



# **Management of sustainability and well-being for individuals and society**

**13-14 June 2024**

## ***Conference Proceedings***

**Short Papers**

edited by

*Arabella Mocciaro Li Destri, Marta Ugolini,  
Guido Cristini and Beatrice Luceri*



**Sinergie SIMA**  
Management Conference



# **Management of sustainability and well-being for individuals and society**

*Conference Proceedings*

*Short Papers*

*Parma (Italy)*

**13-14 June 2024**

Sinergie-SIMA Management Conference Proceedings  
*Management of sustainability and well-being for individuals and society*  
13-14 June 2024  
University of Parma - Italy

ISBN 978-88-94-7136-5-7

The Conference Proceedings are published online on <https://www.sijmsima.it>

© 2024 FONDAZIONE CUEIM  
Via Interrato dell'Acqua Morta, 26  
37129 Verona - Italy

# Does female corporate leadership improve environmental performance? A systematic literature review.

MARIA ROSA DE GIACOMO<sup>1</sup> MARCO FREY<sup>2</sup>

## Abstract.

*A part of the management literature has paid attention to the effects of governance mechanisms on business performance. Among the governance aspects investigated, gender diversity can be mentioned. In addition to financial performance, the attention to sustainable performance – the ability of organizations to achieve their business and create value, considering long-term economic, environmental, and social responsibility – has gained even more importance in the business sector. However, a limited part of the literature explores the effects of female leadership on sustainable performance at a business level, specifically on the environmental dimension of performance. Understanding the effects that female corporate leadership may have on the environmental performance of organizations is pivotal, considering two aspects: i) the relevance of improving gender balance at the societal and business level and ii) the impact that environmental challenges will have on corporate strategies.*

*This paper presents ongoing research based on a systematic literature review. The aim is to elucidate the current research on corporate female leadership and the effects on environmental performance at a business level. The review also aims to identify existing literature gaps and offer opportunities for further research. The preliminary findings of our review, based on a sample of 128 articles, indicate an increasing recent interest in the research on these topics. Moreover, most studies show a positive relationship between corporate female leadership and environmental performance at a business level. The existing literature identified multiple reasons that explain why gender diversity in top management positively affects the environmental performance of organizations.*

*We aim to identify some opportunities for further research on this topic, such as exploring the relationship between corporate female leadership and environmental performance more qualitatively and measuring the effects on single components of environmental performance. Additionally, further examination of the role that a critical mass of women on the board has in the relationship is encouraged.*

*This review contributes to understanding the role that a higher level of gender balance in companies may have in improving environmental performance at a corporate level, providing valuable insights to inspire future studies and to inform managers and policymakers.*

**Keywords:** *Female Corporate Leadership, Environmental Performance, Female on Board, Review.*

**Framing of the research.** *Sustainable performance has gained even more importance in business (Al-Abbadi and Abu Rumman, 2023). The literature highlights that corporate governance should be pivotal in achieving better performance, which is also confirmed for sustainability performance (Khan and Ghouri, 2022). There is an increasing research interest in topics such as the role of women at the corporate level (Terjesen and Singh, 2008; Baker et al.; 2020; Green and Homroy, 2018) and the effects that women in business may have on performance (Yang et al., 2019; Khatib et al., 2021; Arora, 2022). Moreover, the literature also pays even more attention to the role that females in business may have on corporate social responsibility performance (e.g., Hyun et al., 2022; Bose et al., 2022), “in line with the triple bottom line approach, based on economic, social, environmental aims.*

*In this framework, the importance of the environmental dimensions of sustainability (and the related performance) at a business level is also particularly crucial. Environmental challenges related to climate change and the need for a net-zero transition, biodiversity preservation, or improving energy efficiency are only some sustainability challenges that require concrete actions and strategies from companies. At the same time, national, European, and international policymakers are increasing their attention to environmental issues and how companies must address them.*

**Purpose of the paper.** *Recent research has highlighted the importance of exploring corporate governance mechanisms to understand their effects on sustainable performance at a business level (Chijoke-Mgbame et al., 2020; Harjoto and Jo, 2011; Shaukat et al., 2016). Management scholars are even more interested in understanding whether and how corporate female leadership influences sustainability performance at a company level, especially the*

---

<sup>1</sup> Sant’Anna School of Advanced Studies, Pisa  
e-mail: mariarosa.degiacomo@santannapisa.it

<sup>2</sup> Sant’Anna School of Advanced Studies, Pisa  
e-mail: marco.frey@santannapisa.it

environmental performance dimension of businesses. At the same time, we do not find any systematic literature review (SLR) on the relationship between corporate female leadership and the environmental dimensions of sustainable performance.

The aim of the review is to understand the main existing findings in the academic debate on the relationship between corporate female leadership and the environmental performance at a business level. Moreover, we aim to shed light on what are the main gender diversity dimensions explored by the literature and the environmental performance aspects considered.

