



Journal of Economics Education and Entrepreneurship

Vol. 7, No. 2, August 2026, pp. 148-162

<https://ppjp.ulm.ac.id/journals/index.php/jee/issue/view/1059>

ISSN: 2746-5438 (Print) | 2745-729X (Online)



Gender-Diverse Leadership and Organizational Sustainability: A Systematic Review of ESG and Green Innovation Perspectives

¹Erna Rusnani, ^{2*}Laila Refiana Said

^{1,2} Lambung Mangkurat University, Indonesia

Article Info

Keywords:

ESG governance
Green innovation
Organizational sustainability
Systematic literature review
Women leadership

ABSTRACT

The increasing global emphasis on sustainability has encouraged organizations to adopt responsible business strategies that integrate environmental, social, and governance (ESG) principles and environmentally oriented innovation. In this context, leadership plays a crucial role in shaping organizational strategies and sustainability practices. This study aims to examine the relationship between women's leadership, ESG governance, green innovation, and organizational sustainability through a systematic literature review. The research adopts the PRISMA framework to ensure a transparent and structured literature selection process. Data were collected from three major academic databases—Scopus, ScienceDirect, and Emerald Insight, covering publications from 2021 to 2026. The initial search identified 168 articles, and after the screening and eligibility process, 32 articles met the inclusion criteria and were selected for the final analysis. The findings indicate that research on women's leadership and sustainability has increased significantly in recent years. The literature consistently shows that female leaders contribute positively to ESG performance by promoting transparency, ethical decision-making, and stakeholder-oriented governance. In addition, women's leadership encourages the development of green innovation, including environmentally friendly technologies and sustainable product development. The study proposes a conceptual model suggesting that women's leadership strengthens ESG governance, which subsequently promotes green innovation and ultimately supports organizational sustainability. These findings highlight the strategic role of gender diversity in leadership in advancing sustainable organizational practices.

This is an open access article under the [CC-BY-SA 4.0](#)



*Corresponding Author:

Laila Refiana Said

Universitas Lambung Mangkurat

Jl. Brig Jend. Hasan Basri, Pangeran, Kec. Banjarmasin Utara, Kota Banjarmasin, Kalimantan Selatan 70123, Indonesia

Email: lrsaid@ulm.ac.id

Submitted 18 March 2026; Accepted 14 April 2026; Published 30 August 2026

How to cite: Rusnani, E. & Said, L. R. (2026). Gender-Diverse Leadership and Organizational Sustainability: A Systematic Review of ESG and Green Innovation Perspectives. *Journal of Economics Education and Entrepreneurship*, 7(2), 148-162. <https://doi.org/10.20527/jee.v7i2.18519>.

1. INTRODUCTION

The development of the global business environment over the past few decades indicates that organizations are facing increasingly rapid, complex, and uncertain changes. These dynamics are not only related to technological advancement and market competition but also to growing demands for corporate social and environmental responsibility (Nguyen et al., 2021). In this context, according to Shabbir and Salman (2026), organizations are no longer solely focused on achieving economic profit but are also required to integrate sustainability principles into their business strategies. Furthermore, Suproń (2025); Murshudli (2023) emphasize that the concept of organizational sustainability has become an important topic in management, economics, and corporate governance studies because it highlights the balance between economic performance, environmental protection, and organizational social responsibility.

According to Duve and Marx (2026) increasing attention to sustainability is driven by various global challenges such as climate change, environmental degradation, and growing social and economic inequality. These conditions, as explained by Chu (2025), encourage companies to adopt more sustainable business strategies in order to maintain competitiveness and legitimacy in the eyes of stakeholders. Meanwhile, Jefimovaite and Vienažindiene (2025) argue that companies that successfully integrate sustainability practices into their operations generally achieve better reputations, gain higher levels of investor confidence, and demonstrate stronger organizational resilience when facing uncertain business environments.

One of the approaches widely used to evaluate corporate sustainability performance is the Environmental, Social, and Governance (ESG) framework. ESG provides comprehensive indicators describing how organizations manage environmental impacts, fulfill social responsibilities, and implement good corporate governance practices (Aulia et al., 2026; Eliwa et al., 2026). Over the past five years, ESG has become an important indicator used by investors and financial institutions to assess companies' long-term performance (Dasgupta & Pathak, 2024). Companies with strong ESG performance tend to have lower risk levels and more sustainable growth potential compared with those that do not incorporate ESG principles into their business strategies (Duve & Marx, 2026).

In addition to ESG implementation, efforts to achieve organizational sustainability are also closely associated with a firm's ability to develop environmentally oriented innovation. Khanra et al. (2022) argue that sustainability initiatives are strongly related to the organization's capacity to develop environmentally friendly innovations. This view is supported by Yang and Jiang (2026), who explain that green innovation plays an important role in promoting sustainable development. Green innovation includes the development of technologies, products, and processes designed to reduce environmental impacts while improving resource efficiency. Previous studies (Banelienė & Strazdas, 2023; Dugonski & Tumelero, 2022; Guo et al., 2024) indicate that green innovation can enhance firm performance and strengthen competitive advantage through operational efficiency and improved corporate reputation.

The implementation of green innovation within organizations is highly influenced by several internal factors, such as strategic orientation, organizational resource capacity, and top management commitment (Seyhan & Meidutė-Kavaliauskienė, 2026). Organizations that actively promote sustainable innovation tend to achieve better environmental performance while simultaneously increasing productivity and operational efficiency. In addition, environmentally friendly innovation can enhance stakeholder trust in companies, particularly in the context of rising public awareness regarding environmental and sustainability issues (Agyapong et al., 2024).

