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BOARD NETWORKS, DIVERSITY, AND ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW

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Abstract:

This systematic literature review examines how board network centrality and board diversity shape environmental, social, and governance (ESG) performance within corporate governance. Although prior studies have linked director networks and board composition to sustainability-related outcomes, the evidence remains fragmented because these governance attributes are often examined separately. This review addresses that gap by integrating insights from social network and resource dependence perspectives to explain how board connectedness and diversity jointly influence ESG performance, sustainability disclosure, and governance-related innovation. Guided by the PRISMA 2020 framework, the review systematically searched Scopus and Web of Science for English-language journal articles published between 2022 and 2025. After applying explicit inclusion and exclusion criteria, 24 eligible studies were retained and analysed using thematic synthesis. Three dominant themes emerged: (i) board network centrality and governance effectiveness, (ii) board diversity and ESG performance, and (iii) sustainability-driven innovation and reporting

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practices. The findings indicate that centrally positioned boards are frequently associated with stronger ESG performance, more credible sustainability disclosure, and greater adaptive capacity, particularly in resource-intensive and highly regulated settings. Board diversity, especially gender diversity, generally strengthens transparency, stakeholder responsiveness, and sustainability oversight, although its effects remain contingent on board processes, organisational culture, and institutional context. Overall, this review contributes by offering an integrated governance lens on board networks, diversity, and ESG, while clarifying the organisational and institutional conditions under which board attributes are most likely to support credible and sustained sustainability outcomes.

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Keyword:

Board Diversity; Corporate Governance; Director Networks; ESG Performance; Sustainability



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Introduction

Corporate governance plays a central role in organisational success, particularly as companies respond to the growing demands of sustainability and environmental, social, and governance (ESG) performance. Contemporary governance frameworks are increasingly expected to address environmental and social concerns while maintaining ethical business practices in dynamic and competitive markets (Chen, 2023). In this context, understanding board-level dynamics, particularly through board network centrality and board diversity, has become increasingly important in explaining variations in sustainability-related outcomes (Romano et al., 2020).

Director networks refer to the strategic positioning and connectedness of board members within corporate networks. These networks facilitate access to information, strengthen inter-organisational ties, and enhance strategic decision-making capabilities (Dong et al., 2022; Romano et al., 2020). Companies with highly connected boards are often better positioned to access critical resources, engage influential stakeholders, and respond more effectively to sustainability pressures (Menicucci & Paolucci, 2022). At the same time, board diversity, including gender, ethnicity, and professional background, can strengthen governance quality by broadening perspectives, encouraging innovative thinking, and improving accountability (Yadav & Prashar, 2022; Tran et al., 2024).

Diverse boards may also enhance decision-making by bringing a wider range of experiences and perspectives to board deliberations, thereby supporting ethical judgement and long-term value creation (Tran et al., 2024). Prior studies suggest that these governance attributes are

especially consequential in highly regulated or rapidly evolving sectors (Chen, 2023). Board network centrality has also been associated with improved ESG disclosure, as interconnected boards facilitate knowledge sharing and greater transparency (Manita et al., 2018). Similarly, diverse boards can enhance organisational legitimacy and stakeholder trust by supporting more inclusive and ethically grounded governance practices (Alodat & Hao, 2024). During periods of disruption, such as the COVID-19 pandemic, strong governance structures and diverse board perspectives have also been linked to greater organisational resilience (Peng & Chen, 2024).

Despite growing scholarly interest in board-level governance and sustainability, the literature remains fragmented in several important respects. Existing studies have generally examined board network centrality, board diversity, ESG disclosure, and sustainability innovation as separate lines of inquiry, thereby limiting understanding of how these governance attributes jointly shape sustainability outcomes (Donkor et al., 2023; Shu et al., 2024; Wan Mohammad et al., 2023). This fragmentation is particularly evident in the limited integrative review evidence explaining how directors' structural connectedness and board composition interact across different organisational and institutional settings to influence ESG-related outcomes (Dong et al., 2022; Menicucci & Paolucci, 2022; Tran et al., 2024). As a result, the combined governance implications of board network centrality and board diversity for ESG performance remain insufficiently synthesised.

This systematic literature review addresses that gap by integrating insights from Social Network Theory and Resource Dependence Theory to examine how board network centrality and board diversity collectively influence ESG-related outcomes (Romano et al., 2020; Musa et al., 2020). Specifically, the review seeks to explain not only whether these board attributes are associated with sustainability performance, disclosure, and innovation, but also under what organisational and institutional conditions their effects are more likely to be strengthened or constrained (Shakil, 2020; Yadav & Prashar, 2022). In doing so, this study offers a more coherent governance-based understanding of the relationship between board structure, board composition, and corporate sustainability, while providing a clearer foundation for future empirical and policy-oriented research.

Bottom of Form Literature Review

Corporate governance scholarship has increasingly emphasised the role of board structures, particularly director network centrality and diversity in shaping sustainability outcomes. This section synthesises the literature around three core themes that emerged from recent empirical studies: (1) Director Network Centrality and Corporate Governance Effectiveness, (2) Board Diversity and ESG Performance, and (3) Sustainability, Innovation, and Reporting Practices. Collectively, these themes are interpreted through Social Network Theory and Resource Dependence Theory, which explain how board connectedness and access to external resources shape governance capacity, while stakeholder-oriented and adaptive governance perspectives help clarify how board diversity influences ESG-related outcomes.

Director Network Centrality and Corporate Governance Effectiveness

Director network centrality has emerged as a critical element in understanding how director interconnectivity influences corporate sustainability. Based on Social Network Theory (SNT), the centrality value reflects the degree to which a director holds a strategic position within a network. Centrally positioned directors are more likely to access critical information,

resources, and influence within interlocking corporate networks. Prior studies consistently documented that directors with high centrality enable stronger corporate governance outcomes. For example, Zeng et al. (2024) and P.-G. Shu et al. (2024) demonstrate that companies with centrally positioned directors experience reductions in corporate fraud and improvements in internal control systems. These benefits stem from enhanced communication, monitoring, and decision-making capacities. Similarly, Feng et al. (2024) found that companies with centrally positioned directors tend to achieve higher ESG ratings, greater media visibility, and stronger market reputation, underscoring the signalling value of network centrality in sustainability governance.

Additionally, Resource Dependence Theory supports the argument that central directors function as conduits to external information, resources and stakeholder expectations, particularly during periods of uncertainty (Menicucci & Paolucci, 2022). For example, Harjoto and Wang (2024) documented that directors with high centrality demonstrated greater resilience by maintaining ESG transparency amid economic policy volatility.

