

# A Critical Review of Board Diversity and Corporate Financial Sustainability: Synthesizing Evidence from Global Markets

Zulkiffly Baharom., Faidzulaini Muhammad

Tunku Puteri Intan Safinaz School of Accountancy (TISSA-UUM), College of Business, Universiti Utara Malaysia, Malaysia

DOI: <https://doi.org/10.47772/IJRISS.2026.100300577>

Received: 27 March 2026; Accepted: 02 April 2026; Published: 20 April 2026

## ABSTRACT

This article critically reviews literature on the relationship between board diversity and corporate financial sustainability (CFS) in global markets. A systematic search of the Scopus database resulted in 119 peer-reviewed articles published between 2020 and 2025. The review develops a comprehensive conceptual framework consisting of five independent variables (board gender diversity, board cultural diversity, board independence, board skills, and board tenure), three mediators (ESG performance, carbon emissions performance, and sustainability reporting), three moderators (firm size, industry sensitivity, and national culture), and four control variables (firm leverage, profitability, ownership structure, and firm age). The synthesis shows that while board diversity generally has a positive effect on CFS through improved ESG outcomes, this relationship depends on reaching a critical mass of female directors and is significantly influenced by contextual factors. The review critically assesses the main theoretical foundations, agency, resource dependence, stakeholder, and critical mass theories, and highlights ongoing methodological limitations, especially the predominance of quantitative archival research that treats boardroom dynamics as a black box. The findings suggest that translating diversity into better financial sustainability is neither automatic nor consistent, but rather relies on a complex interaction between internal governance structures and external institutional environments. The article concludes by proposing a future research agenda that emphasizes methodological diversification, the investigation of intersecting dimensions of diversity, and an increased focus on under-researched geographical regions.

**Keywords:** Board Diversity, Critical Literature Review, Corporate Financial Sustainability, Corporate Governance, ESG Performance

## INTRODUCTION

The convergence of corporate governance and sustainability has become one of the most important themes in modern business research. Over the past decade, stakeholders ranging from institutional investors to regulators have increasingly required that corporations demonstrate not only financial profitability but also environmental responsibility, social accountability, and strong governance practices. This shift has highlighted the concept of CFS, which involves a company's ability to create long-term value while managing environmental, social, and governance (ESG) risks and opportunities. In this evolving environment, the composition of corporate boards, especially the representation of women, has gained significant scholarly and policy focus. The core idea is that board diversity, including gender, cultural background, skills, and independence, improves decision-making, enhances risk oversight, and promotes a long-term strategic outlook, all of which are vital for sustainable financial success. This belief has driven regulatory actions in many regions, such as gender quota laws in Europe and voluntary target-setting in markets like Australia and Malaysia.

Despite the growth of empirical research, the exact nature of the link between board diversity and CFS remains debated and fragmented. Early studies often sought direct, linear relationships between the percentage of female directors and traditional financial metrics such as return on assets or Tobin's Q, yielding inconsistent and sometimes conflicting results. More recent research has shifted towards more detailed models that see ESG performance as a key mediator, indicating that board diversity mainly affects CFS through its influence on sustainability practices. Additionally, the relationship is increasingly recognized as context-dependent,

influenced by firm-specific traits, governance structures, and broader institutional settings. This review fills an important gap by systematically synthesizing this complex and rapidly growing body of evidence. This review highlights key mechanisms, conditions that influence results, and methodological hurdles, thus providing a clear framework for understanding how board diversity relates to CFS and guiding future research.

## LITERATURE REVIEW

### Theoretical Framework

The scholarly discussion on board diversity and CFS draws on multiple theories, with researchers often using different perspectives to explain how board composition influences sustainability outcomes.

Agency theory offers a key perspective, suggesting that conflicts of interest between managers and shareholders can lead to poor corporate decisions. From this angle, board diversity, especially gender diversity, is seen as a governance tool that improves oversight. Female directors are often believed to be more independent, risk-averse, and less tolerant of opportunistic managerial behavior, which helps lower agency costs and supports decisions focused on long-term value (Primacintya & Kusuma, 2025; Gull et al., 2025; Issa & Hanaysha, 2023).

Resource dependence theory provides an additional perspective, highlighting the board's role in managing external dependencies and securing vital resources. Diversity, including gender and cultural diversity, broadens the range of skills, experiences, and networks available to the company. Directors from diverse backgrounds can offer unique viewpoints, connections to various stakeholder groups, and legitimacy that help firms navigate complex social and environmental expectations (Alawadi et al., 2025, 2024; Putri et al., 2025).

Stakeholder theory broadens the focus from shareholders to include a wider range of groups whose interests are vital to corporate sustainability. It suggests that companies that effectively manage relationships with employees, communities, and the environment will perform better over the long term. Board diversity is believed to promote a more inclusive and empathetic boardroom environment, making companies more attentive to the concerns of diverse stakeholders (Al-Sarraf et al., 2025; Kampoowale et al., 2025).

Critical mass theory addresses the detail that a single female director may have limited influence due to tokenism. It argues that a minimum threshold, often conceptualized as three or more female directors or roughly thirty percent representation, is necessary for women to exert meaningful influence, challenge groupthink, and reshape board decisions (Rahi, 2025; Khatri, 2023; Yadav & Prashar, 2023).

