



Impact of Gender Diversity on Sustainability Performance

Kashif Mushtaq¹

¹ Department of Commerce, The Islamia University Bahawalpur (IUB), Bahawalpur, Pakistan.

Email: chkashif13@gmail.com

ARTICLE INFO

Article History:

Received: January 26, 2025

Revised: June 04, 2025

Accepted: June 05, 2025

Available Online: June 06, 2025

Keywords:

Gender Diversity
Sustainability Performance
Corporate Governance
Environmental
Social
Governance (ESG)

Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

The inclusion of gender diversity has become an essential element in advancing sustainability within corporate practices and governance. However, gender diversity is a critical issue among the Pakistani organizations. This research examines the influence of gender-diverse leadership on business decision-making, sustainability initiatives, and overall organizational effectiveness by aggregating results from 67 empirical studies published between 2020 and 2024, all obtained from the Wiley Online Library. In addition, this study considered the effect of gender diversity on sustainability performance by using primary data collected by using questionnaire surveys. By using Partial Least Squares Structural Equation Modeling (PLS-SEM), it is found that the organizations that feature diverse leadership teams tend to implement robust sustainability policies, enhance stakeholder engagement, and attain better financial and environmental results. Furthermore, results revealed the positive effect of gender diversity on sustainability performance. These findings highlight the significance of promoting gender diversity in leadership roles to foster long-term value and sustainable business practices.

© 2025 The Authors, Published by iRASD. This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License

Corresponding Author's Email: chkashif13@gmail.com

1. Introduction

The concepts of sustainability and gender issues are closely intertwined. Women are necessary to realization of the sustainability (De Masi et al., 2021; Khatri, 2023). The inclusion of women in corporate leadership positions introduces fresh viewpoints, concepts, and understanding regarding environmental and social matters (Galletta et al., 2022). The role of women in leadership activities is very crucial which has the potential to enhance sustainability. Eco-friendly business practices are increasingly vital as climate change poses major challenges (Pothisarn et al., 2023). To accomplish both environmental sustainability and business success, this research aims to examine how women's participation on corporate boards influences the implementation of environmentally innovative practices (Arayakarnkul, Chatjuthamard, & Treepongkaruna, 2022). Setting measurable sustainability objectives, holding the firm responsible for minimizing its environmental impact, and instilling social responsibility may be more potent tasks for gender-diverse leadership that is extremely important (Ahmed, Tessema, & Hussain, 2024). Furthermore, it has been demonstrated that female executives take a more measured and proactive attitude to risk, which is advantageous when dealing with sustainability issues like environmental regulatory compliance (Tran et al., 2024). However, it is very important to study the role of women in such type of business activities. Organizations with more gender diversity tend to have stronger financial success, often associated with sustainable practices (Bazel-Shoham et al., 2024). There have been regulations put in place across many countries to promote the nomination of women directors to the board of companies. This has resulted in a sharp increase in the study of gender diversity and its impact on sustainability. Furthermore, as a result of the urgent environmental concerns such as climate change and global warming, organizations are no longer concentrating on profit maximization but corporate sustainability. This change is consistent with the 2030 UN Agenda for sustainable development, which emphasizes environmental, social, and governance (ESG)

considerations (Yang, Song, & Liu, 2024). The contribution of women leaders in sustainable development is very important which is considered in this study.

The objective of this wide-ranging literature review is to explain how gender diversity and sustainability are connected. Therefore, the importance of review of literature in this study explain how gender diversity is important for companies in Pakistan. Critiques of existing research in this area are either significantly wider or did not consider gender diversity and sustainability specifically. Thus, the current review is distinct from the past literature reviews in that it discusses the necessity of extensive studies that focus on sustainability and gender diversity, fresh issues for new research, geographical imbalances within the pool of current literature, and the lack of comprehensive uses of theoretical models. This study examines the impact of gender diversity on sustainability performance in the context of Pakistan by combining insights from existing literature with empirical data collected through a structured questionnaire. The results show that gender-diverse leadership in Pakistani firms is a key driver of sustainable practices and improved environmental and social performances. By confirming the nexus between gender diversity and sustainability performance within a developing country context, this research plugs an essential knowledge gap in existing literature. Despite growing global interest in gender diversity and its role in corporate sustainability, limited empirical evidence exists from the context of developing countries like Pakistan, where cultural, social, and institutional dynamics differ significantly. Most existing studies focus on developed economies, leaving a gap in understanding how gender-diverse leadership impacts sustainability performance in emerging markets. This is a unique study in nature because it considered the review of previous studies along with the empirical findings. Additionally, prior research has heavily relied on either qualitative insights or secondary data, with fewer studies combining systematic literature review and primary data analysis.

This study focused on the missing part of literature and contributed to the literature through different ways. There is also a lack of integrated models exploring the mechanisms through which gender diversity influences sustainability outcomes. Furthermore, few studies utilize advanced statistical techniques like PLS-SEM to test these relationships empirically. This study addresses these gaps by providing context-specific, data-driven evidence on the role of gender diversity in promoting sustainable practices within Pakistani organizations. It contributes to the country corporate governance as well as sustainability debate by making a case for inclusive leadership as a strategic imperative. This study is very important for literature because it can help the researchers to explore this area further. The results offer valuable implications for policymakers, regulators, and corporate boards in Pakistan seeking to strengthen sustainability through greater gender representation. Overall, the study underscores the relevance of gender diversity as a key driver of sustainable development in the Pakistani corporate sector. Thus, this study has provided valuable relationship between gender diversity and sustainable development.