However, these advantages are not universal. Zhao and Chan (2023) noted that interlocking directorates may become less effective under highly regulated regimes, while Chin et al. (2024) indicated that political connections, although potentially useful for maintaining stability, may weaken transparency in governance environments. This highlights an important qualification: although centrality generally enhances sustainability outcomes, contextual factors such as regulation, industry type, and political connections may moderate these effects.

Critically, most empirical studies focus on Asian and European markets, raising the question of generalizability across corporate governance systems. Moreover, few studies explore how digital board networks through cross-platform data sharing dynamically change the structure and utilisation of director centrality. Future studies should examine how emerging governance technologies, such as AI-enabled dashboards and network analytics, interact with director positions to shape sustainability outcomes.

Overall, director network centrality is positively associated with stronger corporate governance practices and improved ESG outcomes. However, the strength of this relationship depends on contextual and institutional characteristics, an area that remains underexplored in current research. Also, future studies should adopt a cross-country, multilevel perspective to better understand how director centrality operates across diverse regulatory and cultural landscapes.

Board Diversity and ESG Performance

Board diversity has become a central pillar in corporate governance, particularly in advancing ESG performance. Based on Stakeholder Theory and Resource Dependence Theory, prior studies argued that diverse boards, comprising varied gender, ethnic, and professional backgrounds, provide different perspectives, leading to improved strategic oversight, innovation, and stakeholder responsiveness (Yadav & Prashar, 2022; Kabir et al., 2023).

Several empirical studies support this view. For example, Mallidis et al. (2024) and Lu et al. (2025) found that gender-diverse boards are significantly associated with enhanced environmental performance and reduced ESG-related controversies, especially when companies are committed to frameworks such as the United Nations Global Compact and ISO standards. These studies suggest that diversity fosters broader ethical awareness and risk

mitigation strategies. Wan Mohammad et al. (2023) further observed that Malaysian companies with women directors displayed more comprehensive ESG disclosures, though notably, the relationship weakened in companies with entrenched competitive advantages, suggesting the governance structure may dilute the effect of diversity.

The strategic role of women directors is also evident in crisis contexts. Shivhare and Shunmugasundaram (2024) and Saraite-Sariene et al. (2022) found that women's leadership positively influences transparency, communication, and stakeholder trust, particularly during social or environmental disruptions. This finding supports the notion that gender diversity increases organisational agility and accountability in navigating complex, dynamic environments.

However, the literature is not unanimous. Studies like Al-Shaer et al. (2024) emphasised that gender diversity alone does not guarantee effective ESG outcomes unless accompanied by functional board structures and inclusive cultures. Moreover, excessive tokenism or imbalanced representation may hinder board cohesion or decision quality (Romano et al., 2020). These findings suggest a moderating effect of board processes and organisational culture on the diversity-performance link.

Additionally, several prior studies are geographically focused on Asia and Europe, with limited insights into board diversity in Africa, the Middle East, and Latin America. This presents a gap in understanding how cultural norms and institutional maturity influence the translation of board diversity into ESG outcomes.

Future studies should adopt cross-sectional approaches by considering not just gender, but also age, tenure, expertise, and cultural background, to uncover multidimensional effects of diversity. Moreover, longitudinal studies are needed to examine whether the impact of diversity on ESG performance persists or evolves over time.

Overall, board diversity is positively associated with ESG outcomes, particularly in enhancing transparency, stakeholder engagement, and innovation. Yet, these effects are shaped by organisational culture, structural supports, and socio-political contexts—highlighting the need for more nuanced, context-sensitive investigations.

Sustainability, Innovation, and Reporting Practices

The interaction between board governance and sustainability reporting has become an increasingly important focus in contemporary corporate accountability debates. Research in this area highlights that director network centrality and board diversity significantly influence not only ESG performance, but also how companies disclose, innovate, and adapt to sustainability challenges (Setia et al., 2024; Afolabi et al., 2023).

Companies occupying central positions within director networks are more likely to adopt comprehensive and transparent sustainability reporting practices. Feng et al. (2024) and Li et al. (2023) found that such companies demonstrate higher CSR disclosure quality, particularly in resource-constrained industries. Their strategic board positions enable access to industry benchmarks, external legitimacy, and knowledge exchange, which enhance both disclosure content and credibility.

Setia et al. (2024) further discussed this trend by introducing the concept of dual materiality in integrated reporting, where companies are encouraged to report both financial and impact-related material issues. They argue that companies with proactive governance structures are more likely to internalise sustainability as a strategic rather than compliance obligation. Afolabi et al. (2023) support this argument by illustrating how evolving global standards such as GRI and ISSB are pushing companies towards harmonised, stakeholder-responsive disclosures.

Innovation is another important area in which governance mechanisms exert influence. Csedő et al. (2022) and Nathalia and Setiawan (2022) demonstrate that board capital, comprising education, network strength, and professional experience, can drive innovation in ESG initiatives, especially during volatile periods such as the COVID-19 pandemic. These studies support the Dynamic Capabilities Theory, emphasising how adaptive governance fosters organisational resilience and innovation.

Moreover, Lerner and Osgood (2023) illustrate that inter-board networks can accelerate the diffusion of climate policy innovations, particularly in sectors that are highly regulated and facing reputational pressures. Boards connected through overlapping directorships often function as conduit of institutional learning, enabling companies to adopt best practices and avoid sustainability failures observed in other companies within the same industry.

However, reporting and innovation outcomes are not immune to institutional and cultural constraints. Kashi et al. (2024) and Collevocchio and Gionfriddo (2023) emphasize that without an effective internal governance or sustainability committees, even well-connected or diverse boards may fail to implement appropriate sustainability strategies. This is especially true in regions where formal reporting frameworks are absent or weakly enforced. Geographical imbalances also persist in the literature. For instance, Lin et al. (2022) provide evidence from the global shipping industry but caution against overgeneralization, as governance-performance relationships vary across sectors and regulatory landscapes. This calls for cross-sectoral, cross-regional analyses that integrate institutional theory and industry-specific dynamics.

Overall, robust governance structures particularly those leveraging director networks and board diversity, are associated with more advanced sustainability reporting and innovation practices. Yet, the strength of these relationships depends on enabling institutional characteristics, internal board processes, and the maturity of reporting frameworks.