### Conceptual Framework

Synthesizing the theoretical perspectives and empirical findings from the reviewed literature, this study proposes a comprehensive conceptual framework. This framework outlines the complex pathways through which board diversity affects CFS, including multiple independent variables, mediators, moderators, and control variables as specified.

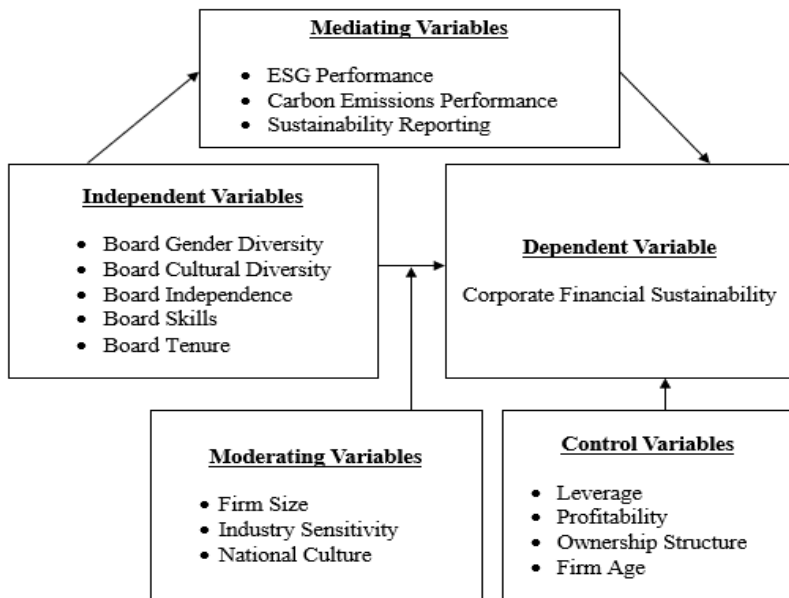
The dependent variable in this framework is CFS, which is measured in the literature using accounting-based measures (return on assets, return on equity), market-based measures (Tobin's Q, stock price volatility), and risk-based measures (cost of debt, systematic risk). The independent variables consist of five different board-related constructs: board gender diversity (percentage of women on the board, presence of a female chair), board cultural diversity (presence of foreign directors), board independence (proportion of non-executive directors), board skills (educational and occupational expertise), and board tenure (length of director service).

The framework identifies three main mediating mechanisms through which board diversity influences CFS. ESG performance (composite scores or individual pillar scores) is the most commonly examined mediator, representing a company's sustainability practices. Carbon emissions performance acts as a specific environmental mediator, reflecting the success of climate-related strategies. Sustainability reporting functions as a disclosure-based mediator, showing how transparently firms communicate their sustainability efforts.

The relationship between board diversity and CFS depends on several moderating factors. Firm size affects the resources available for implementing diversity initiatives and sustainability strategies. Industry sensitivity determines the level of stakeholder pressure for environmental and social performance, with firms in sensitive industries feeling stronger impacts. National culture influences societal expectations regarding gender roles and corporate responsibility, thereby moderating the effectiveness of board diversity.

Finally, the framework includes four control variables commonly used in empirical studies to isolate the unique effects of board diversity: firm leverage, profitability, ownership structure (e.g., family ownership, institutional ownership), and firm age. These factors are known to independently influence both board composition and sustainability outcomes, in addition to diversity. Figure 1 illustrates the proposed conceptual framework linking board diversity to CFS.

Figure 1: A Conceptual Framework for Board Diversity and Corporate Financial Sustainability



### Summary of Key Variables

The following table offers a clear overview of how the key constructs in the conceptual framework have been operationalized across the reviewed studies, highlighting the variety of measurement approaches used in the literature.

Table 1. Operationalization of Key Constructs in the Board Diversity-CFS Literature

| Category           | Variable                           | Operationalization (Related Studies)                                                                                                                                                           |
|--------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dependent</b>   | Corporate Financial Sustainability | Return on assets (Kampoowale et al., 2025); Tobin’s Q (Kampoowale et al., 2025); systematic risk (Shakil, 2021); cost of debt (Zhu et al., 2024); economic value added (Makhija et al., 2025). |
| <b>Independent</b> | Board Gender Diversity             | Percentage of women on board (Al-Sarraf et al., 2025); presence of at least three female directors (Yadav & Prashar, 2023); female board chair (Słomka-Gołębiowska et al., 2023).              |
|                    | Board Cultural Diversity           | Percentage of foreign directors (Paolone et al., 2024); presence of directors with international experience (Alawadi et al., 2025).                                                            |
|                    | Board Independence                 | Proportion of non-executive directors (Pandey & Sharma, 2025); percentage of independent directors (Agnese et al., 2024).                                                                      |