However, the successful implementation of sustainability strategies does not depend solely on technological innovation or organizational capabilities but is also strongly influenced by leadership factors (Siagian et al., 2023). Leadership plays a crucial role in determining the

strategic direction of organizations, influencing decision-making processes, and shaping organizational cultures that support innovation and sustainability. The commitment of top management is often a key factor in the successful implementation of sustainability strategies and green innovation within organizations (Mariani et al., 2023).

Over the past five years, academic attention has increasingly focused on the importance of gender diversity in organizational leadership, particularly the role of women in leadership positions (Baeckström et al., 2025; Bel-Oms et al., 2025). The increasing participation of women in managerial positions and corporate boards is considered an important step toward creating more inclusive and transparent corporate governance. Gender diversity in leadership is believed to improve the quality of decision-making by introducing more diverse perspectives into managerial processes.

Previous research Aulia et al. (2026); Bel-Oms et al. (2025); Silva Dos Santos et al. (2025) indicates that women leaders are often associated with collaborative, participatory, and stakeholder-oriented leadership styles. These characteristics make female leaders more sensitive to social and environmental issues compared with male leaders. Therefore, the presence of women in leadership positions may contribute positively to the implementation of sustainability strategies and the improvement of corporate ESG performance.

Furthermore, leadership has an important role in fostering innovation within organizations, particularly innovation related to sustainability. Organizational leaders influence strategic decision-making processes and shape organizational cultures that encourage the adoption of innovative solutions to address environmental and social challenges (Bevilacqua et al., 2025). In addition, the development of innovation capabilities is considered a critical factor in achieving organizational sustainability and long-term competitiveness (Khanra et al., 2023). Organizations that promote collaborative strategies and innovation-driven ecosystems are better able to respond to complex sustainability challenges and develop creative solutions for sustainable development (Suchek et al., 2021; Sulich & Soloducho-Pelc, 2024).

Nevertheless, although research on gender diversity in leadership continues to grow, the relationship between women's leadership and organizational sustainability remains insufficiently understood. Most previous studies Khanra et al. (2022); Suchek et al. (2021); Yang & Jiang, (2026) have focused more on the impact of gender diversity on corporate financial performance or general corporate governance practices. Meanwhile, research on ESG and green innovation has developed in different research streams that emphasize corporate governance mechanisms, technological innovation, or environmental policy.

This condition indicates that the literature on women's leadership, ESG performance, and green innovation is still developing separately across various academic disciplines. Consequently, only a limited number of studies have integrated these three concepts into a comprehensive analytical framework. In fact, integrating women's leadership, ESG performance, and green innovation can provide deeper insights into how female leadership contributes to organizational sustainability.

Moreover, according to Englert et al. (2024), the complexity of sustainability challenges faced by organizations today requires more interdisciplinary research approaches that integrate perspectives of leadership, governance, and innovation. This argument is supported by Jefimovaite and Vienažindiene (2025), who state that understanding how women's leadership influences ESG implementation and green innovation can provide new insights for organizations in designing more effective sustainability strategies.

Based on this background, this study aims to map the literature on the relationship between women's leadership, ESG performance, and green innovation within the context of organizational sustainability. This research also seeks to develop a conceptual framework

explaining how female leadership can influence organizational sustainability performance through the implementation of ESG practices and green innovation.

Based on the literature review discussed above, the research questions proposed in this study are as follows:

RQ1. How have research trends on women's leadership and sustainability evolved?

RQ2. What is the relationship between women's leadership and ESG performance?

RQ3. How does women's leadership influence green innovation?

RQ4. What conceptual models have emerged from previous studies?

2. METHOD

This study adopts a Systematic Literature Review (SLR) approach to examine the relationship between women's leadership, ESG, and green innovation within the broader context of organisational sustainability. Through this method, previous studies are systematically collected, reviewed, and synthesised to develop a comprehensive understanding of the existing literature. In addition, the approach enables the identification of research gaps that remain insufficiently explored in earlier studies. To ensure that the literature selection process is conducted transparently and systematically, the review follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework. PRISMA provides structured guidance for identifying, screening, and selecting relevant studies, thereby improving the reliability and transparency of the review procedure.

2.1 Research Design

A qualitative systematic literature review design is employed in this research. The main objective is to identify and synthesise relevant studies on women's leadership, ESG performance, and green innovation in the context of organisational sustainability. By integrating findings from multiple academic sources, the study aims to develop a structured overview of the current state of research in this field.

The literature review process follows the PRISMA procedure, which consists of four main phases: identification, screening, eligibility, and inclusion. During these stages, potentially relevant articles are progressively filtered to retain only studies that meet the established criteria for analysis. Through this systematic process, a clearer picture of research trends and conceptual developments related to women's leadership and sustainability can be obtained.

2.2 Data Sources

The data used in this study were obtained from several reputable academic databases to guarantee the quality and credibility of the literature analysed. The selected databases include Scopus, ScienceDirect, and Emerald Insight, which are widely recognised as major sources of peer-reviewed publications in management, sustainability, and organisational studies. To ensure that the review reflects recent developments in the field, the search was restricted to studies published between 2021 and 2026. This time limit was applied to capture the most recent research on women's leadership, ESG practices, and environmentally oriented innovation.

2.3 Search Strategy

The literature search was conducted using keywords closely related to the research topic. The primary search terms included "women leadership," "female leadership," "ESG," "environmental social governance," "green innovation," and "organisational sustainability."

