Board Gender Diversity and Sustainability: A Literature Review

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Received: September 30, 2025 Accepted: October 29, 2025 Online Published: November 9, 2025

Abstract

The aim of this paper is to highlight, through a systematic literature review, the impact of gender diversity on boards of directors (BoD), with regard to the concept of sustainability linked in particular to aspects such as CSR and ESG. Thus, major databases (Business Source Ultimate - EBSCO host and Scopus) were queried and 288 retrieved publications were considered. The period considered for publication is from 2010 to July 2025. The results were refined through the criterion of considering only publications from scientific journals recognised and accepted by ANVUR (National Agency for the Evaluation of the University System and Research Institutes – is an independent public Institution that evaluates, accredits and verify the quality of higher education and research in Italy. The mission is to promote excellence and continuous improvement in Italian Universities and Research Institutions) for a total of 247 articles. The results show that the presence of women on boards contributes to improved Corporate Social Responsibility (CSR) and Environmental, Social and Governance (ESG) performances, but this effect is evidently dependent on several factors, the main one being the company type, with the impact varying between family and non-family businesses. The main impacts of the presence of women on corporate boards that emerged from the literature review are more sustainable strategies, ethics and trust, communication, innovation-driven, focus on people, corporate reputation. It emerges also that in order to generate these impacts it is necessary to reach "critical mass" of women in decision-making roles. Furthermore, the influence of women and their ability to lead change is affected not only by their specific role in the organization but also by the institutional and cultural context.

Keywords: board gender diversity, CSR, ESG, sustainability, female directors, family and non-family firms, women directors, BoD.

1. Introduction

In recent years, the increasing focus on environmental, social and governance (ESG) issues has prompted legislators and organisations to seek solutions to foster sustainable development. Numerous regulations have been enacted to incentivise and facilitate this journey for companies; now, more than ever, they face stringent obligations to be transparent and accountable with regard to sustainability, and not only financially. In response to these challenges, the European Union has fast-tracked the implementation of several regulations. Among the main initiatives is Regulation (EU) 2019/2088, known as the Sustainable Finance Disclosure Regulation (SFDR), which came into force in March 2021. It requires financial Institutions to disclose how they integrate ESG risks into their investment processes, classifying financial products according to their sustainability. Regulation (EU) 2020/852, introduced in 2021, aims to establish a clear framework for identifying economic activities that are considered environmentally sustainable. To further strengthen ESG transparency, the 2022 Corporate Sustainability Reporting Directive (CSRD) expanded reporting obligations, requiring large companies to disclose non-financial data according to consolidated sustainability standards. One must also take into account the recent EU Directive 2024/1760, known as the Corporate Sustainability Due Diligence Directive (CS3D), which obliges companies to specifically monitor and manage sustainability risks in order to identify, prevent and mitigate negative impacts on human rights and the environment, throughout the value chain. In addition, on 26 February 2025, the European Commission presented the "Omnibus Package", a set of regulatory changes aimed at simplifying and enhancing the regulatory framework for sustainability and corporate reporting, to facilitate compliance by companies. These regulations incentivise companies and investors to consider ESG factors in their activities, thereby promoting greater transparency in financial markets. Sustainability has emerged as a central goal for businesses globally, further stimulating research into the factors that foster sustainable practices. Among these, gender diversity – specifically the presence of women

in leadership roles – has attracted increasing interest. Women in corporate governance roles are increasingly recognised as key contributors to improving corporate social responsibility (CSR) and ESG performance. This literature review summarises current research on the impact of gender diversity on sustainability, paying particular attention to the role of women in family and non-family businesses.