|                  |                              |                                                                                                                                                                                                           |
|------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | Board Skills                 | Directors with sustainability expertise (Abed et al., 2025); educational background (Arhinful et al., 2024); functional experience (Alawadi et al., 2025).                                                |
|                  | Board Tenure                 | Average years of director service (Piñeiro Chousa et al., 2025); tenure of female directors (Abdelkader et al., 2024).                                                                                    |
| <b>Mediator</b>  | ESG Performance              | Composite ESG scores from Refinitiv (Aladwan et al., 2025); individual pillar scores (Sandretto et al., 2025); ESG disclosure scores (Moussa & Elmarzouky, 2023); ESG disclosure quality (Baharom, 2025). |
|                  | Carbon Emissions Performance | Total carbon emissions (Fan et al., 2023); carbon intensity (Alkurdi et al., 2024); carbon disclosure (Yulianti & Waworuntu, 2025).                                                                       |
|                  | Sustainability Reporting     | Sustainability report issuance (Hasan et al., 2022); disclosure index (Hossain et al., 2025); integrated reporting practices (Grassa et al., 2025).                                                       |
| <b>Moderator</b> | Firm Size                    | Logarithm of total assets (Al-Sarraf et al., 2025); market capitalization (Arora & Sharma, 2022).                                                                                                         |
|                  | Industry Sensitivity         | Classification as an environmentally sensitive industry (Amin et al., 2025; Khatri, 2023); energy sector (Gidage & Bhide, 2025).                                                                          |
|                  | National Culture             | Hofstede cultural dimensions (Fathoni et al., 2025); gender parity index (Grau-Grau et al., 2025).                                                                                                        |
| <b>Control</b>   | Leverage                     | Debt-to-assets ratio (Aljammaz et al., 2025); debt-to-equity ratio (Arora & Sharma, 2022).                                                                                                                |
|                  | Profitability                | Return on equity (Alahdal et al., 2024); return on assets (Vitale et al., 2025).                                                                                                                          |
|                  | Ownership Structure          | Family ownership percentage (Aziz et al., 2025); institutional ownership (Hasan et al., 2022); government ownership (Aljammaz et al., 2025).                                                              |
|                  | Firm Age                     | Years since incorporation (Hipólito et al., 2025); age categorization (Zhu & Chen, 2025).                                                                                                                 |

## METHODOLOGY

This review used a systematic and critical approach to synthesize the literature. The main data source was the Scopus database, which offers comprehensive coverage of peer-reviewed academic journals in business, economics, and related fields. The search was performed on February 11, 2026, using a refined Boolean search string developed from the original query. The search string combined terms related to board diversity with terms related to CFS and corporate governance, and was limited to titles, abstracts, and keywords.

The initial search yielded 239 articles. These were then filtered using specific inclusion criteria. Only peer-reviewed articles and reviews from academic journals were selected to ensure scholarly integrity. The focus was limited to the fields of Business, Management, and Accounting, as well as Economics, Econometrics, and Finance, to maintain consistency in the subject area. Publications were restricted to final versions, and only English-language articles published from 2020 to 2025 were included to reflect the latest advances in this fast-changing domain. This period underscores the most recent developments. After applying these criteria, a final collection of 119 articles was chosen, forming the foundation of this critical review.

The analysis used a thematic synthesis method. Each article was carefully read, and important information was extracted, including theoretical frameworks, research questions, methods, key variables, and main findings. The synthesis involved finding common themes, patterns of agreement and disagreement, and trends in methodology. The analysis was not just descriptive; it also critically assessed the quality of evidence, identified gaps, and examined the assumptions behind existing research. This critical approach shapes the structure of the results section, which focuses on key synthesized findings rather than merely listing study outcomes. This review does not include meta-analysis or statistical synthesis, which may limit the precision of effect size estimates across studies.

## FINDINGS

The analysis of the 119 reviewed articles uncovers a rich and increasingly advanced body of literature. The results are presented as five synthesized findings that highlight the main themes and key insights emerging from the collection.

### **Finding 1: The relationship between board diversity and ESG performance is predominantly positive but exhibits significant nuance.**

Board diversity, especially gender diversity, positively links to ESG performance. This pattern is observed across various regions, including Europe (Grau-Grau et al., 2025; Odriozola Zamanillo et al., 2024), Asia (Kampoowale et al., 2025; Zhu & Chen, 2025), the Middle East (Aljammaz et al., 2025; Alahdal et al., 2024), and Africa (Agnese et al., 2024). However, the relationship is not the same everywhere. Critical mass theory is well supported, with studies showing that the positive influence of board gender diversity on ESG performance depends on reaching a threshold of at least three female directors or about 30% representation (Rahi, 2025; Khatri, 2023; Yadav & Prashar, 2023). Additionally, the impact differs across ESG pillars; gender diversity is most consistently and positively linked to governance performance, while its effect on environmental and social areas is often affected by other board traits or contextual factors (Grau-Grau et al., 2025; Sandretto et al., 2025; Odriozola Zamanillo et al., 2024). The influence of female directors also varies by executive status, with female executive directors sometimes exerting a stronger influence than their non-executive counterparts (Gull et al., 2025; Cambrea et al., 2023).

### **Finding 2: ESG performance functions as a critical mediating mechanism linking board diversity to CFS.**

ESG performance mediates the relationship between board diversity and CFS. Studies using mediation analysis show that while board gender diversity can directly affect financial outcomes, a large part of this effect is attributable to the improved sustainability practices promoted by diverse boards. For example, board gender diversity was found to enhance financial performance through improved ESG ratings (Kampoowale et al., 2025; Nguyen et al., 2023), to lower firm risk by superior ESG performance (Shakil, 2021), and to decrease debt costs by signaling stronger sustainability credentials (Zhu et al., 2025). This pattern of mediation highlights the idea that diversity creates value not through immediate financial gains but by influencing the strategic direction and governance processes that support long-term sustainability.