These keywords were combined using Boolean operators to refine search results and ensure retrieved publications were relevant to the study's objectives. The search query used in the database search process was formulated as follows:

```
("women leadership" OR "female leadership")  
AND  
("ESG" OR "environmental social governance")  
AND  
("green innovation")  
AND  
("sustainability")
```

This search strategy was designed to capture studies that discuss the intersection between women's leadership roles, sustainability governance, and environmentally oriented innovation.

2.4 Inclusion and Exclusion Criteria

To maintain the relevance and quality of the selected literature, specific inclusion and exclusion criteria were applied during the article selection process. The inclusion criteria were peer-reviewed journal articles published in English and indexed in reputable databases, particularly Scopus. In addition, the studies had to be directly related to the research topics, including women leadership, ESG, green innovation, or organisational sustainability. Conversely, several types of publications were excluded from the review. These included conference papers, book chapters, articles without full-text access, and studies that were not directly relevant to the research focus.

2.5 PRISMA Screening Process

The article selection procedure followed the PRISMA screening framework, which involves four major stages. The first stage, identification, involved retrieving potentially relevant articles through database searches using predefined keywords. The second stage, screening, involved removing duplicate records and examining the titles and abstracts of the remaining articles to assess their relevance to the research topic. Next, the eligibility stage required a detailed evaluation of the full text of the selected articles to determine whether they met the established inclusion criteria. Finally, during the inclusion stage, the articles that satisfied all criteria were retained and used in the final systematic literature review.

2.6 Data Extraction

After the final set of articles had been identified, relevant information from each study was extracted. The extracted data included author names, publication year, country of study, research method, research focus, and the main findings of each article. These data were subsequently organised into a structured dataset or table format. This step facilitated the identification of research patterns and supported the synthesis of findings across the selected studies.

2.7 Data Analysis

Several analytical techniques were applied to synthesise the findings obtained from the selected literature. First, descriptive analysis was conducted to identify publication trends, geographical

distribution of research, and the methodological approaches used in previous studies. Second, a thematic analysis was conducted to classify the main research themes emerging from the literature, including the relationship between women's leadership and ESG performance, gender diversity and corporate sustainability, and women's leadership and green innovation. Finally, trend analysis was used to examine the evolution of research on women's leadership and sustainability. This approach also helped identify research gaps and potential directions for future studies on women's leadership and organisational sustainability.

3. RESULTS AND DISCUSSION

To ensure transparency and methodological rigour in the literature selection process, this study adopts the PRISMA framework. The PRISMA method provides a structured approach for identifying, screening, and selecting relevant studies from various academic databases. In this procedure, potentially relevant articles are systematically filtered using predetermined inclusion and exclusion criteria. The literature search was conducted in three major academic databases, namely Scopus, ScienceDirect, and Emerald Insight, covering publications from 2021 to 2026. The initial search identified 168 articles on women's leadership, ESG, green innovation, and organizational sustainability. The detailed article selection process following the PRISMA stages is illustrated in Figure 1.