Material And Methods

Identification

This study adopted a systematic literature review (SLR) method using the PRISMA 2020 guidelines to ensure transparency, reproducibility, and academic rigor. The review focused on peer-reviewed journal articles that explored the relationship between board network centrality, board diversity, and corporate sustainability or ESG outcomes. Only English-language, final-stage journal articles published between 2022 and 2025 were included, while conference papers, book chapters, review articles, non-English publications, and studies not directly focused on board-level governance and sustainability outcomes were excluded.

To identify relevant literature, two major academic databases—Scopus and Web of Science (WoS)—were selected due to their comprehensive coverage of high-quality international publications. A structured search strategy was developed based on a combination of keywords and Boolean operators derived from prior literature and thesauri. The final search string used in Scopus and WoS as in Table 1.

Table 1: The Search String.

Database	Strings
Scopus	TITLE-ABS-KEY (director* OR board* AND network* AND (sustainability* OR esg)) AND (LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2023) OR LIMIT-TO (PUBYEAR , 2024) OR LIMIT-TO (PUBYEAR , 2025)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (LANGUAGE , "English"))
WOS	"director* network*" AND sustainability (Topic) and 2022 or 2023 or 2024 (Publication Years) and 2022 or 2023 or 2024 (Publication Years) and Article or Review Article (Document Types) and English (Languages)

Date of Access: January 2025

Date of Access: January 2025

The initial search, conducted in January 2025, yielded 485 records (475 from Scopus, 10 from WoS). These records were exported into a reference management software for further screening and de-duplication.

Screening

Following the identification phase, the screening process was conducted in accordance with the PRISMA 2020 framework to ensure that only the most relevant and high-quality studies were included. Initially, all search results retrieved from Scopus and Web of Science were exported into reference management software (Mendeley) to facilitate organization and removal of duplicate records. A total of five duplicates were identified and excluded at this stage.

The remaining records underwent a preliminary screening based on titles and abstracts to assess their alignment with the review's scope as shown in Table 2. Studies were excluded if they failed to meet predefined inclusion criteria, which required that articles be (i) published between 2022 and 2025, (ii) written in English, (iii) peer-reviewed journal articles (excluding book chapters, conference proceedings, editorials, and reviews), and (iv) focused substantively on board network centrality, board diversity, or their influence on sustainability or ESG-related outcomes. Attention was given to ensure that selected studies offered empirical findings or conceptual contributions relevant to corporate governance and sustainability frameworks.

During this phase, 362 articles were excluded due to irrelevance, non-empirical scope, publication format, or language. This left 117 potentially eligible articles for full-text review. To reduce selection bias, the title-abstract screening was conducted independently by two reviewers using a pre-developed screening form. Disagreements in inclusion decisions were resolved through consensus meetings, ensuring a reliable and transparent selection process. This dual-review approach strengthened the methodological rigor and credibility of the screening phase.

Table 2: The Selection Criterion In Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	2022 – 2025	< 2022
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

Eligibility

In the eligibility phase, full-text versions of the 117 articles retained from the screening stage were retrieved and thoroughly assessed for their relevance and methodological adequacy. The primary goal of this phase was to ensure that each study provided substantial empirical or conceptual insights into board network centrality and/or board diversity, specifically in relation to sustainability or ESG performance. Each article was evaluated using a structured eligibility checklist that included criteria such as thematic relevance, empirical robustness, clarity of governance variables (e.g., network measures, diversity metrics), and availability of full text.

Articles were excluded for several reasons: (i) titles or abstracts suggested relevance, but full texts did not examine board-level governance attributes; (ii) studies focused on unrelated topics such as operational sustainability, environmental technologies, or non-board-level CSR mechanisms; (iii) the methodology was anecdotal, speculative, or lacked adequate rigor; and (iv) full texts were inaccessible due to subscription restrictions or indexing inconsistencies. As a result, 93 articles were excluded during this stage.

The eligibility review was again conducted independently by two researchers. Discrepancies regarding the inclusion of specific studies were resolved through consensus discussion and reference to the original inclusion criteria. This process resulted in a final sample of 24 articles that met all eligibility requirements and were advanced for full thematic analysis. These articles form the empirical and conceptual foundation of the current systematic literature review.

Data Abstraction and Analysis

The final sample of 24 eligible studies was analysed using thematic synthesis to identify recurring patterns, theoretical linkages, and contextual conditions relating board governance attributes to sustainability outcomes. A standardised coding protocol was used to extract key information from each study, including authorship, year of publication, geographical context, methodological design, theoretical framing, governance variables such as board network centrality and board diversity, and sustainability-related outcomes including ESG performance,

disclosure, and innovation. The coding process was conducted independently by two reviewers, and any discrepancies were resolved through consensus to enhance analytical reliability.

The study selection process was documented through the PRISMA flow diagram to ensure transparency and reproducibility in article identification, screening, eligibility assessment, and final inclusion.