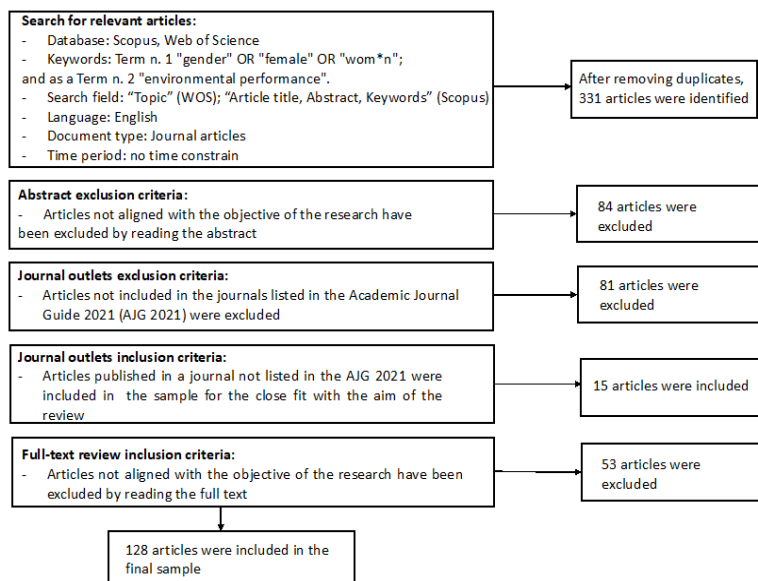
This review is based on a broad definition of environmental performance, including, for example, an ameliorate performance at a business level on waste management, on CO2 emissions, on environmental innovation, on environmental disclosure, or on the sustainability of supply chain, or on environmental-friendly products, processes or services, for example.

**Methodology.** We adopt a systematic literature review (SLR) methodology to review the existing literature on the relationship between female corporate leadership and environmental performance. SLR is considered a rigorous method, and it can produce reliable knowledge (Tranfield et al., 2003) and ensure a comprehensive account of the literature (Rosseau et al., 2008). It provides both the research design's replicability and the review process's transparency.

The SLR we adopted in this study has been based on two central databases, Scopus and Web of Science (WOS), “as they are considered complete databases (Linnenluecke et al., 2020) because they cover a high number of fields and ensure a wide range of articles. A set of keywords was used in the search title "Topic" for WOS and in "Article title, Abstract, Keywords" for Scopus to ensure all relevant articles were included in the research, including as term n. 1 "gender" OR "female" OR "wom\*n"; AND as a term n. 2 "environmental performance". To do a comprehensive review, we decided not to limit the timeframe of the research. Therefore, the SLR is updated to the 26th of January 2024, when the data collection on the two databases has been completed. The research allowed us to select 331 (excluding duplicates extracted from the two databases). With the aim to reduce the risk of bias, all abstracts have been read by two researchers to see if the articles aligned with the review's scope. The research team has been trained for that specific task. To that purpose, 20 articles have been assessed by two researchers to test any alignment or misunderstanding on the review protocol and criteria. After that, the main findings were discussed in the research team to see any inconsistencies and define the correct process to follow before proceeding with the review of the other articles of the sample. That process allowed us to exclude 84 articles. Then, to ensure a high quality of business and management studies, we decided to focus our review on articles published in the Academic Journal Guide 2021 (AJG). The AJG's ratings are based upon peer review, editorial and expert judgements following the evaluation of hundreds of publications, and they are informed by statistical information relating to citations. The AJG is distinctive in that, unlike other journal ratings, it is not based purely on a weighted average of journal metrics. Instead, the AJG is informed by metrics. The ratings of journals reflect the outcomes of consultations carried out by the subject experts of the Scientific Committee with expert peers and scholarly associations as to the relative standing of journals in each subject area (Chartered Association of Business Schools, 2024).

Moreover, we decided to add articles published in the Sustainability journal as those studies aligned with the review's objective – even if that journal is not listed in AJG. Then, 181 full-text articles were read to examine their alignment with the objective of the review – that is, to explore the relationship between corporate female leadership and environmental performance at the business level. As a result of the full-text reading, 53 have been excluded. Therefore, the final sample of this SLR consisted of 128 papers. The steps of article selection are described in Figure n. 1.

Figure 1 Systematic literature review process.



Source: our elaboration

The research team used a shared spreadsheet to categorize the articles based on some information, such as year of publication, journal outlet, kind of research method used, gender leadership dimension considered, environmental performance dimensions considered, and the nature of the relationship between the corporate female leadership and the environmental performance. Other information will be categorized in the coming weeks as this project is ongoing.

Building upon this list, the research team conducted a qualitative analysis by coding the relevant information and data from the articles' text. The coding process has been discussed with the research team, and the coding has been reviewed and assessed more times to check for errors and inconsistencies.