2. Research Methodology

The methodology adopted is based on the "systematic literature review" (Cook et al., 1997) of the scientific literature, aimed at exploring how gender diversity on board of directors affects Corporate Social Responsibility (CSR) and Environmental, Social, and Governance (ESG) performances. A systematic literature review is a synthesis of scientific literature in response to a specific question. This research method originated in the UK medical profession and has been used in many fields, including management. This methodology involves defining a number of criteria including the choice of databases, choice of search field, selection of keywords and the time frame. The selection criteria focused on studies concerning CSR, ESG, gender diversity and corporate governance, with a particular focus on the role of women on boards of directors of both family and non-family businesses, as well as emerging market companies. The following criteria were also adopted: the survey includes English language sources, using the following databases: Business Source Ultimate (ESCO-hosted), Scopus. A variety of search terms or keywords were used to identify relevant publications for the review task. They included "ESG" or "Environmental, Social and Governance", "CSR" or "Corporate Social Responsibility", "Sustainability", "CSRD" or "Corporate Sustainability Reporting Directive", "Social Responsibility", "Woman" or "Women", "Female" or "Females", "Family Business" or "Family Firms" or "Family-controlled Firms" and "Board of Directors". These search terms were combined into several strings to gather a broad spectrum of relevant articles and ensure a comprehensive overview of existing research.

Table 1. Main elements of bibliometric analysis

Keywords	"ESG" or "Environmental, Social and Governance", "CSR" or "Corporate Social Responsibility", "Sustainability", "CSRD" or "Corporate Sustainability Reporting Directive", "Social Responsibility", "Woman" or "Women", "Female" or "Females", "Family Business" or "Family Firms" or "Family-controlled Firms" and "Board of Directors".	
Search strings	Keywords were combined into several strings to gather a broad spectrum of relevant articles and ensure a comprehensive overview of existing research.	
Scanned items	Articles, title, Abstract, Keywords.	
Sources/Digital libraries	Business Source Ultimate (EBSCO - hosted) Scopus.	
Additional Criterion	Only publications from scientific journals recognized and accepted by ANVUR	

Source: Authors'own

From these results, only sources published from 2010 up to and including July 2025 were taken into account. The first set of sources consisted of 288 results: 247 articles published in academic journals, 19 in non-academic journals, 18 sources from trade publications, 2 in product reviews, and 2 in company reports. The results were refined through the criterion of considering only publications from scientific journals recognized and accepted by ANVUR (National Agency for the Evaluation of the University System and Research Institutes. It is an independent public Institution that evaluates, accredits and verify the quality of higher education and research in Italy. Its main objective is to promote excellence and continuous improvement in Italian Universities and Research Institutions) for a total of 247 articles. After this initial refinement, according to previous research (Abatecola et al., 2013), the selection process followed a step-by-step search protocol (Table 2). Subsequently, the selected articles were filtered by reading the titles, abstracts and keywords to pinpoint those relevant to the study.

Table 2. Research refinement steps

Step	Description	Number of articles
0	Total sources from database research	288
1	Only scientific articles. Screening based on title, abstracts and keywords.	247
2	Sample of analysed articles	183

Source: Authors'own

Following the first selection stage based on abstracts, keywords and title, 183 articles were selected for the subsequent phase two literature review. The 183 second-phase articles were analysed by reading the full text. Consistent with recent systematic literature reviews (Caputo et al., 2016), the articles were analysed qualitatively and an Excel database was created to collect all qualitative information on the selected articles.

3. Results

The 183 analysed articles were published between 2010 and July 2025. There is a gradual and steady increase of the publications (Figure 1) for each year after 2020, with the highest peaks reached at 34 articles in both 2023 and 2024. The increase in the number of publications on this topic reflects its current relevance in both the academic and business worlds and confirms the need to address the issue in an integrated manner and to study it in depth.

