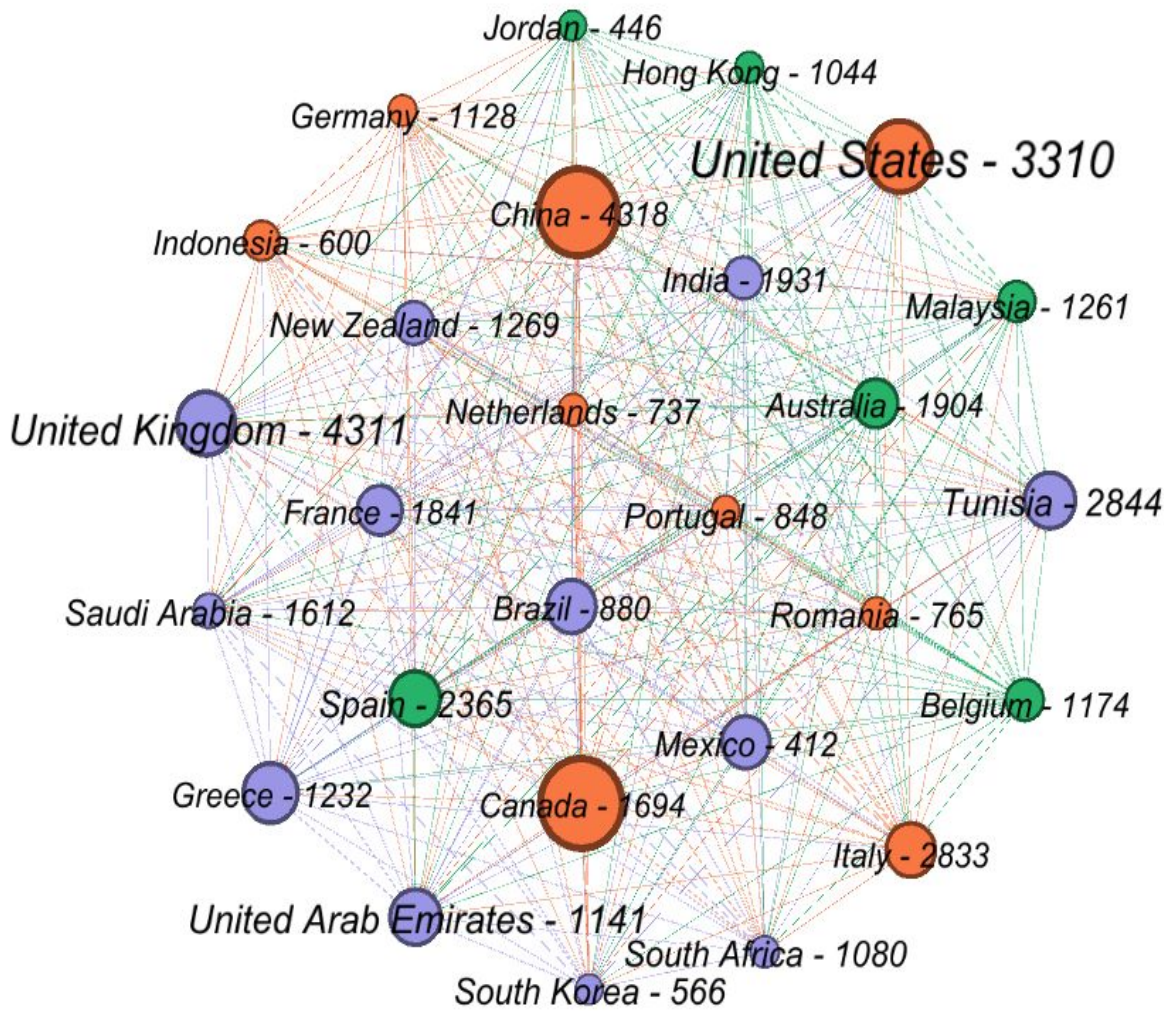


Figure 9. Bibliographic coupling of countries. Notes: The values indicate the total link strength, the node size indicates the weight citation, and the size of label is based on PageRank. (Minimum 2 documents and at least 10 citations, out of 49 countries, 27 meet the threshold.)