2. Literature Review

2.1. Influence of Gender Diversity on Sustainability Performance (Hypothesis Development)

Gender diversity is the acknowledgment and acceptance of people whose gender identity does not align with the conventional binary notions of being male or female (Jizi, Nehme, & Melhem, 2022; Tang et al., 2021). It includes a broad diversity of gender identities and expressions going beyond the cisgender and binary understandings of gender (Hsiao et al., 2020; Orij et al., 2021). It has become an essential aspect of boosting organizational effectiveness, especially in the context of sustainability performance. Recent years have seen increased focus on ESG principles promoting discussions among researchers and practitioners on how gender-diverse leadership leads to sustainable business practices. Therefore, ESG is influenced by several factors and gender diversity has role in the management of ESG in companies. The addition of the women in decision-making roles not only supports equality in organizations (Egenberg et al., 2025; Jones et al., 2015; Kiani, Aghamohammadi, & Zafari, 2018) but also brings varied perceptions. This positive correlation is particularly applicable in the case of developing nations such as Pakistan, where women's contribution to corporate leadership is yet to reach its potential. Gender diversity refers to the proportion of women to men (Tang et al., 2021). Women are said to be more intuitive in making decisions, can

multitask, and excel at relationship building. Men are more task-oriented and decision making is based on information and procedures (Jizi, Nehme, & Melhem, 2022; Tang et al., 2021).

One of the primary ways gender diversities enhances sustainability performance is through improved decision-making (Biswas, Boyle, & Bhardwaj, 2021). Women leaders tend to view problems from a holistic and inclusive approach, resulting in more thorough solutions that take into consideration long-term social and environmental effects. Gender diversity is a catch-all term that is utilized to describe gender characteristics which exhibit diversity of representation going beyond the binary model. Their involvement assists organizations in shifting the focus away from short-term financial goals and incorporating sustainability within key business strategies (Nikam & Melati, 2024; Sarfraz et al., 2021; Sebrina et al., 2023). Environmental and social challenges are increasingly complex in Pakistan, the attendance of varied leadership teams can drive innovation in sustainability initiatives, from energy efficiency as well as the waste reduction to community development as well as ethical labor practices. Gender diversity is an equitable representation of people of different genders (Hsiao et al., 2020; Orij et al., 2021). Moreover, gender-diverse boards and management teams tend to prioritize corporate social responsibility (CSR) and stakeholder engagement (Orij et al., 2021). Literature demonstrates that female leaders tend to be more attuned. The sensitive attitude of female leaders sometimes becomes a source of trouble in workplace. Moreover, this sensitivity is found in the policies as well as practices that support larger societal purposes. In Pakistani organizations, where conventional business models tend to overlook stakeholder issues. Additionally, gender diversity most often describes as an equal balance of women and men but also encompasses individuals of non-binary genders (Biswas, Boyle, & Bhardwaj, 2021; Jizi, Nehme, & Melhem, 2022; Tang et al., 2021).

Research has established that female leaders will more likely champion accountability, ethical behavior, and regulatory adherence. These are crucial attributes of sustainability performance because they encourage trust and credibility with stakeholders and regulators (Jia et al., 2025; Mohaghegh et al., 2024; Popescu, 2020). In Pakistan, where corruption and poor enforcement of regulations are longstanding concerns, gender-inclusive leadership can help lead to more effective governance standards for promoting sustainability reporting, risk control, and environmental management. Furthermore, gender diversity can enhance employee morale and organizational culture (Jizi, Nehme, & Melhem, 2022; Tang et al., 2021), which indirectly supports sustainability objectives. A diverse and inclusive workplace promotes equity, fairness, and motivation among employees. It helps to retain the presence of various gender identities and expressions beyond traditional binary categories of male and female. This cultural shift encourages employees to engage in sustainable practices, adopt eco-friendly behaviors, and contribute to corporate sustainability goals. In the Pakistani context, where workplace diversity is still evolving, promoting gender inclusivity can help build progressive organizational cultures that support long-term development (Ashiq, Rheman, & Warraich, 2025; na Bano, 2025). The non-discriminatory environment for all the students, containing gender diverse as well as transgender children is important. Finally, gender diversity positively affects sustainability performance by enriching leadership perspectives, improving decision-making, fostering ethical governance, enhancing stakeholder engagement, and building inclusive organizational cultures. Therefore, sustainable performance is majorly dependent on the diversity of gender in various organizations. In a developing economy like Pakistan, where sustainability is becoming a national priority, leveraging the potential of gender-diverse leadership can significantly advance sustainable development goals. Especially, in Pakistan the focus on gender diversity is very crucial. Promoting more women's involvement in corporate management is critical to propelling long-term environmental and social change, making organizations responsible and visionary stakeholders in the national economy. Policymakers, regulators, and corporate leaders in Pakistan need to see the importance of gender diversity as a driver of sustainable change. Hence, this discussion led to the following hypothesis:

Hypothesis: Gender diversity has a positive influence on sustainability performance.

Figure 1: Framework of the Study



2.2. Theoretical Framework (Empirical Studies Published Between 2020 and 2024)

This research investigates the connection between gender diversity and sustainability by synthesizing the results of 67 articles sourced from the Wiley Online Library. The theoretical underpinnings of these studies provide a robust framework for understanding the interplay between governance strategies and sustainability outcomes. Among the 26 theories referenced in the selected publications, stakeholder theory, agency theory, and resource dependency theory were the most frequently employed.