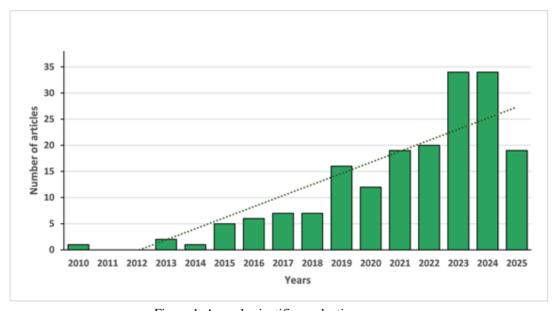


Figure 1. Annual scientific production per year

The articles examined had been published in journals covering various thematic fields (Figure 2), particularly the fields of management, sustainability, sustainable finance and business ethics, followed by some journals dealing with management, psychological and institutional contexts. This variety makes it possible to approach gender diversity in business not only from an organizational point of view, but also from an economic, sociological and regulatory perspective.

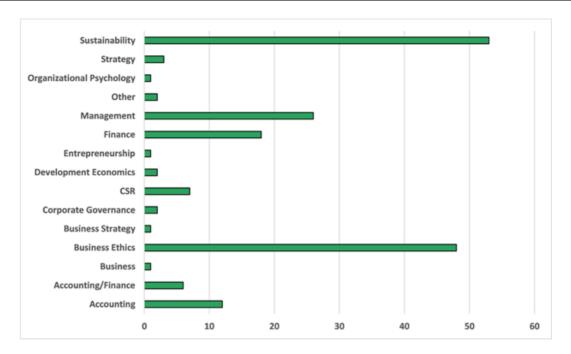


Figure 2. Journal's thematic fields

Figure 3 shows the most relevant sources in which the analysed articles were published. Most of the articles were published in Corporate Social Responsibility & Environmental Management (27 articles), followed by Business Strategy & the Environment (25 articles), then Journal of Cleaner Production (12 articles) and Journal of Business Ethics (9 articles).

The fact that articles are published on such many journals shows that the topics - the role of women on company boards and their impact on ESG, CSR and corporate sustainability in general – are addressed using many different approaches and perspectives.



Figure 3. Most relevant sources

The collected articles address a recurring but diverse range of topics (Figure 4). The main themes that emerged were CSR, board gender diversity, ESG, sustainability and the presence of women on BoDs.

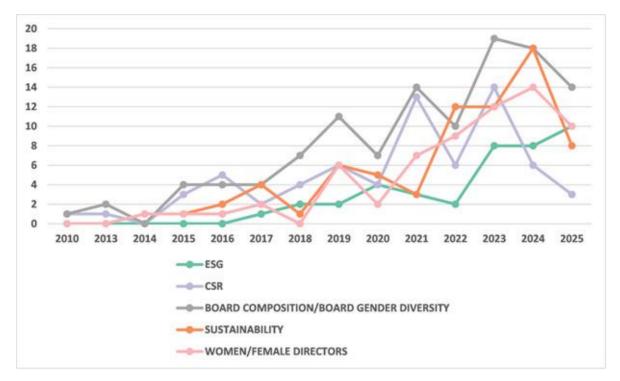


Figure 4. Topic trends over the period analysed (2010 - July 2025)

The analysed articles came from a very wide geographical areas, ensuring an international point of view. The contexts studied a range from developed economies to emerging markets and cover many Countries, including: South Africa, Jordan, GCC states, France, Italy, United Kingdom, Iberian Peninsula, Central and Eastern European (CEE) countries, India, China, Japan, Indonesia, Malaysia, Bangladesh, Kenya, Nigeria, United States, Canada, Australia and Latin American countries. Some studies adopted a cross-country approach. This territorial variety makes it possible to observe how institutional, cultural and regulatory factors can influence the actual impact of gender diversity in decision-making processes and sustainability outcomes.

The review also showed how the studies referred to companies from different industrial sectors. In particular, our sample includes analyses of companies in energy sector, banking & finance, fashion, tourism and insurance industries.

Finally, studies are reviewed in a predominantly empirical manner; however, there is no lack of theoretical contributions.