Figure 10. Bibliographic coupling of journals. Notes: The values indicate the total link strength, the node size indicates the weight citation, and the size of label is based on PageRank. (Minimum 2 documents and at least 10 citations, out of 69 journals, 16 meet the threshold.)

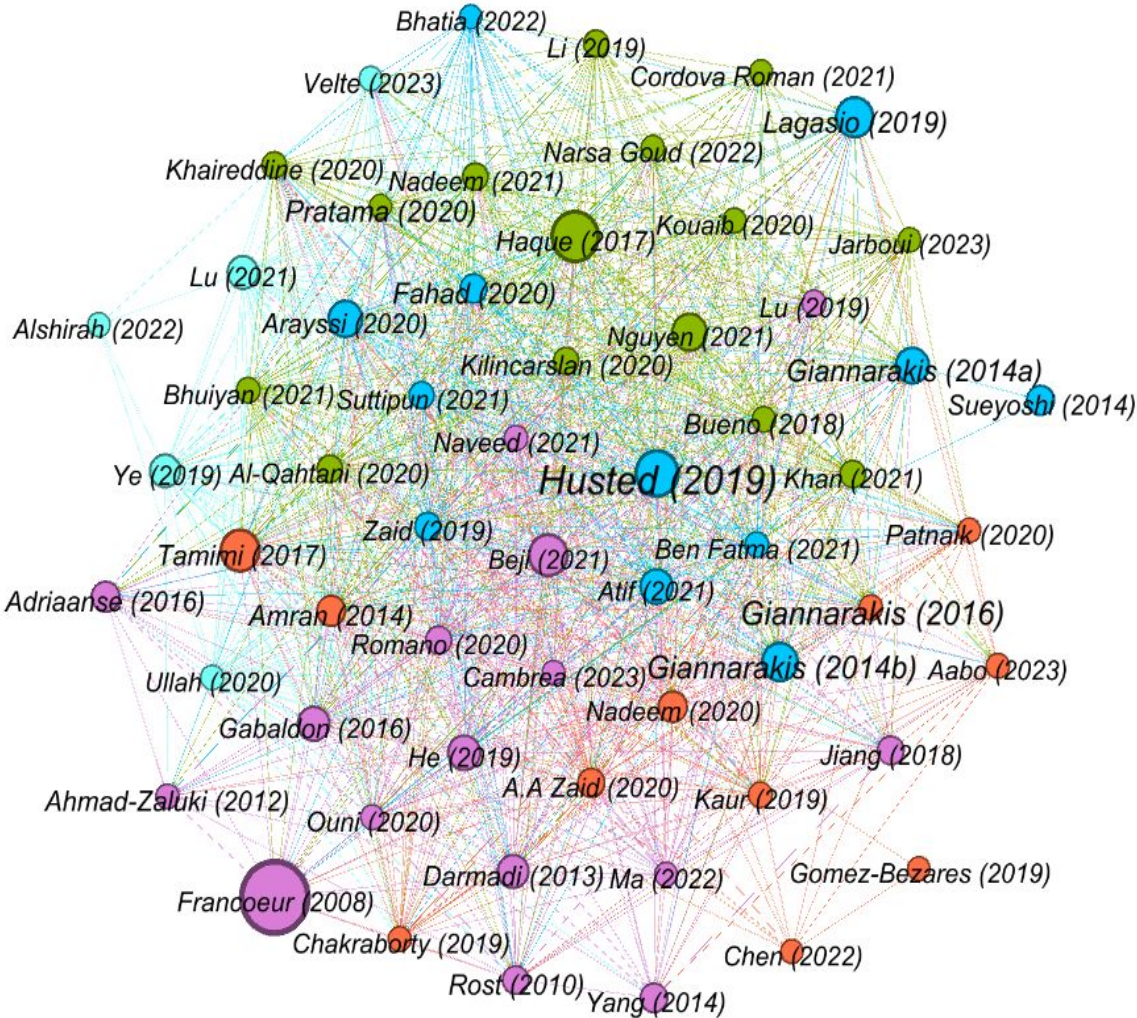


Figure 11. Bibliographic coupling of documents. Notes: The node size indicates the score citation, and the size of label is based on PageRank. At least 10 citation 61 meet 59 connected (Cluster 1: Purple, Cluster 2: Green, Cluster 3: Blue, Cluster 4: Red, Cluster 5: Light blue)