Table 1: Studies included following Theories

Theory	Number of quoted theories
1-Agency theory	17
2-Resource Dependency Theory	19
3-gender socialization theory	4
4-stakeholder theory	13
5-signaling theory	3
6-critical mass theory	7
7-upper echelon theory	7
8-gender socialization theory	5
9-neo-institutional theory	5
10-legitimacy theory.	3
11-stewardship theory	2
12-resource based view theory	2
13-knowledge-based theory	1
14-Faultline theory	2
15-cross-sectional Theory,	2
16-social role theory	1
17-Procedural justice theory	1
18-Moral Hazard Theory	1
19-Information Asymmetry	1
20-Cost of capital theory	1
21-CSR Theory	1
22-Ethics of care theory	1
23-Congruity Theory	1
24-Theory of Planned Behavior	2
25-Social network Theory	1
26-Social Identity Theory	1
	1
	1
	1
	2

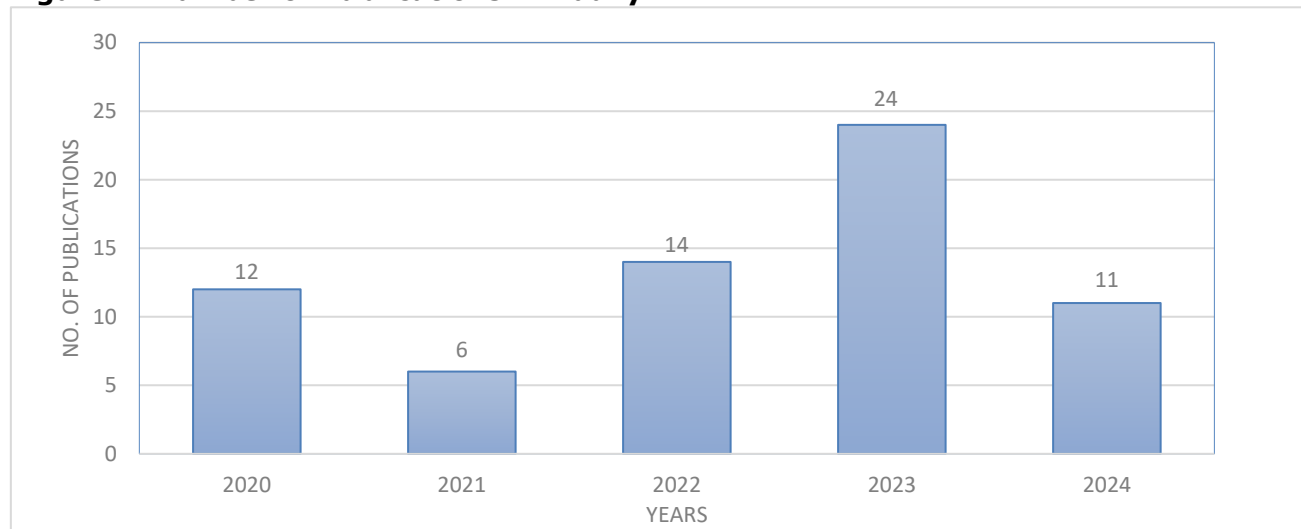
Table 2: Summary of Articles used in journals

Name of Journals	No of Articles
1-Business Strategy & Environment	23
2-Business Ethics & Environmental Responsibility	4
3-Corporate Governance, An International review	16
4-CSR & Environmental Management	14
5-Business strategy & Development	3
6-Product Innovation & Management	1
7-Sustainable Development	6
TOTAL	67

Table 1 presents a summary of the theories included in this evaluation, the three main theories are used and have different impacts on this relationship between gender diversity and sustainability. Resource dependency theory employed 19 times in this study and postulates that having women in leadership positions or in boards of directors can improve relationships with stakeholders, bring different viewpoints and contribute to problem-solving abilities, all of which benefit sustainability efforts. Agency theory is used 17 times and explains boards serve as representatives for shareholders, guaranteeing accountability and alignment with their interests. The presence of female board members is frequently linked to enhanced accountability and transparency, which promotes sustainable governance. Stakeholder theory used elucidates that women frequently offer a variety of perspectives that 13 times, underscore

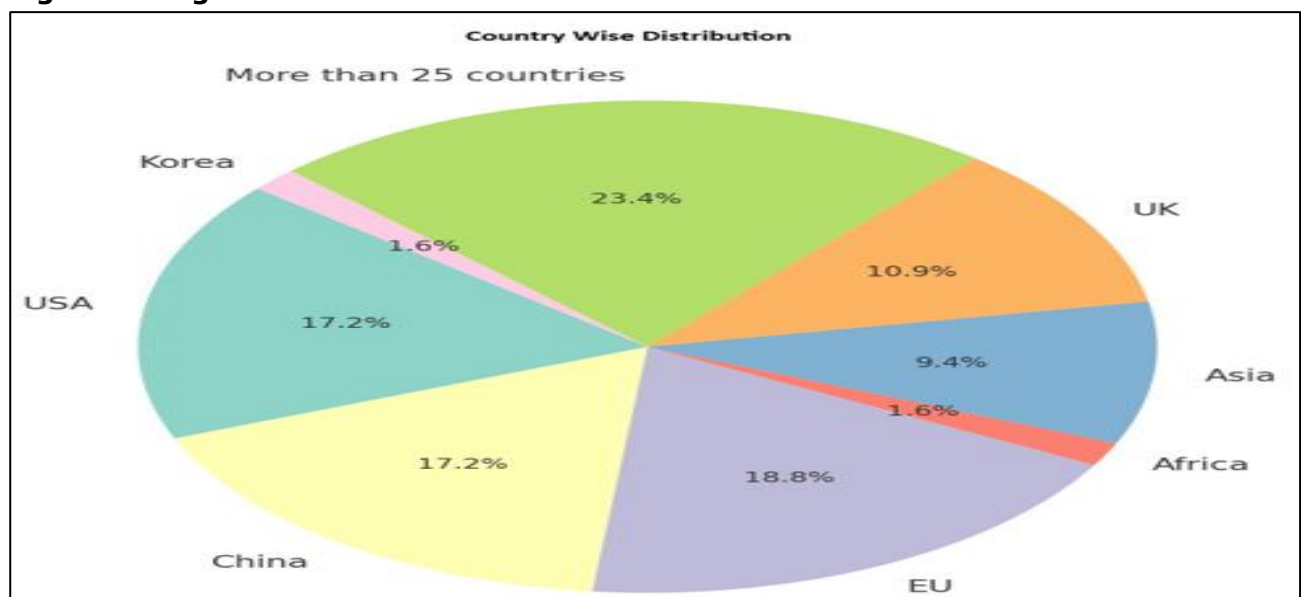
the significance of cooperation, community welfare, and long-term objectives, all of which are intricately associated with sustainability efforts. Table 2 presents a summary of Articles included in Journals. Business Strategy & Environment have included 23 articles. This Journal addresses how diverse leadership affects environmental management, green innovation, and sustainable business practices. Gender diversity is often analyzed as a strategic facilitator of sustainability. Corporate Governance in an international review, 16 articles were published that focused on governance structures, such as the makeup of the board and how gender diversity affects business decision-making. Articles frequently relate ethical and sustainable business activities to the quality of governance. The Journal of CSR & Environmental Management, which has published 14 articles, examines how businesses fulfill their social and environmental responsibilities by integrating environmental management and corporate social responsibility (CSR). The impact of gender diversity on environmental stewardship and CSR effectiveness is examined. The growing number of publications annually is seen in Figure 2.