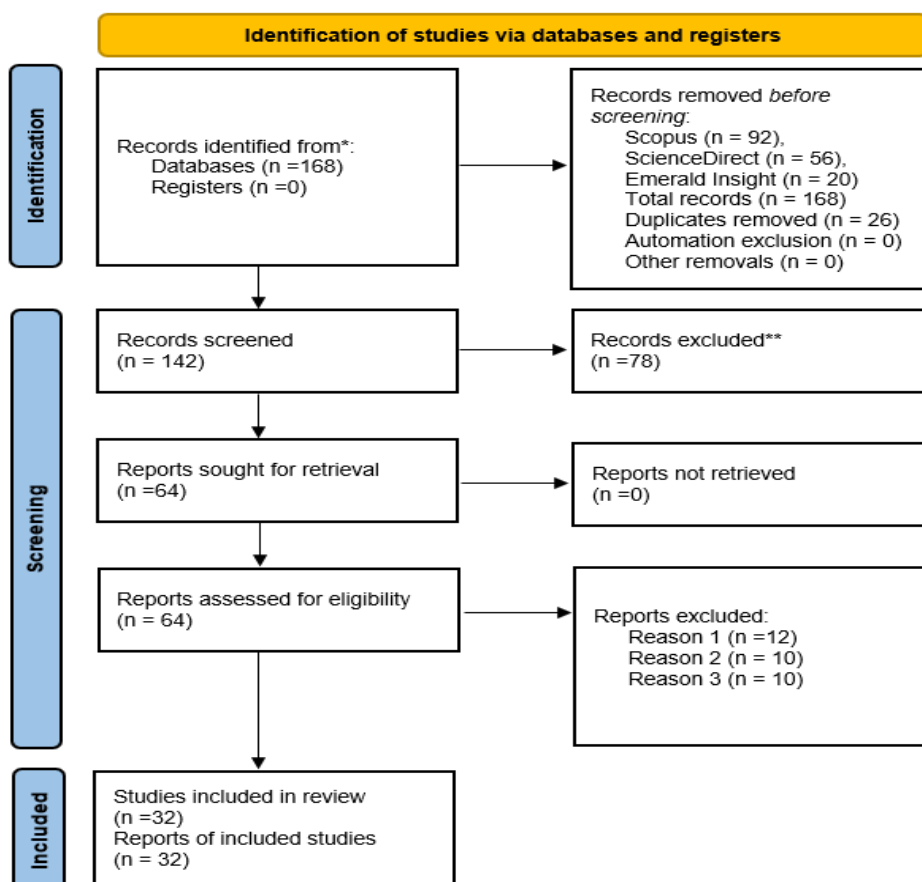


Figure 1. PRISMA Flow Diagram of the Article Selection Process

The identification stage retrieved 168 articles from the selected databases: 92 from Scopus, 56 from ScienceDirect, and 20 from Emerald Insight. After removing 26 duplicate records, 142 articles remained for screening. During the screening process, 78 articles were excluded for not being directly related to the research topic. The eligibility stage involved a full-text assessment of 64 articles. At this stage, 32 articles were excluded for several reasons, including lack of relevance to sustainability topics, publication type (e.g., conference papers or book chapters), and limited access to full-text documents. After completing all stages of the PRISMA screening procedure, 32 articles met all the inclusion criteria and were therefore selected for the final systematic literature review. These articles form the primary dataset used to analyse research trends, thematic developments, and conceptual relationships between women's leadership, ESG performance, green innovation, and organisational sustainability.

3.1 Results

Table 1 summarizes the key characteristics of the selected articles included in this study. The table provides an overview of the authors, publication year, research focus, research methods, and main findings of each study. These studies collectively contribute to understanding the role of women leadership in promoting ESG performance, green innovation, and organizational sustainability.

Table 1. Summary of Selected Articles on Women Leadership, ESG, and Green Innovation

Research Theme	Key Findings	Representative Studies	Number of Articles
Women Leadership and ESG Performance	Female leaders improve ESG performance, transparency, and sustainability disclosure in organizations.	(Anwar et al., 2026; Ding, 2025; Huang et al., 2024; Jefimovaite & Vienažindiene, 2025; Liao & Chen, 2025; Ngalim, 2024; Singh et al., 2025; Wang et al., 2025; Xia & Oon, 2024; Yu et al., 2025);	10
Women Leadership and Green Innovation	Female leadership encourages the adoption of green innovation, environmentally friendly technologies, and sustainable product development.	(Adnan et al., 2025; Akhtar et al., 2025; Daniel Vasconcelos & de Ribeiro, 2025; Gangi et al., 2026; Lestari & Soewarno, 2023; Mansour et al., 2024, 2025; Siyuan, 2025; Vu et al., 2026)	9
Gender Diversity and Corporate Sustainability	Gender diversity in boards and executive teams strengthens corporate sustainability strategies and responsible governance.	(Chen et al., 2026; Elamer & Boulhaga, 2024; Javeed et al., 2022; Kamarudin et al., 2021; Pérez-Estébanez & Fernández-Guadano, 2025; Samour et al., 2025; Tahat & Hassanein, 2024)	7
Female Leadership and Environmental Governance	Female leaders tend to promote stronger environmental policies, governance practices, and sustainability initiatives.	(Emhemed & Khadem, 2026; Lei & Huang, 2025; Liao & Chen, 2025; Mansour et al., 2025; Pandey et al., 2025; Paolone et al., 2025)	6
Total			32 Articles

Source: Authors' synthesis from 32 selected articles (2021–2026)

3.1.1. Publication Trend

This study addresses RQ1: How have research trends on women's leadership and sustainability evolved? by analyzing the distribution of publications related to women leadership, ESG performance, and green innovation between 2023 and 2026. The results show that research on this topic has increased significantly over recent years, indicating growing academic interest in gender diversity and sustainability in organizational contexts. Based on the analysis of 32 selected articles, the number of publications increased sharply between 2024 and 2025. Earlier

studies mainly focused on conceptual discussions regarding gender diversity and sustainability governance, while more recent research increasingly adopts empirical approaches to examine how women leadership affects ESG performance, environmental governance, and green innovation. The increasing number of publications reflects the growing recognition of women leadership as an important factor influencing sustainability practices in organisations. Researchers have begun to explore how female leaders contribute to responsible governance, environmental innovation, and long-term corporate sustainability strategies. The distribution of publications by year is presented in Table 2.

Table 1. Distribution of Articles by Publication Year

Year	Number of Articles	Percentage	Research Trend
2023	1	3.1%	Initial conceptual discussions on gender diversity and sustainability
2024	10	31.3%	Increasing empirical research on ESG and corporate governance
2025	15	46.9%	Rapid growth of studies on women leadership and sustainability
2026	6	18.7%	Integration of ESG governance, green innovation, and sustainability
Total	32	100%	—

The results indicate that the largest number of publications occurred in 2025 (46.9%), followed by 2024 (31.3%). This trend confirms that research on women leadership and sustainability has expanded rapidly in recent years.

3.1.2. Women Leadership and ESG (RQ2)

This section answers RQ2: What is the relationship between women's leadership and ESG performance? The literature review indicates a consistent positive relationship between women leadership and ESG performance. Many studies report that organisations with female executives or higher gender diversity in corporate boards tend to demonstrate stronger environmental, social, and governance practices. Female leaders are often associated with leadership characteristics such as ethical decision-making, transparency, and stakeholder orientation. These leadership attributes encourage organisations to adopt responsible governance practices and improve sustainability disclosure. Empirical studies also show that firms with female directors tend to achieve higher ESG ratings and demonstrate stronger commitments to sustainability reporting.

Furthermore, gender diversity in leadership improves decision-making processes by introducing diverse perspectives into strategic discussions. This diversity contributes to better governance quality and encourages companies to align their strategies with long-term sustainability objectives.