### **Finding 3: The relationship between board diversity and CFS is contingent on a complex set of moderating factors.**

A key insight from the synthesis is the high level of context dependence that characterizes the board diversity-CFS nexus. The effect of board diversity is greatly amplified or reduced by various moderators acting at multiple levels. At the governance level, the presence of supporting mechanisms such as independent audit committees (Samsudin et al., 2025), CSR committees (Agnese et al., 2024; Cosma et al., 2022), and board independence (Bukari et al., 2024) enhances the positive impact of diversity. Conversely, CEO duality can weaken this relationship (Bel-Oms et al., 2025). At the firm level, industry sensitivity emerges as a strong moderator, with the influence of board gender diversity on ESG being more significant in environmentally sensitive industries (Amin et al., 2025; Khatri, 2023). Family ownership, on the other hand, tends to lessen the positive effects of diversity (Aziz et al., 2025; Augustina & Barokah, 2024). At the institutional level, national culture (Fathoni et

al., 2025) and the broader regulatory environment, including gender parity and mandatory sustainability reporting, shape the effectiveness of board diversity (Grau-Grau et al., 2025; Vitale et al., 2025).

**Finding 4: The literature exhibits a pronounced methodological dominance of quantitative archival research.**

A majority of the reviewed studies (over 90%) use quantitative methods and data from commercial databases such as Refinitiv Eikon, Bloomberg, and Thomson Reuters. These studies commonly apply panel data regression techniques, including ordinary least squares, fixed-effects models, and system generalized method of moments estimators, to address endogeneity. Although this approach allows for large-sample analysis and causal inference, it often treats boardroom dynamics as a black box. Qualitative research remains limited but offers valuable insights. For instance, interview-based studies by Islam et al. (2022) and Alawadi et al. (2025) shed light on how board diversity influences sustainability outcomes, highlighting the roles of organizational culture, boardroom interactions, and the subtle use of social and skill resources. The lack of more qualitative work represents a significant gap in understanding the micro-foundations of the board diversity-CFS relationship.

**Finding 5: Persistent contradictions and significant geographical gaps characterize the current state of knowledge.**

Despite widespread agreement on the positive relationship between board gender diversity and ESG performance, some contradictions persist. Some studies report insignificant or even negative effects of board gender diversity on ESG performance (Najaf et al., 2025; Arhinful et al., 2024), which may stem from differences across national contexts, measurement methods, or a lack of critical mass. Additionally, the research is geographically biased. While there is considerable focus on European, North American, and select Asian markets (notably China, Malaysia, and Indonesia), other regions are underrepresented. Research on Africa (Agnese et al., 2024), the Middle East (Abed et al., 2025), and Latin America remains limited relative to market size. Comparative studies across these regions are virtually absent, leaving institutional contingencies poorly understood.

## DISCUSSION

### Theoretical Implications

The synthesized findings have important theoretical implications for understanding the relationship between board diversity and CFS. The review supports the multi-theoretical approach that characterizes the field, showing that agency, resource dependence, stakeholder, and critical mass theories are not mutually exclusive but provide complementary perspectives. Agency theory is supported by evidence that board gender diversity reduces managerial opportunism, earnings management, and ESG controversies (Gull et al., 2025; Primacintya & Kusuma, 2025). Resource dependence theory is strengthened by findings that board diversity grants access to valuable networks and legitimacy, helping firms better manage stakeholder relationships (Alawadi et al., 2025; Putri et al., 2025). Stakeholder theory is supported by the consistent link between board gender diversity and improved ESG performance, reflecting a more balanced consideration of diverse stakeholder interests (Al-Sarraf et al., 2025).

Importantly, the review emphasizes the key role of critical mass theory in explaining the non-linear relationship. The evidence clearly shows that token representation alone is inadequate and that having at least three female directors is crucial for achieving meaningful board gender diversity influence on sustainability outcomes. This has significant implications for theory development, indicating that future research should go beyond linear models to examine the conditions under which critical mass functions. Some studies suggest that the threshold may vary with other board characteristics, such as the presence of a female chair (Słomka-Gołębiowska et al., 2023) or the board's overall size, highlighting the need for more detailed configurational theorizing.

The findings also support a configurational perspective, as advanced by Lewellyn and Muller-Kahle (2024), which argues that high ESG performance can be achieved through multiple equifinal combinations of board features and institutional factors. This view shifts the literature away from a simple “more is better” narrative

toward a more nuanced understanding where the alignment between board diversity and other governance mechanisms influences outcomes. This configurational approach encourages researchers to explore how different types of diversity interact, such as the finding that the combined effect of gender and cultural diversity can sometimes negatively affect ESG performance (Paolone et al., 2024), indicating possible tensions that warrant further investigation.

### **Practical Implications**

The findings of this review provide practical insights for practitioners and policymakers. For investors, the evidence indicates that evaluating board diversity involves more than just counting female directors. Investors should determine whether a board has reached a critical mass of female representation and whether this diversity is supported by other strong governance structures, such as independent audit committees and dedicated sustainability committees. Companies with these setups are more likely to demonstrate strong ESG performance, which is associated with lower risk and greater long-term value.