Dear Professor Tom Smith,
Editor of Journal of Accounting Literature

Thank you for your detailed assessment of our manuscript “CEO Gender Perspectives in Climate and Environmental Governance: A Systematic Literature Review and Bibliometric Analysis” and for giving us the opportunity to revise and resubmit our research paper. As advised, we have carefully considered the reviewers’ feedback, addressed all feedback, and highlighted it in the revised manuscript for easy identification of the changes in the research article.

We also add our responses to reviewers’ comments with this letter for your information. The changes made corresponding to Reviewer 1 comments are summarized in the tables given below:

We thank you for your kind help and assistance.

Best regards,

Authors

Reviewer 1 Feedback: Minor Revision

Comments:

Reviewer 1 comments	Authors response
Overall comment Good but needs improvements	Thank you for your thorough review of our manuscript and for providing very encouraging feedback on our paper. We appreciate the constructive feedback you have provided, and we have carefully addressed each of your concerns in our revised manuscript. We are very grateful for the precious opportunity to revise and resubmit the paper based on your comments. We fully appreciate your time and effort in providing us with these very helpful and, indeed, constructive suggestions.
Originality: Does the paper contain new and significant information adequate to justify publication?: yes, the paper provide a clear insight to orient prior research. The paper introduces the importance of leadership in environmental governance, specifically addressing the role of CEOs and how CEO gender plays into this dynamic. This effectively sets the stage for the paper's objectives. It situates the issue within the broader discourse on climate change and the increasing awareness of gender equality, tying together two significant themes.	Thank you for the positive feedback and appreciation of our paper’s originality.
Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: The introduction presents a solid framework for the paper's exploration of CEO gender and its impact on environmental governance. Yet, some improvements might help make it clearer: 1- Please follow chronological order when presenting more than one reference in the text	Thank you for the feedback. All references are organized in a chronological order.
2- The transition from discussing the theoretical importance of the topic to the use of bibliometric analysis could be smoother (just one transition sentence) In this version, it jumps somewhat abruptly from the importance of studying CEO gender to the methodological justification. A clearer bridge between these two sections would improve the flow	Thank you for your excellent advice. In line with your suggestion, we have added a sentence to bridge these two sections to enhance the flow and logic of our paper. Please see the details at the end of section 2, on page 5. <i>“... In order to understand how those theoretical frameworks have been applied by prior studies, the following sections provide details of data and research methodology and then discuss the results on the influences of CEO gender on climate and environmental performance.”</i>
3- Elaborate slightly on the regional disparities to show why certain regions merit more attention in this context. For the theoretical background, it is well-structured and comprehensive, covering a variety of relevant frameworks such as	We are very grateful for your positive feedback and suggestions. In line with your recommendation, we have added a paragraph into section 2 “Theoretical background” as well as in discussion of five “clusters based on bibliographic coupling” to demonstrate how our multiple theoretical framework approach supplements each other in explaining

upper echelon theory, critical mass theory, and other perspectives on gender diversity in corporate leadership. The use of empirical evidence from both developed and emerging markets provides a balanced view of the impact of CEO characteristics on environmental and climate performance. The integration of studies from different regions and contexts strengthens the argument.

However, one potential area for improvement is a clearer differentiation between the roles of the various theories, especially in how they complement or contrast with each other in explaining the influence of CEO characteristics on environmental governance. Additionally, some citations might benefit from more context to clarify the specific contribution of each study to the theoretical argument

decision-making of the CEO as the top management and its impact on environmental and climate performance. Please see details in section 2, page 5 and section 5 from page 11 to page 13. For example.