3.1.3. Women Leadership and Green Innovation

This section addresses RQ3: How does women's leadership influence green innovation? The reviewed literature shows that women leadership positively influences the development and adoption of green innovation within organisations. Female leaders tend to support environmentally oriented innovations, including sustainable product development, energy-efficient technologies, and environmentally friendly production processes. Studies indicate that firms led by female executives are more likely to invest in green innovation initiatives aimed at

reducing environmental impact and improving resource efficiency. Female leaders often demonstrate a stronger commitment to long-term sustainability goals, which encourages organisations to prioritise environmentally responsible innovation strategies.

Additionally, women leadership contributes to the creation of organisational cultures that support collaboration, creativity, and sustainability-oriented innovation. These cultural characteristics facilitate the development of green innovation capabilities and strengthen organisations' ability to address environmental challenges.

3.1.4. Proposed Conceptual Model

This section answers RQ4: What conceptual models have emerged from previous studies? Based on the synthesis of the reviewed literature, several studies suggest that women leadership plays a strategic role in promoting organisational sustainability through governance and innovation mechanisms. Female leaders contribute to strengthening ESG governance practices by promoting transparency, ethical decision-making, and stakeholder engagement. Strong ESG governance subsequently encourages organisations to adopt green innovation strategies, including environmentally friendly technologies and sustainable product development. These innovations help organisations reduce environmental impacts while improving operational efficiency and competitive advantage. Therefore, the literature indicates that women leadership contributes indirectly to organisational sustainability through ESG governance and green innovation mechanisms. The conceptual relationship identified in this study can be summarised as follows by Figure 2.



Figure 2. Conceptual Model of the Relationship between Women Leadership, ESG Governance, Green Innovation, and Organizational Sustainability

Figure 2 illustrates the conceptual relationship between women leadership, ESG governance, green innovation, and organizational sustainability. Women leadership strengthens ESG governance, which encourages the adoption of green innovation and ultimately supports organizational sustainability.

3.2. Discussion

The findings of this systematic literature review confirm that women's leadership constitutes a critical driver of organizational sustainability, primarily through its influence on ESG practices and green innovation. The absence of gender-diverse leadership is associated with weaker governance quality, lower organizational adaptability, and diminished responsiveness to evolving market and societal expectations. Accordingly, the integration of women into leadership structures should be regarded as a strategic necessity rather than a symbolic inclusion.

The evidence indicates that female leaders contribute to more robust governance by fostering ethical decision-making, transparency, and stakeholder-oriented approaches. Such attributes strengthen the alignment between organizational strategies and long-term sustainability objectives. Moreover, gender diversity enhances the diversity of cognitive perspectives within top management, thereby improving the quality and inclusiveness of strategic decisions (Aulia et al., 2026; Eliwa et al., 2026).

ESG emerges as a central mechanism through which leadership influences sustainability outcomes. Organizations with strong ESG performance tend to demonstrate higher levels of accountability, improved stakeholder trust, and more sustainable value creation. The presence of women in leadership positions reinforces ESG implementation by ensuring that environmental and social considerations are systematically embedded in governance processes. In contrast, organizations lacking gender diversity may encounter limitations in effectively integrating sustainability into their strategic frameworks.

The findings further suggest that ESG practices function as an enabling condition for green innovation. By institutionalizing sustainability priorities, ESG encourages firms to invest in environmentally oriented technologies, sustainable product development, and resource-efficient operations. Women leaders, often characterized by a long-term orientation and collaborative leadership style, play a significant role in cultivating organizational environments conducive to sustainability-driven innovation. Empirical evidence supports a positive association between ESG performance and green innovation outcomes (Tan et al., 2023).

Green innovation, in turn, represents a key pathway toward achieving organizational sustainability. It allows firms to reduce environmental impact while enhancing operational efficiency and sustaining competitive advantage. The literature indicates that organizations with gender-inclusive leadership are more proactive in adopting innovation strategies aligned with sustainability goals, thereby strengthening their capacity to manage complexity and uncertainty (Khanra et al., 2022; Yang & Jiang, 2026).

While top management commitment remains essential for the successful implementation of sustainability initiatives, the inclusion of women in leadership positions reinforces this commitment by introducing diverse perspectives that support more adaptive and inclusive organizational cultures. This interplay enhances the effectiveness of ESG practices and innovation processes (Siagian et al., 2023).

Taken together, the findings substantiate the proposed conceptual model, in which women's leadership strengthens ESG governance, facilitates green innovation, and ultimately enhances organizational sustainability. Gender diversity should therefore be understood as a strategic resource that contributes to governance effectiveness, innovation capacity, and long-term organizational resilience.

This study contributes to the sustainability and governance literature by positioning women's leadership as a central element in sustainability-oriented strategies. In light of increasing global expectations for responsible business conduct, organizations are encouraged to institutionalize gender-inclusive leadership practices to support comprehensive and future-oriented sustainability outcome.

4. CONCLUSION

This study aimed to examine the relationship between women leadership, ESG governance, green innovation, and organizational sustainability through a systematic literature review. Using the PRISMA framework, 32 relevant articles published between 2021 and 2026 were selected from three major academic databases: Scopus, ScienceDirect, and Emerald Insight. The results indicate that research on women leadership and sustainability has increased significantly in recent years, reflecting growing academic interest in gender diversity and sustainable business practices.

The findings show that women leadership has a positive influence on ESG governance and sustainability practices within organizations. Female leaders tend to promote ethical decision-making, transparency, and stakeholder-oriented governance, which contribute to stronger ESG performance. In addition, women leadership encourages the development of

green innovation, including environmentally friendly technologies, sustainable product development, and resource-efficient processes.