4. Discussion of the Literature Review Results

The growing importance of corporate sustainability, driven by regulations such as the SFDR and CSRD to promote transparency and accountability in corporate practices, has given rise to intense academic debate on the role of factors that can influence ESG performance and CSR practices.

These factors include gender diversity, and considerable attention has been paid in particular to the topic of women in leadership positions. In recent years, numerous studies have explored this subject, seeking to understand whether and how the presence of women in decision-making and top management roles can foster greater corporate sustainability (Ardito et al., 2021; Campopiano et al., 2023; Odriozola et al., 2024). Specific research has also studied the evolution of gender diversity in boards of directors and corporate social responsibility (Amorelli et al., 2021). The literature offers several reasons why gender diversity could be positively correlated with sustainability. First, women in leadership positions tend to bring different perspectives and approaches to decision-making, often being more focused and having greater attention to ethical, social and environmental aspects (Ben Amar et al., 2017; Harjoto et al., 2015, Boulouta, 2013; Eberhardt-Toth, 2017). Studies suggest that women are more aware of ethical issues and concerns and have a propensity towards socially responsible behavior, thereby exerting positive influences on business decisions in the ESG and CSR sphere (Beji et al, 2021; Chang et al., 2024). In general, several

researches show that gender diversity on boards of directors positively influences corporate responses to sustainability initiatives; the presence of women tends to promote corporate decisions that are more oriented towards sustainability and stakeholder expectations in the ESG sphere (Ben-Amar et al., 2017; Galbreath, 2018). The results also showed that women tend to be more sensitive to the concerns of stakeholders, including employees, local communities and the environment (Rao et al., 2016; Shaukat et al., 2016). This increased sensitivity often translates into a more long-term and sustainability-oriented perspective on business decisions. It can also result in more sustainability-oriented corporate policies and practices, such as increased disclosure of ESG information (Zahid et al., 2020; Issa et al., 2023; Bektur et al., 2022, Cabeza-Garci à et al., 2018) and improved environmental performance (Elmagrhi et al., 2019; Glass et al., 2016; Atif et al., 2020). Therefore, the presence of women in leadership roles has been associated with better ESG risk management, due to a more holistic perspective and greater attention to detail. An area of growing interest is the link between gender diversity and innovation, particularly green innovation. Several studies point out that the presence of women on boards of directors can foster sustainable innovation, thanks to a greater openness to heterogeneous perspectives and the adoption of advanced solutions (Naveed et al., 2023; Xia et al., 2022; Issa et al., 2023; Korphaibool et al., 2024). There is ample evidence supporting this trend, particularly regarding female CEOs, who may encourage the adoption of green innovations. However, their impact, especially in family businesses, can vary depending on the degree of control exercised and the organizational culture (Guo et al., 2025). Companies with a significant female presence in top leadership roles are therefore more innovative in terms of sustainability, on account of greater diversity of thinking and a propensity to explore new solutions; this often means adopting more advanced technologies and practices. Moreover, the presence of women on boards of directors and in management roles can improve corporate reputation and investor confidence, especially in a regulatory environment increasingly focused on ESG transparency (Galletta et al., 2022; Naciti, 2019; Fakoya et al., 2020). Gender diversity is often perceived as a sign of more inclusive and responsible governance (Zagorchev, 2024). Some studies suggest that boardroom gender diversity may also influence the relationship between a company's time orientation and its ESG performance (Abdelkader et al., 2024), and between CEO power and ESG performance (Muhammad, 2025; Abdullah et al, 2024; Kouki, 2023). Yet other studies explore how companies with more diverse boards are more likely to choose more rigorous and credible sustainability assurance providers, such as one of the Big Four audit firms, to verify and validate the quality, reliability, and transparency of the ESG information provided by the company (Alsahali et al., 2024). Boardroom gender diversity also has an impact on the quality of ESG reporting. A greater female presence is associated with a more complete and transparent disclosure of sustainability information (Furlotti et al., 2019; Temiz et al., 2023; Wasiuzzaman et al., 2023; Garc á et al. 2024). In particular, Liao et al. (2018) point out that a greater female boardroom presence is associated with more detailed, comprehensive and transparent CSR reporting practices, giving stakeholders a clearer view of corporate performance in the ESG sphere. Confirming this, Lestari et al. (2025) highlight that gender diversity, combined with a larger board size, positively affects not only the quality of ESG information but also overall performance and risk management. However, the relationship between gender diversity and sustainability is not always linear and can be influenced by various contextual factors. One of the most discussed variables is the concept of "critical mass": numerous studies point out that only a significant presence of women in decision-making roles - rather than a purely symbolic participation – is able to generate a significant impact on ESG performance (Gong et al., 2021; De Masi et al., 2021; Amorelli et al., 2020; Rahi, 2025). In other words, a single woman or a small number of women may not be sufficient to have a significant impact on corporate ESG policies. The type of role played by women on the board can also make a difference; for example, female executive directors, with more influence on strategic decisions, might favour more straightforward ESG practices, while female independent directors with a monitoring role might push for more transparency in corporate practices (Cambrea et al., 2023; Jin et al., 2023; Roessle et al., 2024). Some studies also explore the combined effect of CEO characteristics and gender diversity on the board, highlighting how both can act as factors in ESG performance (Bel et al., 2025). In addition, gender diversity was also analysed in relation to environmental pressure (Dutordoir et al., 2024) and crisis scenarios, such as the COVID-19 pandemic, which highlighted the possibility that resilience and adaptability is linked to the gender composition of the board of directors (Amorelli et al., 2023). However, the effect of gender diversity on sustainability is not uniform and may vary according to companies' organisational characteristics. In particular, one area of research that has received increasing attention is how women's impact on sustainability dynamics may differ between family and non-family businesses (Veltri et al., 2021; Campopiano et al., 2019; Rodrguez-Ariza et al., 2017). Figure 5 illustrates the main impacts of the presence of women on corporate governance, as emerged from the literature review.