For corporate boards, the review emphasizes that simply appointing female directors is not a cure-all. The success of board diversity relies on the organizational context and the support systems in place. Boards should look beyond appointing female directors and focus on their roles, ensuring women hold executive positions or serve on key committees where they can influence decision-making (Gull et al., 2025; Cambrea et al., 2023). For example, a manufacturing firm with three female directors on its sustainability committee is better positioned to reduce carbon emissions and improve ESG ratings than a firm with one female director serving only on the audit committee. Additionally, the findings point to the strategic value of ESG performance in enabling diversity to create financial benefits. Companies should therefore incorporate ESG into their overall strategy and use board diversity to strengthen these efforts, rather than viewing sustainability as a separate or minor issue.

For policymakers, the findings support implementing gender quotas to reach a critical mass but also warn against a one-size-fits-all approach. The effectiveness of such regulations depends on the broader institutional context, as shown by the varying impacts of quotas across European countries (Méndez et al., 2025). For instance, Norway's gender quota law (requiring 40% female board representation) succeeded partly because it was accompanied by mandatory ESG disclosure requirements, whereas Italy's 2011 quota law showed weaker effects without complementary reporting mandates. Policymakers should therefore consider complementary policies that promote other boardroom qualities, such as independence and the formation of CSR committees, to foster an environment where diversity can flourish. Additionally, evidence that mandatory sustainability reporting strengthens the link between board diversity and ESG performance (Vitale et al., 2025) suggests that transparency requirements can amplify the benefits of board diversity.

### **Recommendations for Future Research**

The findings of this review, along with the identified gaps, lay a solid foundation for further research on board diversity and CFS. Several areas deserve special focus in future studies.

First, there is a pressing need for qualitative and mixed-methods studies to reveal the complexities of boardroom dynamics. The dominance of quantitative archival research has largely left unexplored the processes, interactions, and power relations through which diverse directors influence sustainability decisions. In-depth interviews, ethnographic observations, and process tracing can shed light on how directors navigate boardroom hierarchies, build coalitions, and turn their perspectives into tangible sustainability strategies (Alawadi et al., 2025; Islam et al., 2022). Such work would complement existing large-sample studies by offering insights into the micro-foundations of the board diversity–CFS relationship.

Second, future research should systematically examine how gender diversity intersects with other aspects of board composition. Early studies examining cultural diversity, age diversity, and functional expertise alongside gender diversity reveal complex interaction effects that challenge simple additive models (Alawadi et al., 2025; Paolone et al., 2024). Instead of considering gender diversity alone, scholars need to explore how different types of diversity interact, complement, or potentially conflict to influence sustainability outcomes. Such intersectional

approaches would provide a deeper and more nuanced understanding of how board composition affects outcomes.

Third, scholars should broaden the geographic scope of research to include underrepresented regions. Although the literature provides substantial coverage of Europe, North America, and selected Asian markets, developing economies in Africa, Latin America, the Middle East, and parts of South and Southeast Asia remain relatively underexplored. Comparative studies that analyze how different institutional contexts, such as varying regulatory frameworks, cultural norms, and levels of economic development, affect the relationship between board diversity and performance would be especially valuable (Abed et al., 2025; Agnese et al., 2024).

Fourth, longitudinal research designs that follow firms over long periods are necessary to understand the long-term, delayed effects of changes in board composition on sustainability and financial results. While many studies use panel data, few have looked at how the impact of board diversity shifts over time or how ongoing diversity interacts with organizational learning and strategic adaptation. Such designs would also help clarify causality versus correlation, which remains a common challenge in this field.

Finally, future studies should include emerging contextual factors in their analytical frameworks. Early research on economic policy uncertainty (Qureshi et al., 2024), digital transformation (Zhang et al., 2024), and climate transition risk (Chen et al., 2025) shows that these factors significantly impact how board diversity affects corporate outcomes. Specifically, digital governance mechanisms (such as algorithmic board monitoring and AI-assisted decision-making) and climate risk exposure (both physical and transition risks) remain unstudied as possible moderators of the board diversity–CFS relationship. As the business environment evolves, research should examine how board diversity helps firms adapt to new challenges and sustain financial performance.

## CONCLUSION

This critical review synthesizes 119 articles to map the complex landscape of research on board diversity and CFS. The analysis shows that the literature has shifted from examining simple direct effects to more advanced models that include mediation, moderation, and non-linearity. The main conclusion is that board diversity positively affects CFS mainly through its impact on ESG performance, but this relationship depends on reaching a critical mass of female directors and is significantly influenced by governance structures, firm characteristics, and institutional contexts.

Despite notable progress, the review highlights ongoing gaps that need attention. The absence of meta-analytic synthesis means the magnitude of observed effects remains unquantified. The dominance of quantitative archival research has left the processes and dynamics through which board diversity affects decisions largely unexplored. Geographic coverage remains uneven, with significant underrepresentation of developing economies. The intersection of gender diversity with other forms of diversity is only beginning to be studied, and emerging contextual factors, such as digital transformation and climate transition risk, remain underexplored. By addressing these gaps through the research directions outlined, future studies can enhance understanding of how board diversity contributes to sustainable corporate performance, thereby informing evidence-based policy and practice.