“... In this study, we conduct a systematic review of prior studies based on a combination of multiple theoretical frameworks (i.e., upper echelons theory, critical mass theory) to explore further the importance of CEO gender in relation to climate and environmental governance. These theories complement each other to understand how top management characteristics affects the decision making and organizational performance in relation to environmental and climate-related issues (Francoeur et al., 2008; He and Jiang, 2019; Ntim & Soobaroyen, 2013). For example, critical mass theory explains how gender diversity of the board and senior management influence the decision making of the board, due to the significance presence of women on board in relation to firm green innovation (He and Jiang, 2019), ESG performance (Romano et al., 2020) or CSR performance (Lu et al.; 2019). While the upper echelons perspective explain other characteristics of the top management and CEO. For example, the duality function of the CEO and the chair of the board bring more power to CEO in decision-making, under the lens of the upper echelons theory, duality CEO may not be always interested in environmental innovation activities (Phung et al., 2023) or ESG performance (Chebbi et al., 2024). In addition, other characteristics of CEO, such as qualification, working experience, age or background also found to have an impact on organizational performance in different aspects of financial, social or environmental activities (Gull et al., 2018; Manner, 2010; Shen et al., 2022).”

Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: The data section : clear step no comment // just if I'm not mistaken the authors did not specify since when are the selected documents the word “recent surge” in the abstract was not clarified; in the descriptive analysis section “The extant literature is unevenly spread over 15 years in an 18-year period from 2006 to 20241 (See Table 1)” you may add the information at the data level.

Thank you for appreciating the data section and highlighting the issue with the time span. We have now updated the abstract by adding the time to explain the phrase “recent surge”. Additionally, as suggested, we have added the time span to the data section. Please see the last line in Section 3.1 as below:

“No time span was set by the authors, however, the final sample span from the year 2006 to March 2024.”

Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: Descriptive section : the descriptive analysis in the results

Thank you for appreciating the results section, and suggesting the improvements. We have improved the section based on your comments in Section 4.1.4. as below:

section provides a clear and detailed account of publication and citation trends, influential documents, prolific authors, and productive journals. It effectively highlights key findings, such as the surge in publications since 2019 and the concentration of literature in high-quality journals. However, there are a few points for potential improvement: -Although you highlight the most productive countries and regions, more emphasis on the implications of the underrepresentation of African and Middle Eastern contexts would be beneficial. This could lead into a discussion on the need for localized research that reflects the unique socio-economic and environmental challenges in these regions.	<i>“.....The limited research from Africa and the Middle East may stem from structural barriers, particularly the intersection of gender norms and leadership dynamics within these regions. Given that environmental governance is deeply intertwined with local economic structures, resource availability, and socio-political factors, future studies in line with the neo-institutional theory (like Kilincarslan, 2020) could provide insightful outcomes. Additionally, more localized research accounting for distinct regional challenges and socio-cultural perceptions of female leadership in corporate sustainability could be desired. For instance, theories like critical mass, image motivation, and resource dependence need to be explored (Tawiah et al., 2024). Additionally, fostering policy-driven research agendas and encouraging cross-regional collaborations can help bridge this gap, offering a more comprehensive global perspective on the role of gender in climate and environmental governance.”</i>
- It would also be useful to tie the findings from this descriptive analysis back to the theoretical frameworks discussed earlier, especially in terms of how the research contributions align with theories like upper echelon theory or critical mass theory.	Thank you for suggesting this insightful improvement. Delving into the descriptive analysis, we find that the top-cited documents have contributed to the different theories. We have added brief discussion on the same as follows: <i>The top-cited documents contribute to the agency theory (Arayssi, Jizi and Tabaja, 2020; Francoeur et al., 2008; Haque, 2017; Nguyen et al., 2021; Tamimi and Sebastianelli, 2017), upper echelons theory (Beji et al., 2021; Francoeur et al., 2008), stakeholder theory (Husted and Sousa-Filho, 2019; Francoeur et al., 2008, critical mass theory (Husted and Sousa-Filho, 2019), resource-dependence theory (Beji et al., 2021; Haque, 2017; Nguyen et al., 2021; Tamimi and Sebastianelli, 2017), glass cliff theory (Beji et al., 2021), social support theory (Arayssi, Jizi and Tabaja, 2020), political cost theory (Giannarakis, Konteos and Sariannidis, 2021), and legitimacy theory (Giannarakis, Konteos and Sariannidis, 2021; Nguyen et al., 2021).</i>
- The authors mentioned “Table 3 presents the list of most prolific authors with at least two documents. Giannarakis, G. is the most productive author, with four documents having received 329 citations, followed by Jarboui, A., Konteos, G., and Nadeem, M., with three documents having received 72, 163, and 130 citations, respectively. Among Giannarakis, G.'s documents, Giannarakis, Konteos, and Sariannidis (2014) – "Financial, governance and environmental determinants of corporate social responsible disclosure" is the most cited document with 138 citations”. Liu, C. (2018). Are women greener? Corporate gender diversity and environmental violations. Journal of Corporate Finance, 52, 118-142. (571 citations) . I’m not sure since I didn’t do research (just a quick one to verify) but I think she doesn’t have another paper in the same topic (not sure) this is why maybe it is not included or may be excluded in the filtering process. but 571 citations are good enough	Thank you for raising this question. We wish to inform you that the documents examined in the study are based on the search string - (TITLE-ABS-KEY ("climate" OR "environment*") AND TITLE-ABS-KEY ("governance") AND TITLE-ABS-KEY ("ceo" OR "chief executive officer" OR "executive*" OR "top management"))). After reading your comments, we downloaded the paper Liu (2018) and read the title, abstract and keywords to identify why the paper is not a part of our analysis. We find that while the keywords “Environmental,” “chief executive officers,” and “CEO” are available in the title-abstract-keywords of Liu (2018), the keyword “governance” is nowhere available. Thus, it was excluded by the Scopus database during the initial automatic search.