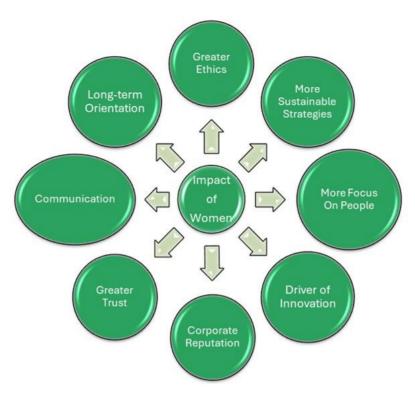


Figure 5. Women's impacts in a nutshell

4.1 Family and Non-family Businesses

Family businesses, often characterised by strong ownership influence and long-term goals oriented towards preserving family wealth, could adopt diverse approaches to sustainability and gender diversity (Mariani et al., 2023; Gavana et al., 2023). Some research suggests, for example, that family ownership may be a barrier to the relationship between boardroom gender diversity and environmental, social and economic value creation (Nadeem et al., 2020; Cordeiro et al., 2020). Family businesses may therefore show greater resistance to change in leadership composition, primarily the inclusion of women in key roles, due to internal dynamics related to succession and maintaining control (Brahem et al., 2021). However, other recent studies suggest that, when women access leadership positions in family businesses, they may embrace a stronger commitment to sustainability, consistent with their extended time horizons and focus on family reputation (Cruz et al., 2019; Domańska et al., 2024; Song et al., 2024). In this sense, the presence of women on boards of directors can contribute positively to corporate citizenship behavior (Campopiano et al., 2019) and can foster sustainable initiatives. Bergmann et al. (2025), through very recent studies, support this thesis by showing that in family businesses, the presence of women on boards of directors reduces the gap between so called "climate talk" and "climate walk", that is, between environmental statements and concrete practices, in order to improve the consistency and credibility of ESG strategies. Women on boards tend to exercise a stronger influence in implementing authentic sustainability strategies, helping to move beyond symbolic declarations toward concrete and measurable actions. However, the quality and substance of women's involvement are crucial. Indeed, they are able to have this positive impact on sustainable performance only when they hold genuine decision-making power and an active role in governance (Song et al., 2024). Confirming this, Hoch et al. (2025) emphasize that it is not enough for women to occupy prominent positions in family businesses, as their ability to promote sustainable strategies can still be limited by institutional contexts characterized by discriminatory gender norms, which reduce their actual influence and undermine their potential transformative role.