Figure 2: Number of Publications Annually



The number of publications from 2020 to 2024 is depicted in the bar chart. The pattern indicates a drop in 2021, a gradual rise in 2022, and a high of 24 publications in 2023. Though it is still greater than in 2021, the number decreased to 11 in 2024.

Figure 3: Regional Distribution



Summary of the distribution of business topics by country is given in Figure 3. The pie chart illustrates the allocation of business-related topics among various countries. The following are the main observations: The biggest percentage of business issues (23.4%) came from over 25 nations, indicating a broad variety of international participation. There is a strong academic

and economic concentration in these locations, as seen by the significant contributions made by the European Union (18.8%), China (17.2%), and the United States (17.2%). Though at lesser rates than the top regions, the United Kingdom (10.9%) and Asia (9.4%) also showed not able involvement. Participation in business-related talks was lowest in Korea (1.6%) and Africa (1.6%).

3. Research Method

This study examined 67 empirical publications from the Wiley Online Library that were published between 2020 and 2024. Of these, 26 theories were utilized to highlight the significance of gender diversity in connection with sustainability. This study encourages research into understudied topics and gives ideas for future lines of inquiry by giving the academic community a helpful knowledge base on the topic's prior debates. Furthermore, this study helps determine what sort of diversity on the board of directors best enables the establishment of sustainable business policy, given the importance of sustainability as a hot subject. Gender diversity indicators are changing to give a more comprehensive view of equality and inclusiveness in the workplace. The following metrics are commonly employed to quantify gender diversity. First, a measure of board gender diversity is the proportion of women on the board (Boukattaya & Omri, 2021; Gierke, Schlamp, & Gerpott, 2025). Second, disparities in pay between genders (Lyons & Zhang, 2023). Third, an examination of retention and turnover depending on gender (Islam et al., 2022). Lastly, the proportions of women employed and promoted compared to males (Khatri, 2023). A range of techniques and instruments designed to evaluate environmental, social, and economic aspects are used to measure sustainability. Evaluating important variables for environmental measurement the following five proxies are as follows: (i) total carbon emissions, (ii) intensity of carbon emissions, (iii) productivity of carbon emissions, (iv) carbon emissions per unit size, and (v) DEA (Aslam et al., 2021). Social sustainability is measured by assessing aspects such as labor rights, diversity in the workplace, impact on society, and the availability of basic services like healthcare and education (Barauskaite & Streimikiene, 2021). This study measured financial sustainability with the help of return on investment on green initiatives, cost saving energy and resources and ESG standards are key factors for assessing (Bartolacci, Caputo, & Soverchia, 2020).

After the review of previous studies, this study collected primary data to examine the relationship and test the hypothesis. In the Pakistani context, this research gathered primary data by using a structured questionnaire administered among professionals from different organizations. Data was collected by using 5-point Likert scale. Gender diversity was measured by using four scale items. Furthermore, sustainability performance was measured by using five scale items. All the scale items were extracted from the literature and a pilot study was carried out to examine the reliability and validity of the questionnaire. The survey questionnaire is one of the most important method to test the hypotheses by using primary data. The respondents of this study were managers, executives, and board members who have experience with corporate governance and sustainability practices. A purposive sampling technique was employed (Bougie & Sekaran, 2019) to ensure the inclusion of respondents who possess relevant experience and insights into gender diversity and sustainability performance. Purposive sampling was selected because it is most suitable data collection method in the nature of the current study and consistent with the objective. Total 300 questionnaires were distributed, of which 220 were returned and 201 were considered suitable for analysis following data screening, giving a reasonable rate of response. To assess hypothesized association of gender diversity in relation to the sustainability performance, PLS-SEM was used in the study. PLS-SEM was employed in two steps. First, measurement model was used to examine the reliability and validity. Second, PLS bootstrapping was used to examine the effect of gender diversity on sustainability performance.

4. Findings

The literature review was conducted using the Wiley Online Library database for the year 2020–2024. This database was selected due to its high degree of academic credibility and widespread acceptance. The peer-reviewed material in Wiley's collection ensures outstanding reputability and intellectual rigor, and the company is well known for its strict editing standards. Wiley offers an extensive collection of periodicals and papers on environmental studies, corporate social responsibility (CSR), and sustainability, offering a multitude of information for

study in these expanding areas. The articles were picked using the keywords "Gender Diversity" in conjunction with the phrase "CSR," "ESG," "EP," "FP," "Decoupling," and "Environmental Innovation" after the specified approach for research on the Wiley online library database was used. Five potential combinations were produced by combining the chosen keywords. The initial search yielded Two hundred papers. I was able to screen out some of the papers that were identified, those that were repeated, and those that only briefly addressed the search criteria by removing duplicates and looking over the abstracts of these publications. Sixty-seven papers were added to this study after this evaluation process.