(so maybe just an explanation why the paper wasn't considered it is just by curiosity to better understand the filtering process)	
- For the general structure and flow, the section transitions smoothly between the different forms of network analysis. however, some sub-sections could benefit from more explicit topic sentences that summarize the key insights. For example, the transition from keyword analysis (4.2.1) to co-citation analysis (4.2.2) could be smoother with an introductory sentence explaining the shift in focus from keywords to relationships among authors and journals.	Thank you for suggesting this improvement. We have now made the suggested improvements. We have added transition sentences at the beginning of the sub-sections in the result section.
- The co-citation analysis is well-structured, but again, adding more explanation about why these authors and journals are frequently co-cited would strengthen the argument. You mention that Post, Ntim, Tang, etc., are highly co-cited, but what does this say about the field or the current state of research? Does it suggest certain dominant theories or research methods?	While the commonly cited papers of Jensen, M.C. are seminal papers on theory development, those of Post, C. and Tang, Q. are on gender diversity. Those of Ntim, C.G. are also on corporate governance and sustainability, and of Luo L. are on carbon disclosures. Thus, these authors being highly co-cited indicate the clustering of the current literature around the intersection of corporate governance, gender diversity, carbon disclosure and related theories. This is also evident from the keyword analysis. A few examples of the referenced papers by these authors are given below: Fama E.F., Jensen M.C., Separation of Ownership and Control, J. Law Econ., 26, 2, Pp. 301-325, (1983) Jensen M.C., Meckling W.H., Theory of The Firm: Managerial Behavior, Agency Costs and Ownership Structure, J. Financ. Econ, 3, Pp. 305-360, (1976) Jensen M.C., Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, The American Economic Review, 76, 2, Pp. 323-329, (1986) Fama E.F., Jensen M.C., Agency Problems and Residual Claims, The Journal of Law & Economics, 26, 2, Pp. 327-349, (1983) Bear S., Rahman N., Post C., The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation, Journal of Business Ethics, 97, 2, Pp. 207-221, (2010) Post C., Rahman N., Mcquillen C., From Board Composition to Corporate Environmental Performance Through Sustainability-Themed Alliances, Journal of Business Ethics, 130, 2, Pp. 423-435, (2015) Bear S., Rahman N., Post C., The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation, Journal of Business Ethics, 97, Pp. 207-221, (2010) Post C., Byron K., Women on Boards and Firm Financial Performance: A Meta-Analysis, Academy of Management Journal, 58, 5, Pp. 1546-1571, (2015) Byron K., Post C., Women on Boards of Directors and Corporate Social Performance: A Meta-Analysis, Corporate Governance: An International Review, 24, 4, Pp. 428-442, (2016)