This study also proposes a conceptual model suggesting that women leadership indirectly contributes to organizational sustainability through ESG governance and green innovation mechanisms. The integration of inclusive leadership, responsible governance, and environmentally oriented innovation can strengthen organizations' ability to achieve long-term sustainability.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to all parties who supported the completion of this research. Special appreciation is extended to the academic supervisors and colleagues who provided valuable feedback, suggestions, and constructive discussions during the research process. The authors also acknowledge the institutions and academic databases that provided access to relevant literature used in this systematic literature review. Their support and contributions have greatly assisted in the successful completion of this study.

REFERENCES

- Adnan, M., Zhu, N., Abdullah, & Bilal, M. (2025). The nexus between female CEOs, government subsidies and green innovation: probing board diversity dynamics. *Total Quality Management & Business Excellence*, 36(5–6), 395–423. <https://doi.org/10.1080/14783363.2024.2448560>
- Agyapong, A., van Klyton, A., Aidoo, S. O., & Osabutey, E. (2024). Proper Green Synergy: Unleashing Creativity, Innovation, Dynamic Capability, and Performance of Small and Medium Firms. *International Journal of Innovation Management*, 28(7–8). <https://doi.org/10.1142/S1363919624500300>
- Akhtar, M. W., Karatepe, O. M., Zhang, Q., Rescalvo-Martin, E., & Aslam, M. K. (2025). When innovation meets leadership: Exploring the role of responsible leadership in enhancing the impact of technological innovation on service performance. *International Journal of Hospitality Management*, 131, 104336. <https://doi.org/https://doi.org/10.1016/j.ijhm.2025.104336>
- Anwar, S., Dianawati, W., Rusanti, E., Nurdin, & Hasbullah, N. N. (2026). Educated to govern sustainably: female directors from reputable universities and ESG performance. *Management & Sustainability: An Arab Review*, 1–33. <https://doi.org/10.1108/MSAR-06-2025-0216>
- Aulia, A., Sukmadilaga, C., Avianti, I., Rosdini, D., & Ghani, E. K. (2026). The Role of ESG and Digitalization Driving Sustainable Agropreneurship in Emerging Market. *APTISI Transactions on Technopreneurship*, 8(1), 51 – 62. <https://doi.org/10.34306/att.v8i1.673>
- Baeckström, Y., Rezec, N., & Clinton, M. E. (2025). Women's Career Success in the Financial Services Industry: Systematic Literature Review and Future Research Directions. *Gender, Work & Organization*, 32(5), 1994–2012. <https://doi.org/https://doi.org/10.1111/gwao.13253>
- Banelienė, R., & Strazdas, R. (2023). Green Innovation for Competitiveness: Impact on GDP Growth in the European Union. *Contemporary Economics*, 17(1), 92 – 108. <https://doi.org/10.5709/ce.1897-9254.501>
- 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/https://doi.org/10.1002/csr.3162>
- Bevilacqua, S., Masárová, J., Perotti, F. A., & Ferraris, A. (2025). Enhancing top managers' leadership with artificial intelligence: insights from a systematic literature review. *Review of Managerial Science*, 19(9), 2899–2935. <https://doi.org/10.1007/s11846-025-00836-7>
- Chen, X., Song, H., Tsang, A., & Xin, Y. (2026). Board gender diversity and corporate dividend policy: International evidence. *Journal of International Accounting, Auditing and Taxation*, 60, 100737. <https://doi.org/10.1016/j.intaccaudtax.2025.100737>
- Chu, T. (2025). Environmental tax reform roles and strategies of local governments: A quasi-natural experiment from China. *Sustainable Futures*, 9, 100453. <https://doi.org/10.1016/j.sftr.2025.100453>
- Daniel Vasconcelos, V., & de Ribeiro, M. S. (2025). Executive Gender Diversity and Eco-Innovation in Brazil: The Moderating Role of Sustainable Compensation Policies. *Corporate Social Responsibility and Environmental Management*, 32(5), 6066–6087. <https://doi.org/10.1002/csr.70014>
- Dasgupta, R., & Pathak, R. (2024). Ownership Concentration and Environmental, Social, Governance Engagement: Do CEO's Characteristics Moderate the Relationship? *Australasian Accounting, Business and Finance Journal*, 18(4), 126 – 142. <https://doi.org/10.14453/aabfj.v18i4.08>
- Ding, Y. (2025). Can “Her Power” Enhance Corporate ESG Performance? A study based on the perspective of female executives in listed companies. *Proceedings of the 2025 International Conference on Economic Management and Big Data Application*, 697–701. <https://doi.org/10.1145/3770177.3770291>
- Dugonski, F. C. V., & Tumelero, C. (2022). Barriers and facilitators of technological eco-innovations: a multilevel analysis in a Brazilian cosmetics company. *Innovation and Management Review*, 19(3), 237 – 251. <https://doi.org/10.1108/INMR-07-2021-0131>
- Duve, M., & Marx, B. (2026). Analysing South Africa's King IV Report on Achieving Sustainable Development Goals Through Enhanced Transparency and Sustainability Practices. *Journal of Risk and Financial Management*, 19(2). <https://doi.org/10.3390/jrfm19020137>
- Elamer, A. A., & Boulhaga, M. (2024). ESG controversies and corporate performance: The moderating effect of governance mechanisms and ESG practices. *Corporate Social Responsibility and Environmental Management*, 31(4), 3312 – 3327. <https://doi.org/10.1002/csr.2749>
- Eliwa, Y., Saleh, A., & Ahmed, A. H. (2026). Aligning Pay With Purpose: ESG-Linked Compensation and ESG Decoupling. *Business Strategy and the Environment*, 35(2), 1805 – 1829. <https://doi.org/10.1002/bse.70258>
- Emhemed, H., & Khadem, A. (2026). Linking Gender-Inclusive Leadership, Finance, and Trade Openness to Environmental Sustainability: Insights for an SDG-Oriented Policy Agenda. *Sustainability*, 18(2). <https://doi.org/10.3390/su18020715>
- Englert, B., Sievert, M., Helmig, B., & Jansen, K. (2024). The incongruity of misfit: A systematic literature review and research agenda. *Human Relations*, 77(9), 1306–1332. <https://doi.org/10.1177/00187267231187751>
- Gangi, F., Coscia, M., Varrone, N., & Daniele, L. M. (2026). Exploring the Mediating Role of Environmental Innovation Between Gender Equality and Family Firms' Value. In *Innovation Strategies and the Sustainable Development Goals: A Blueprint for Sustainable Transformation*. <https://doi.org/10.4324/9781003538141-14>
- Guo, J., Jia, F., Yan, F., & Chen, L. (2024). E-commerce supply chain finance for SMEs: the role of green innovation. *International Journal of Logistics Research and*