4.1. Summary of Published research

Women may be more sensitive to environmental hazards, according to gender variations in attributes. Social identity challenges may cause women in leadership roles to take on masculine characteristics. Several studies show a strong and favorable correlation between sustainability and board gender diversity (Bai et al., 2024; Bose et al., 2024; Moussa, Allam, & Elmarzouky, 2023). Studies have indicated that gender diversity has a positive but noteworthy impact on sustainability (Lemma et al., 2023; Velte, 2024; Yousaf et al., 2024). A negative and statistically significant correlation between sustainability and gender diversity on corporate boards has also been identified (Abdi, Li, & Càmara-Turull, 2022; Farooq, Gan, & Nadeem, 2023). Furthermore, a negative and statistically insignificant correlation has been identified between gender diversity on corporate boards and sustainability (Arena, Garcia-Torea, & Michelon, 2024; Baek & Lee, 2024; Caglar et al., 2024; Dhar et al., 2024; Traversi, Bannò, & Filippi, 2024; Velte, 2021). As stated by Elmghamez and Olarewaju (2022), the presence of gender diversity on boards can influence sustainability in both beneficial and detrimental manners.

4.2. Hypothesis Testing

Convergent validity, a type of construct validity, refers to the degree to which a test or instrument correlates with other tests or instruments measuring the same or similar constructs (Alarcón, Sánchez, & De Olavide, 2015; Cheah et al., 2018; Cowin et al., 2008). In essence, it shows how much a measure of one construct aligns with other measures of the same or related constructs. It's about demonstrating that different measures of the same concept produce similar results. Convergent validity was assessed by using factor loading, alpha, composite reliability (CR) and AVE which is higher than 0.7, 0.7, 0.7 and 0.5, respectively (Hameed et al., 2022; Khan et al., 2024; Yousaf, 2023). Results are given in Table 3. Furthermore, discriminant validity was examined by using *HTMT* ratio. All the values of *HTMT* found less than 0.9 which confirmed the discriminant validity (Alarcón, Sánchez, & De Olavide, 2015). CR is higher than 0.7 which confirmed that all the constructs have achieved the reliability level required for this study. Factor loading was higher than 0.7 and AVE was higher than 0.5 which established the convergent validity.

Table 3: Convergent Validity

Variable	Items	Loadings	Alpha	CR	AVE
Gender Diversity	GD1	0.715	0.798	0.812	0.535
	GD2	0.801			
	GD3	0.812			
	GD4	0.809			
Sustainability Performance	SP1	0.739	0.815	0.845	0.555
	SP2	0.701			
	SP3	0.713			
	SP4	0.781			
	SP5	0.713			

The PLS structural model evaluates the relationships between latent constructs based on the proposed hypotheses (Cheah et al., 2018; Hensler et al., 2014; Ringle, Sarstedt, & Straub, 2012). It assesses the strength and significance of path coefficients to determine the impact of independent variables on dependent variables. This model is suitable for predictive and exploratory research with complex frameworks. In this study, it was used to analyze how gender diversity influences sustainability performance. Table 4 highlighted the hypothesis results. Hypothesis was examined by using t-statistics and beta value. It is found that t-value is 15.683 which confirmed the significant relationship. Beta value 0.578 confirmed the positive relationship.

Table 4: Hypothesis Results

	Beta	Mean	SD	T Statistics	P Values
Gender Diversity -> Sustainability Performance	0.578	0.579	0.037	15.683	0

5. Discussion and Conclusion

Prior research has demonstrated a favorable correlation between sustainability performance and the gender diversity of the board. Firstly, studies have shown that companies with more gender diversity on their boards are less likely to be sued over environmental laws (Wang & Yu, 2019) which implies that having women on the corporate boards may increase the environmental sustainability efforts (Çelik, 2024) and corporate responsibility (Khatri, 2023; Lu et al., 2021). Thus, the promotion of corporate responsibility is important which can be achieved through important strategies. Secondly women in positions of leadership can help develop innovative programs that consider different needs and perspectives. It is evident from the results that gender diversity is valuable instrument for the promotion of sustainability. This study concludes that gender diversity has a significant and positive impact on sustainability performance in the context of Pakistani organizations. By participating insights from current literature with experiential findings, this research confirms that greater female representation in leadership is critical which play important roles to enhance decision-making, promotes ethical governance, and supports environmental and social initiatives. In the same direction, the use of Smart PLS for structural model analysis validated the hypothesized relationship, highlighting the importance of inclusive leadership for achieving sustainable development goals.

Additionally, it is observed that gender-diverse teams could be a valuable asset for the companies to enhance performance. The study emphasizes that gender-diverse teams are more likely to adopt long-term sustainability strategies and respond most effectively to the stakeholder requirements. These findings offer valuable implications for policymakers, corporate boards, and regulatory bodies in Pakistan to prioritize gender inclusion as a strategic tool for sustainability. Encouraging women's participation in corporate governance is not only a matter of equity but also essential for driving sustainable progress. Future research can explore industry-specific effects and mediating variables in this relationship. Many studies on inequality and diversity fail to sufficiently separate data, frequently classifying diverse people into broad categories. People or groups who face structural disadvantages because of their social identities such as socioeconomic class, gender, sexual orientation, or race are considered marginalized identities. The unique experiences of individuals with multiple marginalized identities are not sufficiently recognized. For example, focusing solely on gender or ethnicity fails to encompass the various forms of discrimination that Black or Latina women often encounter (Yu & Liu, 2024). Insufficient examination of intersectionality undermines the effectiveness of diversity and inclusion efforts while perpetuating systemic injustices. A more intentional and nuanced application of intersectionality could uncover concealed inequities, foster the development of more equitable legislation, and establish environments that are genuinely inclusive. Addressing this gap is not only a moral imperative but also a strategic necessity for the advancement of a more just society (Traversi, Bannò, & Filippi, 2024).