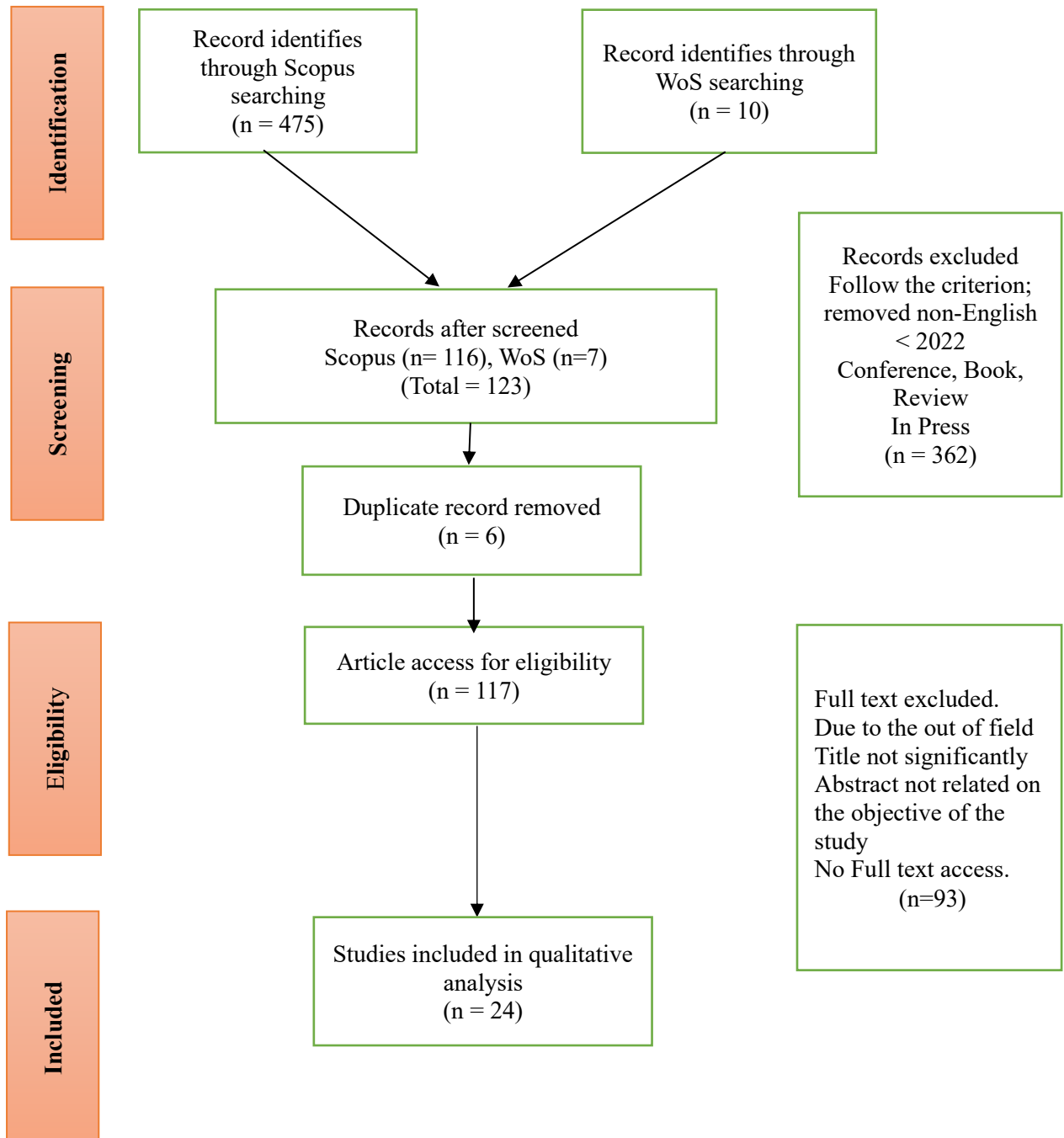


Figure 1: The PRISMA Flow Diagram of The Entire Procedure for Selecting Reviewed Articles.

To analyse the extracted data, the review adopted a thematic synthesis approach, well-suited to aggregating diverse empirical evidence across qualitative, quantitative, and mixed-methods research. The synthesis followed a three-phase process: (1) initial coding of descriptive concepts from the included studies; (2) development of analytical categories by clustering related codes; and (3) interpretation of cross-cutting themes that directly addressed the research questions. A thematic logbook was maintained throughout the process to document analytic decisions, emerging insights, and areas of uncertainty.

Through this process, three dominant themes were identified, each capturing a critical dimension of the relationship between board-level governance attributes and sustainability outcomes. The first theme, Board Network Centrality and Corporate Governance Effectiveness, explores how directors' strategic positioning within interlocking networks enhances governance quality, facilitates information flow, and improves ESG performance. Studies within this theme suggest that companies with highly central board members tend to exhibit stronger internal controls, lower incidences of fraud, and greater resilience during periods of uncertainty. This finding supports both Social Network Theory and Resource Dependence Theory by emphasizing the importance of external linkages in shaping governance outcomes.

The second theme, Board Diversity and ESG Performance, highlights the value of demographic and cognitive heterogeneity on boards in promoting inclusive decision-making and ethical oversight. A substantial body of evidence within this theme links gender-diverse boards to improved environmental and social performance, enhanced stakeholder engagement, and more transparent ESG disclosures. However, the effectiveness of board diversity appears to be context-dependent, moderated by organisational culture, governance structure, and regulatory environments. These findings underscore the need for nuanced, intersectional perspectives that consider diversity in terms beyond gender alone.

The third theme, Sustainability, Innovation, and Reporting Practices, captures how board attributes influence not only what companies disclose, but also how they innovate in response to evolving sustainability challenges. Central and diverse boards are found to foster adaptive governance, encourage the adoption of global reporting standards, and facilitate the diffusion of sustainability innovations across industries. This theme integrates elements of Dynamic Capabilities Theory and Stakeholder Theory, revealing how boards function as enablers of strategic adaptation, particularly in sectors undergoing regulatory change or facing public scrutiny.

The thematic framework was validated by two academic experts—one in corporate governance and the other in sustainability policy—who independently reviewed the themes for conceptual clarity, practical relevance, and theoretical alignment. Feedback from this expert review was incorporated into the final refinement of the thematic structure. This process ensured that the findings are grounded in rigorous synthesis and reflective of current governance scholarship.

Table 3: Summary Of Recent Board Networking and Sustainability Research.

No.	Authors	Title	Year	Source title	Scopus	WOS	Theme
1	Zeng et al., 2024	Do Directors' Network Positions Affect Corporate Fraud?	2024	Sustainability	/		Board Network Centrality
2	Zhao & Chan, 2023	Corporate social network and corporate social responsibility: A perspective of interlocking directorates	2023	International Review of Financial Analysis	/		Board Network Centrality
3	Saraite-Sariene et al., 2022	The role of women's leadership in environmental NGOs' online accountability	2022	Online Information Review	/		Board Diversity
4	Feng et al., 2024	Does a Company's Position within the Interlocking Director Network Influence Its ESG Performance? — Empirical Evidence from Chinese Listed Companies	2024	Sustainability	/		Board Network Centrality
5	Mallidis et al., 2024	Impact of board gender diversity on environmental, social, and ESG controversies performance: The moderating role of United Nations Global Compact and ISO	2024	Journal of Cleaner Production	/		Board Diversity
6	Al-Shaer et al., 2024	Corporate Accountability for Human Rights: Evidence from Conflict Mineral Ratings	2024	Business and Society	/		Board Diversity
7	Li et al., 2023	Impact of Directors' Network on Corporate Social Responsibility Disclosure: Evidence from China	2023	Journal of Business Ethics	/		Reporting Practices
8	Setia et al., 2024	Shifting perspectives: unveiling the dual nature of sustainability materiality in integrated reports	2024	Meditari Accountancy Research	/		Reporting Practices
9	Chin et al., 2024	The corporate risk-taking and performance of politically connected companies: evidence from Malaysia	2024	Asia-Pacific Journal of Business Administration	/		Board Network Centrality
10	Harjoto & Wang, 2024	Economic policy uncertainty and environmental, social and governance (ESG) disclosure: the moderating effects of board network centrality and political connections	2024	Corporate Governance	/		Board Network Centrality