- Applications*, 27(9), 1596 – 1615. <https://doi.org/10.1080/13675567.2023.2167959>
- Huang, C. J., Wan Ahmad, W. N., & Saad, R. A. J. (2024). Can female CEOs improve corporate environmental, social and governance performance? *Gender in Management: An International Journal*, 40(1), 91–113. <https://doi.org/10.1108/GM-11-2023-0450>
- Javeed, S. A., Latief, R., Cai, X., San Ong, T., Qian, S., & Haq, A. U. (2022). What is the role of the board sustainable committee for corporate social responsibility? The moderating effect of gender diversity and ownership concentration. *Journal of Cleaner Production*, 379, 134710. <https://doi.org/10.1016/j.jclepro.2022.134710>
- Jefimovaite, L., & Vienažindiene, M. (2025). Green logistics concept and the impact of its implementation in the organisation: a systematic literature review and meta-analysis. *Engineering Management in Production and Services*, 17(1), 39 – 51. <https://doi.org/10.2478/emj-2025-0004>
- Kamarudin, K. A., Ariff, A. M., & Wan Ismail, W. A. (2021). Product market competition, board gender diversity and corporate sustainability performance: international evidence. *Journal of Financial Reporting and Accounting*, 20(2), 233–260. <https://doi.org/10.1108/JFRA-01-2021-0020>
- Khanra, S., Kaur, P., Joseph, R. P., Malik, A., & Dhir, A. (2022). A resource-based view of green innovation as a strategic firm resource: Present status and future directions. *Business Strategy and the Environment*, 31(4), 1395 – 1413. <https://doi.org/10.1002/bse.2961>
- Lei, L., & Huang, Y. (2025). How does female executives optimize enterprises' green governance performance? *International Review of Economics & Finance*, 104, 104627. <https://doi.org/10.1016/j.iref.2025.104627>
- Lestari, K. C., & Soewarno, N. (2023). Do female directors influence firm value? The mediating role of green innovation. *Gender in Management: An International Journal*, 39(2), 255–273. <https://doi.org/10.1108/GM-08-2022-0281>
- Liao, W., & Chen, S. (2025). Female leadership and ESG rating disagreement: Evidence from China. *Scientific Reports*, 16(1), 1448. <https://doi.org/10.1038/s41598-025-30948-9>
- Mansour, M., Al Zobi, M., E'leimat, D. A., Abu alim, S., & Tabash, M. I. (2025). Female leadership, gender boards and environmental innovation: Comprehensive evidence from the global energy sector. *Innovation and Green Development*, 4(4), 100275. <https://doi.org/10.1016/j.igd.2025.100275>
- Mansour, M., Shubita, M. F., Lutfi, A., Saleh, M. W. A., & Saad, M. (2024). Female CEOs and Green Innovation: Evidence from Asian Firms. *Sustainability*, 16(21). <https://doi.org/10.3390/su16219404>
- Mariani, M. M., Machado, I., Magrelli, V., & Dwivedi, Y. K. (2023). Artificial intelligence in innovation research: A systematic review, conceptual framework, and future research directions. *Technovation*, 122, 102623. <https://doi.org/10.1016/j.technovation.2022.102623>
- Murshudli, F. F. (2023). Green Banking for Sustainable Development. *Foresight and STI Governance*, 17(2), 82 – 94. <https://doi.org/10.17323/2500-2597.2023.2.82.94>
- Ngalim, L. (2024). ESG ratings and female corporate leadership: Evidence from African firms. *Finance Research Letters*, 69, 106181. <https://doi.org/10.1016/j.frl.2024.106181>
- Nguyen, T. H. H., Elmagrhi, M. H., Ntim, C. G., & Wu, Y. (2021). Environmental performance, sustainability, governance and financial performance: Evidence from heavily polluting industries in China. *Business Strategy and the Environment*, 30(5), 2313–2331. <https://doi.org/10.1002/bse.2748>
- Pandey, D. K., Dalwai, T., S., A., & Nguyen, T. H. (2025). CEO gender perspectives in climate and environmental governance: a systematic literature review and bibliometric