5.1. Future Directions

Future research can explore the industry-specific impact of gender diversity on sustainability performance, particularly in sectors such as energy, finance, and manufacturing, to identify variations in outcomes across different organizational contexts in Pakistan. Furthermore, the implications of women's increasing presence on business boards, especially in large organizations, are a hot topic in contemporary literature on gender diversity. Greater knowledge and instruction on sustainability and gender equality can result in more inclusive and sustainable business practices. Although this study has several shortcomings, it also provides a plethora of data for additional research. Future research may employ more specific sustainability performance criteria, including CO2 emission level, the proportion of renewable energy utilized, charity spending, etc., to look more closely at the effects of board gender diversity. Strong social movements, like environmental activism might have more scattered responses and adoptions, with significant regional and industry-specific variations. Finally, further studies could investigate the mediating or moderating role of corporate culture, board effectiveness, or organizational policies to better understand the mechanisms through which gender diversity influences sustainability outcomes.

Reference

- Abdi, Y., Li, X., & Càmara-Turull, X. (2022). How financial performance influences investment in sustainable development initiatives in the airline industry: The moderation role of state-ownership. *Sustainable Development*, 30(5), 1252-1267. <https://doi.org/10.1002/sd.2314>
- Ahmed, A., Tessema, A., & Hussain, A. (2024). Empowering change: The role of gender diversity in steering ESG integration into executive compensation. *Corporate social responsibility and environmental management*, 31(6), 6044-6060. <https://doi.org/10.1002/csr.2907>
- Alarcón, D., Sánchez, J. A., & De Olavide, U. (2015). Assessing convergent and discriminant validity in the ADHD-R IV rating scale: User-written commands for Average Variance Extracted (AVE), Composite Reliability (CR), and Heterotrait-Monotrait ratio of correlations (HTMT). Spanish STATA meeting,
- Arayakarnkul, P., Chatjuthamard, P., & Treepongkaruna, S. (2022). Board gender diversity, corporate social commitment and sustainability. *Corporate social responsibility and environmental management*, 29(5), 1706-1721. <https://doi.org/10.1002/csr.2320>
- Arena, C., Garcia-Torea, N., & Michelon, G. (2024). The lines that divide: Board demographic faultlines and proactive environmental strategy. *Corporate governance: An international review*, 32(5), 833-855. <https://doi.org/10.1111/corg.12570>
- Ashiq, M., Rheman, S. U., & Warraich, N. F. (2025). Examining diversity beyond gender: Addressing inclusion gaps in LIS education and academic libraries in Pakistan. *The Journal of Academic Librarianship*, 51(2), 103022. <https://doi.org/10.1016/j.acalib.2025.103022>
- Aslam, S., Elmagrhi, M. H., Rehman, R. U., & Ntim, C. G. (2021). Environmental management practices and financial performance using data envelopment analysis in Japan: The mediating role of environmental performance. *Business Strategy and the Environment*, 30(4), 1655-1673. <https://doi.org/10.1002/bse.2700>
- Baek, S., & Lee, D. H. (2024). Can R&D investment be a key driver for sustainable development? Evidence from Korean industry. *Corporate social responsibility and environmental management*, 31(2), 838-853. <https://doi.org/10.1002/csr.2607>
- Bai, F., Huang, Y., Zhang, Q., & Shang, M. (2024). Unleashing the power of green culture: Exploring the path to sustainable development performance in enterprises. *Sustainable Development*, 32(4), 3226-3247. <https://doi.org/10.1002/sd.2831>
- Barauskaite, G., & Streimikiene, D. (2021). Corporate social responsibility and financial performance of companies: The puzzle of concepts, definitions and assessment methods. *Corporate social responsibility and environmental management*, 28(1), 278-287. <https://doi.org/10.1002/csr.2048>
- Bartolacci, F., Caputo, A., & Soverchia, M. (2020). Sustainability and financial performance of small and medium sized enterprises: A bibliometric and systematic literature review. *Business Strategy and the Environment*, 29(3), 1297-1309. <https://doi.org/10.1002/bse.2434>
- Bazel-Shoham, O., Lee, S. M., Munjal, S., & Shoham, A. (2024). Board gender diversity, feminine culture, and innovation for environmental sustainability. *Journal of Product Innovation Management*, 41(2), 293-322. <https://doi.org/10.1111/jpim.12672>
- Biswas, K., Boyle, B., & Bhardwaj, S. (2021). Impacts of supportive HR practices and organisational climate on the attitudes of HR managers towards gender diversity—a mediated model approach. Evidence-Based HRM: A Global Forum for Empirical Scholarship,
- Bose, S., Lim, E. K., Minnick, K., & Shams, S. (2024). Do foreign institutional investors influence corporate climate change disclosure quality? International evidence. *Corporate governance: An international review*, 32(2), 322-347. <https://doi.org/10.1111/corg.12535>
- Bougie, R., & Sekaran, U. (2019). *Research methods for business: A skill building approach*. John Wiley & Sons. https://dan.uwo.ca/documents/course_information/2024%202025/Fall%202024%202025%20-%20Term%201249/F2425-MOS%203280F-001.pdf
- Boukattaya, S., & Omri, A. (2021). Impact of board gender diversity on corporate social responsibility and irresponsibility: Empirical evidence from France. *Sustainability*, 13(9), 4712. <https://doi.org/10.3390/su13094712>
- Caglar, A. E., Daştan, M., Bulut, E., & Marangoz, C. (2024). Evaluating a pathway for environmental sustainability: The role of competitive industrial performance and