In family businesses, gender and sustainability dynamics may also be influenced by additional factors such as the wielding of control, the presence of women in the ownership family and the specific corporate culture (Gavana et al., 2023; Nadeem et al, 2020). Other studies suggest that gender diversity on the board of directors can positively influence environmental disclosure in family businesses, bringing them closer to the practices typical of non-family businesses. In particular, women on boards can foster greater transparency in ESG performance, positively

influencing communication and commitment to sustainability in these companies (Maggi et al., 2023; Oware et al., 2022). Finally, it also emerges that the participation of family businesses in socially responsible community-oriented activities may be influenced by gender (Peake et al., 2021); the implication is that the presence of women may contribute to greater attention to external stakeholders, thus enhancing social engagement and sensitivity to community issues. In line with the importance of women's active involvement in governance, Vastola et al. (2025) highlight that the presence of married women on boards positively influences environmental performance, with effects varying depending on the nature of the company. In non-family businesses, this impact tends to be more prevalent, while in family businesses the effect is stronger when the women are members of the owning family, as emotional identification and the protection of socio-emotional wealth reinforce commitment to authentic and consistent environmental practices.

In non-family businesses, leadership and sustainability decisions may be driven more by market logic and external pressures, such as investor expectations and ESG regulations. In this context, the presence of women in leadership positions could be seen as a way to improve ESG performance (Provasi et al. 2021; Wang et al., 2025; Paolone et al., 2024) and meet the demands of stakeholders (Bear et al., 2010). However, the impact of gender diversity on sustainability is not only influenced by the ownership structure of the company, but also by the specific characteristics of the various geographical contexts.

4.2 Emerging Countries

The impact of gender diversity on corporate sustainability can also vary significantly depending on the socio-economic and institutional context of different countries; variances are notable particularly between developed and emerging countries (Wasiuzzaman et al., 2023). In Emerging Countries, gender norms, educational opportunities and cultural barriers can significantly influence women's participation in the workforce and in leadership roles, with obvious consequences for corporate sustainability (Katmon et al., 2019; Olayinka, 2022; Masud et al., 2025). Research on the relationship between gender diversity and sustainability in Emerging Countries shows mixed results. Studies conducted in the "Gulf Cooperation Council Countries" (GCC) (Arayssi et al., 2020) and China (Liao et al., 2019; Yan et al., 2024; Jin et al., 2023), Malaysia (Zahid et al., 2020; Wa-siuzzaman et al., 2020), Indonesia (Mai et al., 2023), India (Yadav et al., 2023), Thailand (Pothisarn et al., 2023; Suttipun, 2021) and Africa (Mungai et al., 2020) suggest that women's presence has a positive impact on CSR, ESG performance and related reporting (Muttakin et al, 2015; Nadeem et al., 2017). However, the specific context of these States, with their particular cultural and institutional dynamics, could alter this outcome (Nguyen et al., 2024). In Jordan and the GCC countries, for example, there is clear evidence that despite an increasing focus on sustainability, traditional gender norms and limited leadership opportunities for women may be stifling a more significant impact (Arayssi et al., 2020; Jizi, 2017). Also in Indonesia and some African Countries, challenges arising from culture and lack of opportunities for women in decision-making roles limit the positive impact of gender diversity on corporate sustainability (Katmon et al., 2019; Mungai et al., 2020). In contrast, gender diversity in countries such as China and India seems to positively influence green innovation and more advanced ESG practices, although local institutional factors modulate the effects (Khidmat et al., 2022). Similar trends are found in Malaysia and Thailand, where an increased presence of women in boardrooms is associated with greater disclosure of sustainability information and improved environmental performance (Kamaludin et al., 2022; Arayakarnkul et al., 2022). The work of Qiu (2023), for example, throws light on how social capital and interpersonal networks can foster the adoption of sustainable practices, also emphasising the centrality of the local context in determining the impact of diversity. In addition, Cabral & Sasidharan (2021) highlight the importance of regulatory mechanisms in Emerging Countries and how these can influence the social performance of companies, with emphasis on the need for appropriate policies to improve gender inclusion. In Africa, Mungai's research (2020) explores how the presence of women on boards of directors and in top management influences ESG performance, suggesting that women's specific roles in the organisation is an important factor to consider, as will also be seen in the next section. In conclusion, gender diversity can be a positive factor for corporate sustainability in Emerging Countries, but its effectiveness is highly dependent on cultural, institutional and regulatory conditions.