11	P.-G. Shu et al., 2024	Board network and ESG performance: Evidence from China	2024	Corporate Social Responsibility and Environmental Management	/	Board Network Centrality
12	Collevecchio & Gionfriddo, 2023	Adopting a social purpose in for-profit companies: the role of the board of directors	2023	International Entrepreneurship and Management Journal	/	Board Network Centrality, Reporting Practices
13	Lin et al., 2022	Identifying Key Financial, Environmental, Social, Governance (ESG), Bond, and COVID-19 Factors Affecting Global Shipping Companies—A Hybrid Multiple-Criteria Decision-Making Method	2022	Sustainability	/	Board Network Centrality, Reporting Practices
14	Hu et al., 2024	Does Independent Directors' Interlocking Network Position Affect Green Innovation?	2024	Sustainability	/	Reporting Practices
15	Kashi et al., 2024	Do institutional environment and corporate governance structures determine Islamic Banks' sustainability performance? Evidence across key jurisdictions in Islamic finance industry	2024	Borsa Istanbul Review	/	Reporting Practices
16	Lerner & Osgood, 2023	Across the Boards: Explaining Firm Support for Climate Policy	2023	British Journal of Political Science	/	Reporting Practices
17	Ang et al., 2023	On Predicting ESG Ratings Using Dynamic Company Networks	2023	ACM Transactions on Management Information Systems	/	Reporting Practices
18	Wan Mohammad et al., 2023	Women on boards, companies' competitive advantage and its effect on ESG disclosure in Malaysia	2023	Social Responsibility Journal	/	Board Diversity
19	Al-Omoush et al., 2022	Networking and knowledge creation: Social capital and collaborative innovation in responding to the COVID-19 crisis	2022	Journal of Innovation and Knowledge	/	Reporting Practices

20	Lu et al., 2025	Environmental, social, and governance, board gender diversity, and firm efficiency: Evidence from the global mining industry pre- and post-COVID-19 pandemic	2025	Corporate Social Responsibility and Environmental Management	/	Board Diversity
21	Shivhare & Shunmugasundaram, 2024	How Government, Social and Personnel Support Leverage the Sustainability in Start-ups: The Moderating Role of Board Gender Diversity	2024	Indian Journal of Corporate Governance	/	Board Diversity
22	Afolabi et al., 2023	Influence and behaviour of the new standard setters in the sustainability reporting arena: implications for the Global Reporting Initiative's current position	2023	Sustainability Accounting, Management and Policy Journal	/	Reporting Practices
23	Csedó et al., 2022	Dynamic Corporate Governance, Innovation, and Sustainability: Post-COVID Period	2022	Sustainability	/	Reporting Practices
24	Nathalia & Setiawan, 2022	Does board capital improve climate change disclosures?	2022	Cogent Business and Management	/	Reporting Practices

Result And Discussion

The systematic literature review has identified three dominant themes that collectively document how board-level governance mechanisms, particularly director network centrality and diversity which shape corporate sustainability and ESG outcomes. Each theme is discussed below, combining empirical findings with theoretical interpretation and practical relevance.

Board Network and Corporate Governance Effectiveness

Board network centrality has emerged as a pivotal dimension of corporate governance that significantly influences company-level sustainability outcomes. Rooted in Social Network Theory, centrality refers to a director's structural position within interlocking networks that connect companies across industries. Central directors serve as strategic conduits for information, influence, and resource flows, ultimately strengthening the governance framework of the companies they serve.

Empirical evidence consistently supports the value of board centrality. Zeng et al. (2024) and Shu et al. (2024) show that companies with centrally positioned board members benefit from improved internal control systems, reduced likelihood of corporate fraud, and higher ESG performance scores. These benefits are attributed to enhanced oversight, reputational signalling, and more efficient access to critical external resources. Feng et al. (2024) further demonstrates that board centrality correlates with greater media visibility and stakeholder confidence, reinforcing the company's legitimacy in the market.

The relevance of board network centrality is particularly evident in sustainability reporting. Zhao & Chan (2023) and Li et al. (2023) found that companies with high centrality tend to issue more comprehensive CSR disclosures, especially in resource-constrained environments where external validation and benchmarking are essential. These findings resonate with Resource Dependence Theory, which posits that interconnected companies gain strategic advantage through access to external expertise and institutional legitimacy.

However, the benefits of board centrality are not universally guaranteed. Harjoto & Wang (2024) caution that under conditions of economic policy uncertainty, the effectiveness of director networks may weaken unless supported by robust internal controls and adaptive disclosure practices. Chin et al. (2024) introduces a nuanced caveat—politically connected directors, while potentially beneficial for navigating regulatory environments, may compromise transparency and expose companies to reputational risks, particularly in jurisdictions with weak institutional oversight.

Beyond risk management and disclosure, board centrality also drives innovation. Hu et al. (2024) observed that independent directors with strong interlocking networks foster green innovation, particularly in low-pollution companies with sound governance frameworks. Al-Omouh et al. (2022) add that social capital within board networks enhances collaborative innovation and sustainability-oriented agility, especially during crises such as the COVID-19 pandemic.

Despite these advantages, several gaps remain in the literature. Most studies focus on Asian contexts, particularly China and Malaysia, raising questions about cross-regional generalizability. Additionally, few studies address how digital interlocks (e.g., cross-platform

ESG consortia or AI-enabled governance tools) reshape the value of centrality in the digital age. Future research should explore the implications of technology-enabled network structures and how these reconfigure traditional board dynamics.

In summary, board network centrality is positively linked to governance quality, ESG performance, and innovation. Yet, its impact is not uniform—it is mediated by political, institutional, and technological contexts. A more granular, cross-country analysis is required to understand the boundary conditions under which board centrality contributes most effectively to sustainable corporate governance.

Board Diversity and ESG Performance

Board diversity, particularly in terms of gender, professional background, and cultural representation, has become an increasingly important facet of corporate governance in advancing ESG outcomes. Grounded in Stakeholder Theory, diverse boards are believed to offer a broader range of perspectives, increase ethical deliberation, and foster inclusive decision-making processes. These attributes contribute to improved alignment with stakeholder expectations and societal norms, especially in the context of sustainability performance.

Empirical findings strongly support this view. Mallidis et al. (2024) reported that boards with greater gender diversity are more effective at mitigating ESG controversies and enhancing environmental and social disclosures. Similarly, Lu et al. (2025) found that gender-diverse boards in the global mining sector improved both ESG performance and company efficiency—especially in the aftermath of COVID-19 disruptions. Wan Mohammad et al. (2023) provided evidence from Malaysia that women on boards significantly enhance ESG reporting practices, although the effect may weaken in companies with entrenched competitive advantages or complex governance structures.