- renewable energy consumption in European countries. *Sustainable Development*, 32(3), 1811-1824. <https://doi.org/10.1002/sd.2755>
- Çelik, B. (2024). The Impact of Board Gender Diversity on Environmental Sustainability. *Journal of Economics Finance and Accounting*, 11(1), 27-34. <https://doi.org/10.17261/Pressacademia.2024.1894>
- Cheah, J. H., Sarstedt, M., Ringle, C. M., Ramayah, T., & Ting, H. (2018). Convergent validity assessment of formatively measured constructs in PLS-SEM: On using single-item versus multi-item measures in redundancy analyses. *International Journal of Contemporary Hospitality Management*, 30(11), 3192-3210. <https://doi.org/10.1108/IJCHM-10-2017-0649>
- Cowin, L. S., Hengstberger-Sims, C., Eagar, S. C., Gregory, L., Andrew, S., & Rolley, J. (2008). Competency measurements: testing convergent validity for two measures. *Journal of Advanced Nursing*, 64(3), 272-277. <https://doi.org/10.1111/j.1365-2648.2008.04774.x>
- De Masi, S., Słomka-Golebiowska, A., Becagli, C., & Paci, A. (2021). Toward sustainable corporate behavior: The effect of the critical mass of female directors on environmental, social, and governance disclosure. *Business Strategy and the Environment*, 30(4), 1865-1878. <https://doi.org/10.1002/bse.2721>
- Dhar, B. K., Hosen, M., Bağış, M., Sousa, M. J., & Khatun, K. M. (2024). Diverse boards and firm performance: the strategic role of carbon disclosure in heavily polluting companies in Bangladesh. *Business Strategy & Development*, 7(4), e70017. <https://doi.org/10.1002/bsd2.70017>
- Egenberg, S., Skogheim, G., Tangerud, M., Sluijs, A. M., Slootweg, Y. M., Elvemo, H., & Lundgren, I. (2025). Clinical decision-making during childbirth in health facilities from the perspectives of labouring women, relatives, and health care providers: A scoping review. *Midwifery*, 140, 104192. <https://doi.org/10.1016/j.midw.2024.104192>
- Elmghaamez, I. K., & Olarewaju, J. I. (2022). Corporate social responsibility and financial performance of product and service-based firms listed on London Stock Exchange. *Corporate social responsibility and environmental management*, 29(5), 1370-1383. <https://doi.org/10.1002/csr.2275>
- Farooq, S., Gan, C., & Nadeem, M. (2023). Boardroom gender diversity and investment inefficiency: New evidence from the United Kingdom. *Corporate governance: An international review*, 31(1), 2-32. <https://doi.org/10.1111/corg.12443>
- Galletta, S., Mazzù, S., Naciti, V., & Vermiglio, C. (2022). Gender diversity and sustainability performance in the banking industry. *Corporate social responsibility and environmental management*, 29(1), 161-174. <https://doi.org/10.1002/csr.2191>
- Gierke, L. A., Schlamp, S., & Gerpott, F. H. (2025). Which organisational context factors help women to obtain and retain leadership positions in the 21st century? A systematic review and research agenda for human resource management. *Human Resource Management Journal*, 35(1), 336-370. <https://doi.org/10.1111/1748-8583.12568>
- Hameed, W. U., Haseeb, M., Iqbal, J., Mihardjo, L. W., & Jermisittiparsert, K. (2022). Environmental disaster and women self-sustainability—A survey study on microfinance female clientele in Pakistan. *International Journal of Finance & Economics*, 27(3), 3599-3622. <https://doi.org/10.1002/ijfe.2340>
- Hensler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., & Calantone, R. J. (2014). Common Beliefs and Reality About PLS. *Organizational Research Methods*, 17(2), 182-209. <https://doi.org/10.1177/1094428114526928>
- Hsiao, A., Ma, E., Lloyd, K., & Reid, S. (2020). Organizational ethnic diversity's influence on hotel employees' satisfaction, commitment, and turnover intention: Gender's moderating role. *Journal of Hospitality & Tourism Research*, 44(1), 76-108. <https://doi.org/10.1177/1096348019883694>
- Islam, M. A., Hack-Polay, D., Haque, A., Rahman, M., & Hossain, M. S. (2022). Moderating role of psychological empowerment on the relationship between green HRM practices and millennial employee retention in the hotel industry of Bangladesh. *Business Strategy & Development*, 5(1), 17-29. <https://doi.org/10.1002/bsd2.180>
- Jia, F., Xu, Y., Chen, L., & Fernandes, K. (2025). Does supply chain concentration improve sustainability performance: the role of operational slack and information transparency. *International Journal of Operations & Production Management*, 45(1), 269-300. <https://doi.org/10.1108/IJOPM-12-2022-0807>