- analysis. *Journal of Accounting Literature*. <https://doi.org/10.1108/JAL-08-2024-0223>
- Paolone, F., Bitbol-Saba, N., Gasbarro, D., & Nicolò, G. (2025). Female leadership and environmental, social and governance performance. Empirical evidence from France. *Social Responsibility Journal*, 21(4), 689–703. <https://doi.org/10.1108/SRJ-06-2024-0379>
- Pérez-Estébanez, R., & Fernández-Guadaño, J. (2025). Does gender diversity in corporate leadership enhance sustainability and financial success? *International Journal of Social Economics*, 53(4), 754–768. <https://doi.org/10.1108/IJSE-01-2025-0043>
- Samour, A., AlGhazali, A. M., & Gharbi, I. (2025). Corporate governance and financial inclusion across European countries: does board gender diversity matter? *Corporate Governance*, 26(3), 670–688. <https://doi.org/10.1108/CG-06-2024-0313>
- Seyhan, M., & Meidutė-Kavaliauskienė, I. (2026). Does green human resources management pay off? The mediating role of green innovation and employee attitude in sustainable supply chain management. *Business, Management and Economics Engineering*, 24(1), 104–123. <https://doi.org/10.3846/bmee.2026.25544>
- Shabbir, M. S., & Salman, R. (2026). Sustainable Development Policy Interventions: Stakeholder Engagement and Environmental Policy in Practice. *Business Strategy and the Environment*, 35(2), 1997–2013. <https://doi.org/10.1002/bse.70274>
- Siagian, H., Husada Tarigan, Z. J., Basana, S. R., & Jie, F. (2023). The impact of top management commitment on green manufacturing, supplier integration, and customer integration in improving operational performance. *International Journal of Agile Systems and Management*, 16(4), 512–536. <https://doi.org/10.1504/IJASM.2023.134062>
- Silva Dos Santos, C., Lugosi, P., & Hawkins, R. (2025). Trust, traditions and indigenous women's leadership in sustainable tourism management. *Journal of Sustainable Tourism*, 33(1), 46–62. <https://doi.org/10.1080/09669582.2024.2309200>
- Singh, K., Jaiwani, M., & Maheshwari, U. (2025). Do ESG disclosures and women leadership influence investor sentiment? Evidence from emerging markets. *Journal of Management Development*, 1–22. <https://doi.org/10.1108/JMD-03-2025-0138>
- Siyuan, Y. (2025). The Impact of Characteristics of Executive Background on Corporate ESG Performance with Green Innovation as a Moderating Variable. *International Journal of Academic Research in Business and Social Sciences*, 15(1), 288–306. <https://doi.org/10.6007/ijarbss/v15-i1/23879>
- Suchek, N., Fernandes, C. I., Kraus, S., Filser, M., & Sjögrén, H. (2021). Innovation and the circular economy: A systematic literature review. *Business Strategy and the Environment*, 30(8), 3686–3702. <https://doi.org/10.1002/bse.2834>
- Sulich, A., & Soloduch-Pelc, L. (2024). Strategic management and business ecosystem scientific relations—key areas review. *International Journal of Innovation Studies*, 8(3), 287–296. <https://doi.org/10.1016/j.ijis.2024.04.005>
- Suproń, B. (2025). Environmental pollution and economic growth in the European Union countries: A systematic literature review. *Economics and Business Review*, 11(1), 7 – 30. <https://doi.org/10.18559/ebv.2025.1.1777>
- Tahat, Y. A., & Hassanein, A. (2024). Exploring the synergy of corporate gender diversity, sustainability committee, and reporting ESG practices: An international evidence. *Journal of Environmental Management*, 371, 123093. <https://doi.org/10.1016/j.jenvman.2024.123093>
- Tan, M.-Y., Shu, S.-H., Liu, R.-L., & Zhao, Q. (2023). The efficacy and safety of complementary and alternative medicine in the treatment of nausea and vomiting

- during pregnancy: A systematic review and meta-analysis. *Front. Public Health*, 11, 1108756. <https://doi.org/10.3389/fpubh.2023.1108756>
- Vu, A. T., Pham, T. H., Dao, C.-T., Nguyen, N. H., & Dong, V.-C. (2026). Female leadership and innovation: Micro evidence from a developing country. *Journal of Strategy & Innovation*, 37(1), 200565. <https://doi.org/10.1016/j.jsinno.2026.200565>
- Wang, X., Han, H., Zhao, M., & Deng, S. (2025). Impact of Female Executive Power on Corporate ESG Performance: The Mediating Role of Managerial Self-Interest. *Business Strategy and the Environment*, 34(8), 11083–11105. <https://doi.org/10.1002/bse.70156>
- Xia, S., & Oon, E. Y. N. (2024). The Role of Female Leadership and ESG Disclosure. In B. Alareeni & A. Hamdan (Eds.), *Navigating the Technological Tide: The Evolution and Challenges of Business Model Innovation* (pp. 54–62). Springer Nature Switzerland.
- Yang, Y., & Jiang, Y. (2026). The Effect of Buyer–Supplier Firm Age Distance on Green Innovation: A Resource Dependence Perspective. *Business Strategy and the Environment*, 35(2), 2600 – 2617. <https://doi.org/10.1002/bse.70313>
- Yu, Z., Wang, Q., Zhao, X., & Zhao, Q. (2025). Do female executives play a role in corporate green business philosophy? *International Review of Financial Analysis*, 99, 103972. <https://doi.org/10.1016/j.irfa.2025.103972>