The strategic influence of women leaders is particularly salient in contexts of crisis or institutional volatility. Shivhare & Shunmugasundaram (2024) highlighted that in emerging markets, gender-diverse boards play a moderating role by amplifying the effects of external support systems on sustainability outcomes. Saraite-Sariene et al. (2022) expanded this by demonstrating that women in leadership roles within environmental NGOs increased transparency and stakeholder engagement through digital accountability mechanisms. These studies collectively support the notion that diverse boards are not only better equipped to manage external complexity but also facilitate legitimacy-building efforts in sustainability governance.

Nonetheless, the literature also reveals significant limitations and contingencies. Al-Shaer et al. (2024) cautioned that diversity must be embedded meaningfully within governance structures to yield tangible benefits; superficial diversity can lead to tokenism, symbolic compliance, or decision-making gridlock. Romano et al. (2020) further suggested that while gender diversity enhances ESG performance, the relationship is moderated by CEO duality and the presence of effective board committees. Therefore, diversity alone is not sufficient—its impact depends on internal dynamics, power distribution, and inclusive organisational culture.

Moreover, the dominant focus on gender diversity in existing literature may obscure the broader, intersectional nature of board heterogeneity. Other critical aspects such as age, tenure, educational background, and cross-cultural experience are often overlooked. Most studies are

also geographically concentrated in Asia and Europe, with little representation from African, Latin American, or Middle Eastern governance contexts—limiting the generalizability of findings and calling for more globalized insights.

To advance the field, future research should adopt longitudinal and mixed methods approaches that explore how board diversity influences ESG trajectories over time and under varying institutional regimes. Additionally, greater emphasis should be placed on exploring how internal governance practices—such as board evaluation, succession planning, and director development—mediate the link between board composition and sustainability outcomes.

In conclusion, while board diversity clearly contributes to ESG enhancement, its effectiveness depends heavily on internal governance mechanisms, regulatory support, and the socio-cultural environment in which companies operate. Strategic integration of diversity into board processes—not merely representation—will determine its long-term value in sustainability governance.

Sustainability, Innovation, and Reporting Practices

Beyond board structure and composition, the integration of sustainability into corporate practice increasingly hinges on the board's capacity to facilitate innovation and shape transparent reporting mechanisms. Governance characteristics—such as board interconnectivity and diversity—not only influence strategic oversight but also determine a company's responsiveness to evolving environmental and social expectations. Drawing on Dynamic Capabilities Theory, boards are conceptualized as drivers of organisational adaptation, particularly in fast-changing sustainability landscapes.

Studies by Feng et al. (2024) and Li et al. (2023) provide empirical evidence that board centrality enhances the quality and credibility of CSR disclosures. Central board members contribute to better-informed reporting practices by channelling cross-sectoral insights, peer benchmarking, and stakeholder expectations. This is particularly salient for companies operating in resource-constrained or highly regulated environments, where reputational capital and legitimacy are critical to sustainability success.

Setia et al. (2024) deepen this perspective by introducing the notion of dual materiality in integrated reporting. They show that companies with strategically networked and diverse boards are more likely to disclose both financially material and socially impactful information—signalling a shift from compliance-driven to values-driven governance. Afolabi et al. (2023) further emphasize the institutional dynamics surrounding this shift, pointing to the rise of standard-setting bodies such as the GRI and ISSB as key influencers of board-level reporting behaviour.

The influence of board characteristics also extends to sustainability innovation. Csedő et al. (2022) found that dynamic governance structures enabled boards to respond effectively to the ESG challenges amplified by the COVID-19 pandemic. Boards characterized by high governance capital—education, professional experience, and external networks—played a critical role in driving innovation across ESG initiatives. This is reinforced by Nathalia & Setiawan (2022), who demonstrated that board capital directly improves the quality of climate change disclosures, particularly when boards engage actively with emerging environmental risks.

At a broader institutional level, Lerner & Osgood (2023) illustrate how interlocking board networks function as catalysts for climate policy diffusion. Boards embedded in policy-influencing ecosystems are more likely to support environmental reforms and integrate them into corporate agendas—showing that boards do not merely respond to sustainability trends but help co-create them.

However, these advantages are not automatic. Kashi et al. (2024) and Collevocchio & Gionfriddo (2023) argue that without internal support structures—such as board-level sustainability committees or resolute ESG oversight—companies may fail to translate networked insights into actionable innovation. The role of internal accountability mechanisms is thus a critical but often overlooked element in the governance-innovation equation.

Contextual and sectoral factors further shape board influence on sustainability reporting and innovation. Lin et al. (2022), in their analysis of the global shipping industry, emphasize that industry-specific dynamics (e.g., carbon intensity, regulatory compliance norms) impact how governance structures engage with ESG priorities. This calls for governance frameworks that are not only robust but also context-sensitive and sector-adaptive.

In sum, the literature highlights that well-connected and diverse boards are instrumental in institutionalizing sustainability practices through both strategic innovation and accountable reporting. Yet, their impact depends on complementary governance processes, sectoral maturity, and institutional infrastructure. For boards to truly drive sustainability transformation, they must move beyond structural diversity and centrality to embrace systemic integration of ESG values into all facets of corporate decision-making.

Conclusion

This systematic literature review examined the relationship between board governance attributes, specifically board network centrality and board diversity, and sustainability performance across 24 peer-reviewed studies published between 2022 and 2025. Through thematic synthesis, three dominant themes emerged: (1) the influence of board network centrality on governance effectiveness, (2) the role of board diversity in shaping ESG performance, and (3) the contribution of board-level governance to sustainability innovation and reporting practices. Taken together, these themes provide a more integrated understanding of how board structures and board composition shape sustainability-oriented governance.

The findings indicate that board network centrality contributes to stronger governance capacity by improving access to information, enhancing ESG disclosure, and supporting innovation. Directors occupying central positions within interlocking networks may strengthen organisational legitimacy and adaptive capacity, particularly under conditions of environmental uncertainty. However, these benefits are not universal, as their effectiveness is shaped by political embeddedness, institutional quality, and the strength of internal governance mechanisms.

The review also shows that board diversity, especially gender diversity, is generally associated with improved sustainability outcomes. Diverse boards tend to strengthen ethical deliberation, stakeholder responsiveness, and transparency in ESG-related decision-making. Nevertheless, the value of diversity depends on whether it is meaningfully embedded in board processes and governance structures. Representation alone is unlikely to generate sustained impact unless

accompanied by inclusive board cultures, equitable participation, and functional governance support.