- Jizi, M., Nehme, R., & Melhem, C. (2022). Board gender diversity and firms' social engagement in the Gulf Cooperation Council (GCC) countries. *Equality, Diversity and Inclusion: An International Journal*, 41(2), 186-206. <https://doi.org/10.1108/EDI-02-2021-0041>
- Jones, C., Jomeen, J., Glover, L., Gardiner, E., Garg, D., & Marshall, C. (2015). Exploring changes in health visitors' knowledge, confidence and decision-making for women with perinatal mental health difficulties following a brief training package. *European journal for person centered healthcare*, 3(3), 384-391. <https://doi.org/10.5750/ejpch.v3i3.1012>
- Khan, A. J., Hameed, W. U., Ahmed, T., Iqbal, J., Aplin, M. J., & Leahy, S. (2024). Green behaviors and innovations: A green hrn perspective to move from traditional to sustainable environmental performance. *Employee Responsibilities and Rights Journal*, 36(2), 231-248. <https://doi.org/10.1007/s10672-023-09443-8>
- 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>
- Kiani, Z., Aghamohammadi, A., & Zafari, M. (2018). Association between Women Empowerment and Social Support in the Reproductive Decision-Making of the Women Referring to the Health Centers in Sari, Iran (2017). *Preventive Care in Nursing & Midwifery Journal*, 7(4), 10-18. <http://nmcjournal.zums.ac.ir/article-1-549-en.html>
- Lemma, T. T., Tavakolifar, M., Mihret, D., & Samkin, G. (2023). Board gender diversity and corporate carbon commitment: Does industry matter? *Business Strategy and the Environment*, 32(6), 3550-3568. <https://doi.org/10.1002/bse.3315>
- Lu, J., Mahmoudian, F., Yu, D., Nazari, J. A., & Herremans, I. M. (2021). Board interlocks, absorptive capacity, and environmental performance. *Business Strategy and the Environment*, 30(8), 3425-3443. <https://doi.org/10.1002/bse.2811>
- Lyons, E., & Zhang, L. (2023). Salary transparency and gender pay inequality: Evidence from Canadian universities. *Strategic management journal*, 44(8), 2005-2034. <https://doi.org/10.1002/smj.3483>
- Mohaghegh, F., Zaim, H., Dzenopoljac, V., Dzenopoljac, A., & Bontis, N. (2024). Analyzing the effects of knowledge management on organizational performance through knowledge utilization and sustainability. *Knowledge and Process Management*, 31(3), 261-272. <https://doi.org/10.1002/kpm.1777>
- Moussa, T., Allam, A., & Elmarzouky, M. (2023). An examination of UK companies' modern slavery disclosure practices: Does board gender diversity matter? *Business Strategy and the Environment*, 32(8), 5382-5402. <https://doi.org/10.1002/bse.3426>
- na Bano, R. (2025). Empowering Marginalized Communities: The Role of Vocational Education in Transforming Lives of Trans and Gender-Diverse Individuals in Pakistan. *Voyage Journal of Educational Studies*, 4(4), 18-32.
- Nikam, J., & Melati, K. (2024). Aiding Circular Business Transitions in Southeast Asian Small and Medium sized Enterprises (SMEs) Through Identifying Barriers and Enablers—a Case Study of Thailand based SMEs. *Circular Economy and Sustainability*, 4(4), 2889-2907. <https://doi.org/10.1007/s43615-023-00318-6>
- Orij, R. P., Rehman, S., Khan, H., & Khan, F. R. (2021). Is CSR the new competitive environment for CEOs? The association between CEO turnover, corporate social responsibility and board gender diversity: Asian evidence. *Corporate social responsibility and environmental management*, 28(2), 731-747. <https://doi.org/10.1002/csr.2084>
- Popescu, C. R. G. (2020). Analyzing the impact of green marketing strategies on the financial and non-financial performance of organizations: the intellectual capital factor. *Green marketing as a positive driver toward business sustainability*, 186-218. <https://doi.org/10.4018/978-1-5225-9558-8.ch008>
- Pothisarn, T., Chatjuthamard, P., Jiraporn, P., & Papangkorn, S. (2023). Sustainability, asset redeployability, and board gender diversity. *Corporate social responsibility and environmental management*, 30(4), 1738-1752. <https://doi.org/10.1002/csr.2450>
- Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's comments: a critical look at the use of PLS-SEM in "MIS Quarterly". *MIS quarterly*, 36(1), 3-14. <https://doi.org/10.2307/41410402>
- Sarfraz, M., Ivascu, L., Belu, R., & Artene, A. (2021). Accentuating the interconnection between business sustainability and organizational performance in the context of the circular economy: The moderating role of organizational competitiveness. *Business Strategy and the Environment*, 30(4), 2108-2118. <https://doi.org/10.1002/bse.2735>
- Sebrina, N., Taqwa, S., Afriyenti, M., & Septiari, D. (2023). Analysis of sustainability reporting quality and corporate social responsibility on companies listed on the Indonesia stock

- exchange. *Cogent Business & Management*, 10(1), 2157975. <https://doi.org/10.1080/23311975.2022.2157975>
- Tang, S., Nadkarni, S., Wei, L., & Zhang, S. X. (2021). Balancing the yin and yang: TMT gender diversity, psychological safety, and firm ambidextrous strategic orientation in Chinese high-tech SMEs. *Academy of Management Journal*, 64(5), 1578-1604. <https://doi.org/10.5465/amj.2019.0378>
- Tran, M. M. A., Nguyen, N. Y. C., Quyen, N. K. H., Tran, P. N., Phan, N. M. T., & Le, A. T. (2024). Do firms with environmental, social, and governance reputational risk take into account board gender diversity? An analysis on a global scale. *Social Science Quarterly*, 105(4), 1396-1418. <https://doi.org/10.1111/ssqu.13411>
- Traversi, M., Bannò, M., & Filippi, E. (2024). The role of the cultural context in moderating the effect between the presence of women directors and firm environmental innovation. *Corporate social responsibility and environmental management*, 31(5), 3685-3702. <https://doi.org/10.1002/csr.2765>
- Velte, P. (2021). Environmental performance, carbon performance and earnings management: Empirical evidence for the European capital market. *Corporate social responsibility and environmental management*, 28(1), 42-53. <https://doi.org/10.1002/csr.2030>
- Velte, P. (2024). Sustainable board governance and environmental performance: European evidence. *Business Strategy and the Environment*, 33(4), 3397-3421. <https://doi.org/10.1002/bse.3654>
- Wang, Z., & Yu, L. (2019). *Are firms with female CEOs more environmentally friendly?*
- Yang, L., Song, S., & Liu, C. (2024). Green signals: The impact of environmental protection support policies on firms' green innovation. *Business Strategy and the Environment*, 33(4), 3258-3278. <https://doi.org/10.1002/bse.3656>
- Yousaf, M. J. (2023). Does Metaverse Trialability, Metaverse Relative Advantage and Metaverse User Satisfaction Influence Metaverse based FinTech Innovation? *Journal of Metaverse Business Designs*, 4(1), 51-60. <https://jmbd.org/index.php/home/article/view/20>
- Yousaf, U. B., Tauni, M. Z., Yousaf, I., & Su, N. L. (2024). Board competence and green innovation—Does external governance matter? *Business Strategy and the Environment*, 33(4), 3078-3102. <https://doi.org/10.1002/bse.3641>
- Yu, J., & Liu, Y. S. (2024). Gender diversity and environmental activism: Gender discrimination or socialisation? *Business Strategy and the Environment*, 33(6), 5195-5213. <https://doi.org/10.1002/bse.3751>