## REFERENCES

1. Abdelkader, M. G., Gao, Y., & Elamer, A. A. (2024). Board gender diversity and ESG performance: The mediating role of temporal orientation in South Africa context. *Journal of Cleaner Production*, 440(140728). <https://doi.org/10.1016/j.jclepro.2024.140728>
2. Abed, A., Al-Najjar, B., & Salama, A. (2025). Breaking down barriers: How board composition drives sustainability in GCC countries. *International Journal of Human Resource Management*, 36(4), 513–547. <https://doi.org/10.1080/09585192.2025.2452971>
3. Agnese, P., Arduino, F. R., Bruno, E., & Vento, G. A. (2024). On the road to sustainability: The role of board characteristics in driving ESG performance in Africa. *Socio-Economic Planning Sciences*, 95(101994). <https://doi.org/10.1016/j.seps.2024.101994>

4. Agustina, R. P., & Barokah, Z. (2024). Women on boards and ESG performance: Empirical evidence before and during the COVID-19 pandemic in Indonesia and Malaysia. *Corporate Governance*, 24(3), 489–508. <https://doi.org/10.1108/CG-10-2023-0415>
5. Aladwan, M., Samara, H., Alsinglawi, O., Elamer, A. A., & Moustafa, M. W. (2025). Do women on boards drive corporate sustainability? Evidence from the European Union. *Corporate Social Responsibility and Environmental Management*, 32(6), 8144–8160. <https://doi.org/10.1002/csr.70106>
6. Alahdal, W. M., Hashim, H. A., Almaqtari, F. A., Salleh, Z., & Pandey, D. K. (2024). The moderating role of board gender diversity in ESG and firm performance: Empirical evidence from Gulf countries. *Business Strategy & Development*, 7(3). <https://doi.org/10.1002/bsd2.70004>
7. Alawadi, A., Kakabadse, N., Khan, N., & Bodolica, V. (2025). Institutional context matters: Board diversity and ESG outcomes in the UAE. *Corporate Governance*, 25(6), 1324–1341. <https://doi.org/10.1108/cg-03-2024-0135>
8. Alawadi, A., Kakabadse, N., Morley, M., & Khan, N. (2024). Diversified boards and the achievement of environmental, social, and governance goals. *Business Ethics, the Environment & Responsibility*, 33(3), 331–348. <https://doi.org/10.1111/beer.12606>
9. Aljammaz, A. A., Ramakrishnan, S., Sulimany, H. G. H., F.A. Khatib, S., Ali, A., Almoataz, E., & Alharbi, A. A. (2025). Mediating role of financial sustainability between board diversity and firms' resilience: Evidence from Saudi listed firms. *Humanities & Social Sciences Communications*, 12(1). <https://doi.org/10.1057/s41599-025-06195-8>
10. Alkurdi, A., Al Amosh, H., & Khatib, S. F. A. (2024). The mediating role of carbon emissions in the relationship between the board attributes and ESG performance: European evidence. *EuroMed Journal of Business*, 19(4), 1016–1041. <https://doi.org/10.1108/emjb-08-2022-0144>
11. Al-Sarraf, J., Al-Swidi, A. K., & Al-Hakimi, M. A. (2025). Board diversity matters: Assessing ESG performance through the lens of firm size. *Corporate Governance*, 25(7), 1809–1833. <https://doi.org/10.1108/cg-11-2023-0495>
12. Amin, M. H., Ali, H., & Mohamed, E. K. A. (2025). Does industry sensitivity affect the relationship between board diversity and ESG performance? Fresh evidence from the G-7 countries. *Journal of Applied Accounting Research*, 26(3), 732–755. <https://doi.org/10.1108/jaar-11-2023-0364>
13. Arhinful, R., Mensah, L., & Owusu-Sarfo, J. S. (2024). Board governance and ESG performance in Tokyo stock exchange-listed automobile companies: An empirical analysis. *Asia Pacific Management Review*, 29(4), 397–414. <https://doi.org/10.1016/j.apmr.2024.11.001>
14. Arora, A., & Sharma, D. (2022). Do environmental, social and governance (ESG) performance scores reduce the cost of debt? Evidence from Indian firms. *Australasian Accounting Business and Finance Journal*, 16(5), 4–18. <https://doi.org/10.14453/aabfj.v16i5.02>
15. Aziz, A., Abdul Latiff, N. H., Osman, A. R., & Alshdaifat, M. N. H. (2025). The interaction effect of family ownership, board gender and skills on CSR strategy with ESG performance: Evidence from ASEAN-5 countries. *Corporate Governance*, 25(4), 948–961. <https://doi.org/10.1108/CG-02-2024-0113>
16. Baharom, Z. (2025). How ESG reporting is transforming corporate financial reporting: A conceptual framework. *International Journal of Research and Innovation in Social Science*, IX(XIV), 1970–1977. <https://doi.org/10.47772/ijriss.2025.914mg00148>
17. Bel-Oms, I., Pucheta-Martínez, M. C., & Gallego-Álvarez, I. (2025). Do CEO attributes in the energy sector matter in sustainability performance? The moderating role performed by board gender diversity. *Corporate Social Responsibility and Environmental Management*, 32(3), 3997–4018. <https://doi.org/10.1002/csr.3162>
18. Bukari, A., Agyemang, A. O., & Bawuah, B. (2024). Assessing the moderating role of ESG performance on corporate governance and firm value in developing countries. *Cogent Business & Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2333941>
19. Cambrea, D. R., Paolone, F., & Cucari, N. (2023). Advisory or monitoring role in ESG scenario: Which women directors are more influential in the Italian context? *Business Strategy and the Environment*, 32(7), 4299–4314. <https://doi.org/10.1002/bse.3366>
20. Chen, J., Qiu, Y., Ding, Q., & Geng, Y. (2025). Climate transition risk and corporate environment, social and governance performance: Evidence from Chinese listed companies. *International Journal of Finance & Economics*, 30(3), 2829–2848. <https://doi.org/10.1002/ijfe.3045>