4.3 Women's Involvement

Finally, it is crucial to explore how the specific roles occupied by women within organisations can influence sustainability and contribute to sustainable innovation processes (Bannò et al., 2023). Women's presence on boards of directors might impact differently from their presence in top management (Lim et al., 2021) or operational roles (Sandretto et al., 2025). Some research suggests that women with a monitoring role on the board may be more influential in the ESG area than those with purely advisory duties (Cambrea et al., 2023; Pucheta et al., 2021; Pasko

et al., 2022). Other studies focus on women's competencies and their contribution to and effect on the social performance of companies (Korkmaz et al., 2024). Particular attention is paid to the effect of "women's power" in relation to corporate social responsibility (Seckin-Halac et al., 2021). In particular, some research finds that women, through distinctive talents or leadership styles, could significantly contribute to a corporate culture oriented towards sustainability and ESG transparency (Issa et al., 2023; Seckin-Halac et al., 2021).

The composition of the board and women's presence on boards, along with the role they play, are often associated with greater sensitivity to environmental issues, better reporting of ESG practices and greater reporting transparency (Ramon-Llorens et al., 2021; Rahi et al., 2025). Pasko et al. (2025) support this idea, emphasizing that strong leadership and effective governance, along with diverse board compositions, are key factors in achieving excellence in corporate sustainability. In addition, gender diversity could interact with other governance factors, such as the presence of a lead independent director, thereby positively influencing sustainability reporting (Stone et al., 2021; Ong et al., 2024; Pucheta et al., 2024). A further area of investigation is the role of CSR committees, where gender composition affects corporate strategic decisions on research and development investment (Ginesti et al., 2023) and environmental performance (Eberhardt-Toth, 2017). In this respect, the presence of women on boards also seems to influence the material environmental issues signalled by companies (Macchioni et al., 2025), improving the quality and readability of sustainability reporting (Sánchez et al., 2025; Yang et al., 2025).

Some research also highlights the importance of the "environmental attitude" of the board of directors, an aspect influenced by the presence of board members with specific ESG expertise, which is shown to include input from women (Cosma et al., 2021). Women are in fact associated with greater sensitivity to environmental issues, and their "collective strength" seems to contribute positively to the overall environmental performance of companies (Sun et al., 2024). In addition, the type of industry and the company's specific characteristics might alter the relationship between the role of women and sustainability. For example, in the banking sector, boardroom gender diversity can influence environmental policy (Gangi et al., 2023) and environmental performance (Birindelli et al., 2019). Similarly, Fathoni et al. (2025) provide global evidence from the banking sector that the presence of women on boards of directors is associated with a reduction in ESG-washing, highlighting the role of gender diversity in promoting more authentic and transparent ESG commitments, especially in contexts marked by ESG controversies.