In relation to sustainability innovation and reporting, the review suggests that well-connected and diverse boards can improve the quality, credibility, and strategic relevance of sustainability disclosures. These governance attributes also appear to support more adaptive responses to evolving ESG expectations. Their influence, however, is strongest when reinforced by formal oversight arrangements, including sustainability committees and structured governance processes, as well as by supportive sectoral and institutional environments.

Theoretically, this review integrates insights from Social Network Theory, Resource Dependence Theory, Stakeholder Theory, and Dynamic Capabilities Theory to explain how board connectedness, board composition, and governance processes jointly shape sustainability outcomes. By bringing these perspectives together, the review extends existing scholarship beyond fragmented discussions of centrality, diversity, or disclosure in isolation and offers a more coherent governance-based explanation of ESG performance.

Practically, the findings carry several implications for firms, regulators, and policymakers. Board design should move beyond symbolic compliance and instead emphasise a strategic combination of connectivity, diversity, and effective oversight. Regulatory efforts should likewise encourage not only broader representation on boards but also the governance mechanisms needed to translate board attributes into credible sustainability outcomes.

This review is not without limitations. The evidence base remains concentrated in Asia and Europe, with comparatively limited representation from Africa, Latin America, and the Middle East. In addition, the relatively limited use of longitudinal and mixed methods designs suggests the need for richer empirical approaches in future research. Subsequent studies should examine how digitalisation, cross-border regulatory developments, and emerging reporting convergence reshape the role of boards in sustainability governance.

Overall, the review suggests that sustainability-oriented governance is strongest when board network position, board diversity, and formal oversight mechanisms operate as complementary rather than isolated governance features. For firms and regulators, the implication is clear: effective board design must move beyond symbolic compliance towards an integrated governance architecture that supports transparent reporting, adaptive decision-making, and long-term ESG performance.

Declarations

Use of AI Technology

The authors acknowledge the limited use of generative-AI tools strictly for language refinement. Specifically, OpenAI GPT-4o ChatGPT (accessed 23 July 2025) was employed only to (i) streamline grammar and phrasing, and (ii) cross-check consistency of in-text citations with the reference list. All intellectual content, research design, data analysis, and critical interpretation were conceived and executed solely by the authors. No AI system generated original ideas, arguments, or empirical results, and no confidential or proprietary data were uploaded to external platforms. The final manuscript was thoroughly reviewed by

the authors to ensure factual accuracy, academic integrity, and full compliance with the journal's ethical publishing guidelines.

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References

- Afolabi, H., Ram, R., & Rimmel, G. (2023). Influence and behaviour of the new standard setters in the sustainability reporting arena: implications for the Global Reporting Initiative's current position. *Sustainability Accounting, Management and Policy Journal*, 14(4), 743–775. <https://doi.org/10.1108/SAMPJ-01-2022-0052>
- Alodat, A., & Hao, Y. (2024). Environmental, social and governance (ESG) disclosure and firm performance: Moderating role of board gender diversity and sustainability committee. *Sustainable Development*. <https://doi.org/10.1002/sd.3126>
- Al-Omoush, K. S., Ribeiro-Navarrete, S., Lassala, C., & Skare, M. (2022). Networking and knowledge creation: Social capital and collaborative innovation in responding to the COVID-19 crisis. *Journal of Innovation and Knowledge*, 7(2). <https://doi.org/10.1016/j.jik.2022.100181>
- Al-Shaer, H., Albitar, K., & Hussainey, K. (2024). Corporate Accountability for Human Rights: Evidence from Conflict Mineral Ratings. *Business and Society*, 63(8), 1887–1936. <https://doi.org/10.1177/00076503241254829>
- Ang, G., Guo, Z., & Lim, E.-P. (2023). On Predicting ESG Ratings Using Dynamic Company Networks. *ACM Transactions on Management Information Systems*, 14(3). <https://doi.org/10.1145/3607874>
- Chen, H. (2023). Corporate Board Diversity and ESG Performance in the Context of Big Data. In *Proceedings of the 2023 3rd International Conference on Public Management and Intelligent Society (PMIS 2023)* (p. 326-343). Springer Nature.
- Chin, A., Lye, O. C., & Najaf, K. (2024). The corporate risk-taking and performance of politically connected firms: evidence from Malaysia. *Asia-Pacific Journal of Business Administration*, 16(2), 367–391. <https://doi.org/10.1108/APJBA-07-2021-0315>
- Collecchio, F., & Gionfriddo, G. (2023). Adopting a social purpose in for-profit firms: the role of the board of directors. *International Entrepreneurship and Management Journal*, 19(3), 1467–1499. <https://doi.org/10.1007/s11365-023-00879-w>
- Csedő, Z., Magyari, J., & Zavarkó, M. (2022). Dynamic Corporate Governance, Innovation, and Sustainability: Post-COVID Period. *Sustainability (Switzerland)*, 14(6). <https://doi.org/10.3390/su14063189>
- Dong, Y., Liang, C., & Wanyin, Z. (2022). Board diversity and firm performance: impact of ESG activities in China. *Economic Research-Ekonomska Istraživanja*. <https://doi.org/10.1080/1331677x.2022.2090406>
- Dong, Y., Liu, Y., & Wang, C. (2022). Board gender diversity and environmental, social, and governance performance: Evidence from China. *Economic Research-Ekonomska Istraživanja*, 35(1), 1592–1609. <https://doi.org/10.1080/1331677X.2022.2090406>
- Donkor, A., Trieksani, T., & Djajadikerta, H. G. (2023). Board Diversity and Corporate Sustainability Performance: Do CEO Power and Firm Environmental Sensitivity Matter? *Sustainability*, 15(23), 16142. <https://doi.org/10.3390/su152316142>
- Feng, H., Zhang, Z., Wang, Q., & Yang, L. (2024). Does a Company's Position within the Interlocking Director Network Influence Its ESG Performance?—Empirical Evidence from Chinese Listed Companies. *Sustainability (Switzerland)*, 16(10). <https://doi.org/10.3390/su16104190>
- Harjoto, M. A., & Wang, Y. (2024). Economic policy uncertainty and environmental, social and governance (ESG) disclosure: the moderating effects of board network centrality and political connections. *Corporate Governance (Bingley)*, 24(7), 1547–1576. <https://doi.org/10.1108/CG-08-2023-0349>