Liao L., **Luo L., Tang Q.**, Gender Diversity, Board Independence, Environmental Committee and Greenhouse Gas Disclosure, *Br. Account. Rev.*, 47, 4, Pp. 409-424, (2015)

Zalata A.M., **Ntim C.G.**, Alsohagy M.H., Malagila J., Gender diversity and earnings management: the case of female directors with financial background, *Review of Quantitative Finance and Accounting*, 58, 1, pp. 101-136, (2022)

Orazalin N.S., **Ntim C.G.**, Malagila J.K., Board Sustainability Committees, Climate Change Initiatives, Carbon Performance, and Market Value, *Br. J. Manag*, 35, pp. 295-320, (2023)

Haque F., **Ntim C.G.**, Environmental policy, sustainable development, governance mechanisms and environmental performance, business strategy and the environment., 27, 3, pp. 415-435, (2017)

Ntim C.G., Soobaroyen T., Corporate governance and performance in socially responsible corporations: New empirical insights from a neo-institutional framework, *Corporate Governance An International Review*, 21, 5, pp. 468-494, (2013)

Elmagrhi M.H., **Ntim C.G.**, Elamer A.A., Zhang Q., A study of environmental policies and regulations, governance structures, and environmental performance: the role of female directors, *Business Strategy and the Environment*, 28, 1, pp. 206-220, (2019)

Luo L., Tang Q., Fan H., Ayers J., Corporate carbon assurance and the quality of carbon disclosure, *Account. Financ*, 63, pp. 657-690, (2023)

Jiang Y., **Luo L.**, Xu J., Shao X., The value relevance of corporate voluntary carbon disclosure: Evidence from the United States and BRIC countries, *J. Contemp. Account. Econ*, 17, (2021)

- While the clustering based on bibliographic coupling is described, the explanation of what differentiates these clusters could be more nuanced. There could be more emphasis on what the implications of these thematic clusters are for the research field as a whole.

Thank you for the feedback.
In line with your suggestion, we have revised and ensured that the discussion of clusters has been further elaborated on how they differentiate from the others. Please see details in section 5.
A concluding paragraph is added in section 5 to address the implications of thematic clusters for the research field as a whole.

- One last question, among the five clusters presented, is there a noticeable trend where certain clusters dominate the research focus during specific periods, followed by other clusters becoming more prominent over time? Since as you have mentioned : “Research can also be conducted on national laws and policies introduced during specific event periods and how these influence the impact of gender diversity on ESG”

Thank you for interesting question. All the clusters have evolved parallel as can be seen through the papers published across the periods. There is no evidence of chronological progression or domination any one cluster. We believe this is a very good question for future research to explore further whether any cluster becoming more prominent over time.

Practicality and/or Research implications: Does the paper identify clearly any implications for practice and/or further research? Are these implications consistent with the findings and conclusions of the paper?: the conclusion is good, yet the flow of the conclusion could

Thank you for the feedback. In line with your recommendation, we revised the paper to ensure the individual clusters paragraph is more concise. Also, policy recommendations and actionable steps have been added in the conclusion.

1 2 3 4 5 6 7 8 9 10 11	be more concise, especially in the sections discussing the findings from individual clusters. There is some repetition regarding the role of gender diversity, which could be streamlined to improve readability without losing critical insights. regarding the implications, It would strengthen your argument to provide specific policy recommendations or actionable steps for companies and regulators. For example, you might suggest initiatives to promote gender diversity in boardrooms or policy reforms to incentivize such practices.	
12 13 14 15 16 17	Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: good	Thank you for the feedback. We are very grateful for your encouraging comment.
18 19 20 21 22 23 24 25	Abstract: Does the abstract relate to the article? Does it provide an adequate summary of the content? Is the language easy to understand and clear for the reader?: The abstract could be more specific about what constitutes the "recent surge" in publications. For example, specifying the period over which these publications increased would give clearer insight.	Thank you for the feedback. Following your suggestion, the abstract has been updated with the period 2006-2024 to highlight the "recent surge" in publications.