Some research also considers the role of women on bank boards and the banks' sustainability performance (Galletta et al., 2022; Guti érez-Fern ández et al., 2024). Boardroom gender diversity may also alter the relationship between environmental pressure and ESG performance (Lewellyn et al., 2024), and between sustainable institutional investors and biodiversity disclosure (Velte, 2023).

5. Conclusion and Future Perspectives

In a nutshell, the literature review conducted points to a complex relationship between leadership gender diversity and corporate sustainability. Studies indicate that women's presence has a mostly positive impact on ESG performance and CSR practices, but this is evidently dependent on several factors, the main one being the company type, with the impact varying between family and non-family businesses. In the former category, women often act as agents of change, thanks to their connection to long-term corporate values, allowing them to foster sustainable practices and strengthen relational governance. In the latter, boardroom gender diversity is associated with better ESG performance, although this depends on the experience and role of the women involved. Therefore, sustainability through governance emerges by involving women on Boards of Directors and can, under the conditions outlined above, produce positive impacts in terms of raising awareness and implementing ESG policies in their respective organizations. The introduction of regulations such as the Corporate Sustainability Reporting Directive (CSRD) is increasingly guiding companies towards integrating ESG factors into their long-term strategies. In this scenario, gender diversity could play a key role in the success of companies, contributing not only to improved performance ESG, but also generating many other significant impacts on the company. In fact, the literature review reveals countless impacts linked to the presence of women on the BoD; impacts such as more sustainable strategies, ethics and trust, fostering communication, innovation-driven, focus on people, corporate reputation.

However, a number of issues remain: in some contexts, the inclusion of women on boards of directors is perceived more as a regulatory obligation than a strategic opportunity, and this effectively prevents the maximization of the potential arising from having women in corporate governance. Such a perception consequently tends to undermine the innovative drive that could come from a diverse board when considering corporate sustainability policies. Furthermore, the influence of women and their ability to lead change is affected not only by their specific role in the organization but also by the institutional and cultural context. But all this is not enough as from the literature review conducted, it clearly emerged that "critical mass" of women in decision-making roles is crucial to produce an

observably significant impact. In fact, "critical mass" is one of the latest and discussed variables about women involvement on board of directors and numerous studies point out that only a significant presence of women in decision-making roles – rather than a purely symbolic participation – can generate a significant impact on ESG performance. In a nutshell, a small number of women are unable to impact on corporate policies. In the light of these considerations, it is clear that gender diversity is key to more sustainable and responsible business management. However, in order to maximize this contribution, it is crucial that companies not only comply with regulatory obligations but actively recognize the value of women's leadership and encourage more balanced and conscious participation of women in strategic decision-making. Only through cultural and structural change will it be possible to fully exploit the potential of gender diversity as a lever for more effective and lasting sustainability.

Family-owned and non-family-owned companies alike could grasp this opportunity to improve their sustainability performance by including more women in governance, particularly in strategic decision-making roles.

Considering future perspectives, two different lines of research can be outlined: to deepen the literature review, the regional perspective should be implemented to compare the results of the studies also based on Countries and cultural aspects. A deepen Regional comparison could enable analysis of how cultural and geographical differences impact academic studies and illustrate the differences that emerge from the literature point of view.

A second line of research could be instead from a quantitative point of view, by studying a sample of Italian companies divided in family and non-family business to verify the correlation between sustainability sensitivity, the policies undertaken and the number of women involved on boards of directors. By studying companies, it would be possible to verify the consistency between theory and practice regarding the actual impact and influence due to the presence of women on corporate governance.

Acknowledgments

We would like to express our thanks to our peers for their constructive feedback and collaboration which enriched our research project.

Authors' contributions

All authors were responsible for all aspects of this work.

Funding

This research received no external funding.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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