- Hu, Y., Li, Z., & Guo, J. (2024). Does Independent Directors' Interlocking Network Position Affect Green Innovation? Sustainability (Switzerland), 16(3). <https://doi.org/10.3390/su16031089>
- Kashi, A., Laallam, A., Mansour Nomran, N., Azmi Abumughli, A., & Al-Binali, T. (2024). Do institutional environment and corporate governance structures determine Islamic Banks' sustainability performance? Evidence across key jurisdictions in Islamic finance industry. Borsa Istanbul Review, 24(6), 1088–1100. <https://doi.org/10.1016/j.bir.2024.06.005>
- Kabir, A., Ikra, S. S., Saona, P., & Azad, M. A. K. (2023). Board gender diversity and firm performance: New evidence from cultural diversity in the boardroom. *LBS Journal of Management & Research*, 21(1), 1-12.
- Lerner, M., & Osgood, I. (2023). Across the Boards: Explaining Firm Support for Climate Policy. *British Journal of Political Science*, 53(3), 934–957. <https://doi.org/10.1017/S0007123422000497>
- Li, W., Zhang, J. Z., & Ding, R. (2023). Impact of Directors' Network on Corporate Social Responsibility Disclosure: Evidence from China. *Journal of Business Ethics*, 183(2), 551–583. <https://doi.org/10.1007/s10551-022-05092-3>
- Lin, A. J., Chang, H.-Y., & Hung, B. (2022). Identifying Key Financial, Environmental, Social, Governance (ESG), Bond, and COVID-19 Factors Affecting Global Shipping Companies—A Hybrid Multiple-Criteria Decision-Making Method. *Sustainability (Switzerland)*, 14(9). <https://doi.org/10.3390/su14095148>
- Lu, W.-M., Kuo, K.-C., Kweh, Q. L., & Ganbaatar, O. (2025). Environmental, social, and governance, board gender diversity, and firm efficiency: Evidence from the global mining industry pre- and post-COVID-19 pandemic. *Corporate Social Responsibility and Environmental Management*, 32(1), 1002–1023. <https://doi.org/10.1002/csr.2995>
- Mallidis, I., Giannarakis, G., & Sariannidis, N. (2024). Impact of board gender diversity on environmental, social, and ESG controversies performance: The moderating role of United Nations Global Compact and ISO. *Journal of Cleaner Production*, 444. <https://doi.org/10.1016/j.jclepro.2024.141047>
- Manita, R., Bruna, M.-G., Dang, R., & Houanti, L. (2018). Board gender diversity and ESG disclosure: evidence from the USA. *Journal of Applied Accounting Research*. <https://doi.org/10.1108/JAAR-01-2017-0024>
- Menicucci, E., & Paolucci, G. (2022). Board diversity and ESG performance: Evidence from the Italian banking sector. *Sustainability*, 14(20), 13447. <https://doi.org/10.3390/su142013447>
- Musa, S., Gold, N., & Aifuwa, H. (2020). Board Diversity and Sustainability Reporting: Evidence from Industrial Goods Firms. *Izvestiya Journal of the University of Economics – Varna*, 64(4), 377–398. <https://doi.org/10.36997/IJUEV2020.64.4.377>
- Nathalia, C., & Setiawan, D. (2022). Does board capital improve climate change disclosures? *Cogent Business and Management*, 9(1). <https://doi.org/10.1080/23311975.2022.2121242>
- Peng, C., & Chen, Y. (2024). Informal board hierarchy and corporate ESG performance. *Corporate Social Responsibility and Environmental Management*. <https://doi.org/10.1002/csr.2834>
- Romano, M., Cirillo, A., Favino, C., & Netti, A. (2020). ESG (Environmental, Social and Governance) performance and board gender diversity: The moderating role of CEO duality. *Sustainability*, 12(21), 9298. <https://doi.org/10.3390/su12219298>

- Saraite-Sariene, L., Galán-Valdivieso, F., Alonso-Cañadas, J., & García-Tabuyo, M. (2022). The role of women's leadership in environmental NGOs' online accountability. *Online Information Review*, 46(4), 660–677. <https://doi.org/10.1108/OIR-09-2020-0403>
- Setia, N., Abhayawansa, S., Joshi, M., & Wasantha Pathirana, N. (2024). Shifting perspectives: unveiling the dual nature of sustainability materiality in integrated reports. *Meditari Accountancy Research*, 32(4), 1291–1323. <https://doi.org/10.1108/MEDAR-08-2023-2128>
- Shakil, M. H. (2020). Environmental, social and governance performance and financial risk: Moderating role of ESG controversies and board gender diversity. *Resources Policy*, 72, 102144. <https://doi.org/10.1016/j.resourpol.2021.102144>
- Shivhare, S., & Shunmugasundaram, V. (2024). How Government, Social and Personnel Support Leverage the Sustainability in Start-ups: The Moderating Role of Board Gender Diversity. *Indian Journal of Corporate Governance*, 17(2), 300–327. <https://doi.org/10.1177/09746862241276939>
- Shu, P.-G., Chiang, S.-J., & Wu, T.-Y. (2024). Board network and ESG performance: Evidence from China. *Corporate Social Responsibility and Environmental Management*, 31(6), 5709–5729. <https://doi.org/10.1002/csr.2887>
- Tran, T. H., Lu, W.-M., Ting, I. W. K., Huang, H.-L., & Fauzi, M. A. (2024). Examining the impact of board gender diversity and regional differentiation in the ESG-corporate performance nexus: Evidence from financial service industry. *Managerial and Decision Economics*, 45(6), 4105–4124. <https://doi.org/10.1002/mde.4246>
- Wan Mohammad, W. M., Zaini, R., & Md Kassim, A. A. (2023). Women on boards, firms' competitive advantage and its effect on ESG disclosure in Malaysia. *Social Responsibility Journal*, 19(5), 930–948. <https://doi.org/10.1108/SRJ-04-2021-0151>
- Yadav, P., & Prashar, A. (2022). Board gender diversity: Implications for environment, social, and governance (ESG) performance of Indian firms. *International Journal of Productivity and Performance Management*, 72(9), 2654–2673. <https://doi.org/10.1108/IJPPM-12-2021-0689>
- Zeng, S., Xiao, L., Jiang, X., Huang, Y., Li, Y., & Yuan, C. (2024). Do Directors' Network Positions Affect Corporate Fraud? *Sustainability (Switzerland)*, 16(15). <https://doi.org/10.3390/su16156675>
- Zhao, T., & Chan, K. C. (2023). Corporate social network and corporate social responsibility: A perspective of interlocking directorates. *International Review of Financial Analysis*, 88. <https://doi.org/10.1016/j.irfa.2023.102711>