21. Cosma, S., Principale, S., & Venturelli, A. (2022). Sustainable governance and climate-change disclosure in European banking: The role of the corporate social responsibility committee. *Corporate Governance*, 22(6), 1345–1369. <https://doi.org/10.1108/cg-09-2021-0331>
22. Fan, P., Qian, X., & Wang, J. (2023). Does gender diversity matter? Female directors and firm carbon emissions in Japan. *Pacific-Basin Finance Journal*, 77(101931). <https://doi.org/10.1016/j.pacfin.2022.101931>
23. Fathoni, A. F., Hanafi, M. M., & Tandelilin, E. (2025). Women on boards and sustainability performance: The moderating roles of national culture-international evidence from the banking sector. *Cogent Business & Management*, 12(1). <https://doi.org/10.1080/23311975.2025.2517245>
24. Gidage, M., & Bhide, S. (2025). Impact of ESG performance on financial risk in energy firms: Evidence from developing countries. *International Journal of Energy Sector Management*, 19(4), 913–939. <https://doi.org/10.1108/ijesm-05-2024-0021>
25. Grassa, R., Elhout, R., Rafeea, R., Hassan, O. Y., & Humaid Al Suwaidi, S. (2025). Sustainable development goals: Investigation of the driving forces underlying the narratives in integrated reports. *Society and Business Review*, 20(3), 566–591. <https://doi.org/10.1108/sbr-08-2024-0283>
26. Grau Grau, A., Bel-Oms, I., & Núñez-Almonte, J. (2025). Board structure and ESG performance: The moderating role of country-level gender parity. *Corporate Social Responsibility and Environmental Management*, 32(6), 7254–7275. <https://doi.org/10.1002/csr.70067>
27. Gull, A. A., Haq, I. U., Ghafoor, A., Ahsan, T., & Bayraktar, Y. (2025). When do female directors curb corporate ESG controversies? Evidence from the USA. *Journal of Cleaner Production*, 528(146746). <https://doi.org/10.1016/j.jclepro.2025.146746>
28. Hasan, A., Hussainey, K., & Aly, D. (2022). Determinants of sustainability reporting decision: Evidence from Pakistan. *Journal of Sustainable Finance & Investment*, 12(1), 214–237. <https://doi.org/10.1080/20430795.2021.1964813>
29. Hipólito, R., Borges, M. F. R., Tavares, M. C., Vale, J., Azevedo, G., & Oliveira, J. (2025). Determinants of environmental, social, and governance measures: Evidence from European insurance companies. *Journal of Risk and Financial Management*, 18(5), 267. <https://doi.org/10.3390/jrfm18050267>
30. Hossain, M. S., Ling, C. C., Pathirana, N. W., & Fung, C. Y. (2025). Do female directors matter? Exploring the link between corporate sustainability disclosures and earnings management in Malaysia. *Corporate Social Responsibility and Environmental Management*, 32(3), 3150–3166. <https://doi.org/10.1002/csr.3113>
31. Islam, R., French, E., & Ali, M. (2022). Evaluating board diversity and its importance in the environmental and social performance of organizations. *Corporate Social Responsibility and Environmental Management*, 29(5), 1134–1145. <https://doi.org/10.1002/csr.2259>
32. Issa, A., & Hanaysha, J. R. (2023). Breaking the glass ceiling for a sustainable future: The power of women on corporate boards in reducing ESG controversies. *International Journal of Accounting and Information Management*, 31(4), 623–646. <https://doi.org/10.1108/IJAIM-03-2023-0053>
33. Kampoowale, I., Kateb, I., Salleh, Z., & Alahdal, W. M. (2025). Board gender diversity and ESG performance: Pathways to financial success in Malaysian emerging market. *International Journal of Emerging Markets*, 20(11), 4666–4688. <https://doi.org/10.1108/ijoem-03-2024-0488>
34. Khatri, I. (2023). Board gender diversity and sustainability performance: Nordic evidence. *Corporate Social Responsibility and Environmental Management*, 30(3), 1495–1507. <https://doi.org/10.1002/csr.2432>
35. Lewellyn, K., & Muller-Kahle, M. (2024). ESG leaders or laggards? A configurational analysis of ESG performance. *Business and Society*, 63(5), 1149–1202. <https://doi.org/10.1177/00076503231182688>
36. Makhija, H., Raghukumari, P. S., & Sethiya, A. (2025). Does board gender diversity moderate the impact of ESG on firms' economic value added? Evidence from an emerging economy. *International Journal of Productivity and Performance Management*, 74(3), 819–840. <https://doi.org/10.1108/ijppm-12-2023-0664>
37. Méndez, C., Arrondo, R., & Fonseca-Díaz, A. R. (2025). Sustainability practices, board's gender diversity and quota regulations in European markets. *Review of Managerial Science*, 19(10), 3177–3227. <https://doi.org/10.1007/s11846-025-00846-5>

38. Moussa, A. S., & Elmarzouky, M. (2023). Does capital expenditure matter for ESG disclosure? A UK perspective. *Journal of Risk and Financial Management*, 16(10), 429. <https://doi.org/10.3390/jrfm16100429>
39. Najaf, K., Kee, H. W., Singh, J., Gultom, N. D., & Chin, A. (2025). Board characteristics and ESG performance: An evidence from Malaysia. *Journal of Sustainable Finance & Investment*, 15(1), 105–144. <https://doi.org/10.1080/20430795.2024.2401360>
40. Nguyen, D. T., Hoang, T. G., Phi, N. T. M., & Truong, T. H. H. (2023). Do ESG ratings mediate the relationship between board gender diversity and firm financial performance? Evidence from the U. S. Market. *Economics and Finance Letters*, 10(2), 163–171. <https://doi.org/10.18488/29.v10i2.3396>
41. Odriozola, M. D., Blanco-González, A., & Baraibar-Diez, E. (2024). The link of ESG performance and board gender diversity in European firms. *Corporate Social Responsibility and Environmental Management*, 31, 5656–5669. <https://doi.org/10.1002/csr.2881>
42. Pandey, A., & Chaturvedi Sharma, P. (2025). Boardroom dynamics in Indian private banks: How nonexecutive and women directors affect financial performance. *Corporate Governance*, 25(5), 1036–1054. <https://doi.org/10.1108/cg-01-2024-0002>
43. Paolone, F., Pozzoli, M., Chhabra, M., & Di Vaio, A. (2024). Cultural and gender diversity for ESG performance towards knowledge sharing: Empirical evidence from European banks. *Journal of Knowledge Management*, 28(11), 106–131. <https://doi.org/10.1108/jkm-05-2023-0445>
44. Piñeiro-Chousa, J., López-Pérez, M. L., López-Cabarcos, M. Á., & Šević, A. (2025). Busy boards and environmental, social and governance performance: A gender perspective on NASDAQ-100 firms. *Review of Managerial Science*, 19(12), 3663–3686. <https://doi.org/10.1007/s11846-025-00863-4>
45. Primacintya, V. A., & Kusuma, I. W. (2025). Environmental, social and governance (ESG) performance and earnings management: The role of gender diversity. *Asian Journal of Accounting Research*, 10(3), 294–314. <https://doi.org/10.1108/ajar-12-2023-0414>
46. Putri, N. E., Juanda, A., & Wicaksono, A. P. N. (2025). The role of the board of directors' gender diversity moderation in the relationship between carbon emissions and ESG performance. *Corporate Board Role Duties and Composition*, 21(4), 56. <https://doi.org/10.22495/cbv21i4art5>
47. Qureshi, M. A., Ahsan, T., Gull, A. A., & Umar, Z. (2024). The impact of economic policy uncertainty on sustainability (ESG) performance: The role of the firm life cycle. *International Journal of Managerial Finance*, 20(4), 872–891. <https://doi.org/10.1108/ijmf-04-2022-0158>
48. Rahi, A. F. (2025). Unpacking women's power on corporate boards: gender reward in board composition. *International Journal of Disclosure and Governance*, 22(1), 64–80. <https://doi.org/10.1057/s41310-024-00228-5>
49. Samsudin, Z. A., Ariff, A. M., Kamarudin, K. A., & Abdullah, A. A. (2025). Board gender diversity, audit committee independence and environmental, social and governance (ESG) performance. *International Journal of Business and Society*, 26(3), 1100–1123. <https://doi.org/10.33736/ijbs.8928.2025>
50. Sandretto, D., Rizzi, A., & Esposito, G. (2025). Gender diversity leadership and ESG performance: The influence of women on boards and in management. *Business Strategy and the Environment*, 34(4), 5075–5094. <https://doi.org/10.1002/bse.4241>
51. Shakil, M. H. (2021). 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>
52. Słomka-Gołębiowska, A., De Masi, S., Zambelli, S., & Paci, A. (2023). Towards higher sustainability: If you want something done, ask a chairwoman. *Finance Research Letters*, 58(104308). <https://doi.org/10.1016/j.frl.2023.104308>
53. Vitale, G., Cupertino, S., Schiuma, G., & Troise, C. (2025). Investigating how mandatory sustainability reporting influences corporate governance effects on ESG performance: From obligation to impact for sustainable development. *Corporate Social Responsibility and Environmental Management*, 32(5), 6261–6282. <https://doi.org/10.1002/csr.70025>
54. Yadav, P., & Prashar, A. (2023). 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>

- 
55. Yulianti, E., & Waworuntu, S. R. (2025). The effect of company size, profitability, leverage, media exposure, and liquidity on carbon emissions disclosure. *Annals of Data Science*, 12(4), 1285–1313. <https://doi.org/10.1007/s40745-024-00564-x>
  56. Zhang, C., Tian, X., Sun, X., Xu, J., & Gao, Y. (2024). Digital Transformation, Board Diversity and Corporate Sustainable Development. *Sustainability*, 16(17). <https://doi.org/10.3390/su16177788>
  57. Zhu, N., Abdullah, Hashmi, M. A., Shah, M. H., & Yang, J. (2024). ESG performance and the cost of debt of Chinese firms: Do board idiosyncrasies matter? *Journal of the Knowledge Economy*, 16(2), 9684–9714. <https://doi.org/10.1007/s13132-024-02255-7>
  58. Zhu, Y., & Chen, J. (2025). How does board gender diversity shape ESG performance? *Finance Research Letters*, 74(106717). <https://doi.org/10.1016/j.frl.2024.106717>