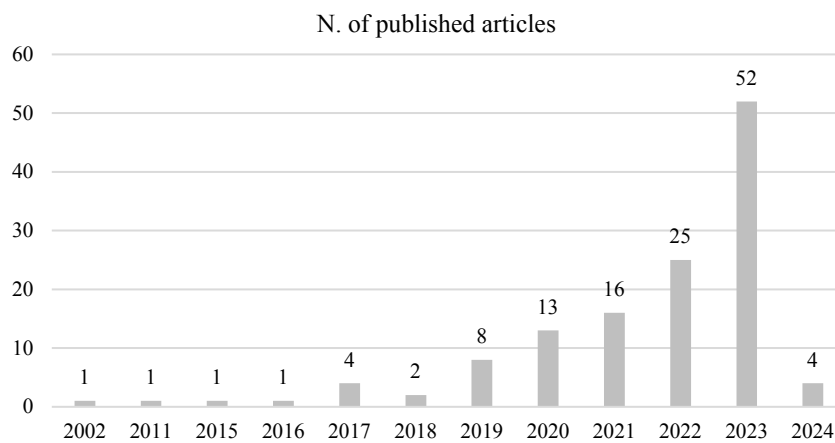
## Results

*Descriptive analysis.*

*Time frame, journals and research methods.*

The research area on the effects of corporate female leadership on environmental performance at a business level has been receiving increasing attention among scholars in the last few years, as demonstrated by Figure 2. More than 40% of the sample papers have been published very recently, in 2023, and around 20% in the previous year, in 2022. We have to consider that in 2024, there are four papers in the sample that refer to the time of data collection (end of January 2024). It is also worth noting that until 2018, the topic was not explored extensively in the literature.

Figure 2. The timeframe of the sample articles



Source: our elaboration

The increasing scientific community's attention on the relationship between corporate female leadership and environmental performance at a business level is also shown by the wide range of journals interested in this kind of research. Indeed, the 128 papers of the sample have been published in 48 diverse journals (Table 1). The most relevant journals for the topic of this review are *Business Strategy & the Environment*, *Corporate Social Responsibility and Environmental Management*, and *Sustainability*.

Table 1. Academic journals.

Journal title	N. of papers
BUSINESS STRATEGY AND THE ENVIRONMENT	26
CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL MANAGEMENT	18
SUSTAINABILITY	12
JOURNAL OF CLEANER PRODUCTION	6
JOURNAL OF BUSINESS ETHICS	5
FINANCE RESEARCH LETTERS	4
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	4
SOCIAL RESPONSIBILITY JOURNAL	3
JOURNAL OF MANAGEMENT & GOVERNANCE	3
ACCOUNTING AND FINANCE	3
JOURNAL OF MANAGEMENT & ORGANIZATION	2
CORPORATE GOVERNANCE-THE INTERNATIONAL JOURNAL OF BUSINESS IN SOCIETY	2
EUROMED JOURNAL OF BUSINESS	2
JOURNAL OF INTERNATIONAL FINANCIAL MARKETS INSTITUTIONS & MONEY	2
JOURNAL OF ACCOUNTING IN EMERGING ECONOMIES	2
BRITISH ACCOUNTING REVIEW	2
OTHERS (32 journals with one published paper each)	32

Source: our elaboration

Regarding the method adopted by the papers, most articles (around 91%) use a quantitative method to analyze the relationship between corporate females and environmental performance at a business level. Only 2% used a qualitative approach, while the remaining part (7%) adopted a mixed approach based on both qualitative and quantitative methods.

The corporate female leadership: what aspects have been considered?

We found in our sample that multiple dimensions of corporate female leadership have been explored, such as the presence of females on board, the female CEO, or the presence of females in other top management roles. Most analysed studies focused on the female board of directors' dimension (around 80% of the papers). Another part of the papers considers both females on board and females in top management aspects in the same study (10% of the sample's studies), "while a minor part of the sample investigated the female in the top management dimension (9%), "or the female on board and female advisors' dimensions together in the same study (one single paper).

The environmental performance: what aspects have been considered?

There are multiple variables that the 128 papers have been used to measure environmental performance.

We include a summary of environmental performance dimensions based on our elaboration and some examples in Table 2:

Table 2. The environmental performance dimensions

<i>Environmental performance: dimensions</i>	<i>Examples</i>
Indexes/ratings used as proxies of the environmental performance	<ul style="list-style-type: none"> <li>- Indicators of the Global Reporting Initiative (GRI)</li> <li>- Indexes of the Refinitiv Eikon database</li> <li>- Carbon Disclosure Project (CDP) score</li> <li>- Thomson Reuters ESG score</li> <li>- Thomson Reuters ASSET4 environmental pillar</li> <li>- ENVIP, environmental disclosure index</li> <li>- Sustainalytics, environmental performance score</li> <li>- MSCI ESG STATS</li> <li>- VigeoEiris environmental score</li> </ul>
Climate change	<ul style="list-style-type: none"> <li>- Carbon emissions (CO2 or GHG emissions)</li> <li>- Disclosure on carbon aspects</li> <li>- Carbon performance</li> </ul>
Resource use	<ul style="list-style-type: none"> <li>- Water consumption</li> <li>- Energy consumption</li> <li>- Renewable energy use</li> <li>- Resource management</li> <li>- Waste management</li> </ul>
Innovation	<ul style="list-style-type: none"> <li>- Sustainable innovation</li> <li>- Eco-innovation</li> <li>- Green patents</li> <li>- Initiatives directed toward maintaining and protecting the environment</li> <li>- Environmental spending</li> <li>- Product innovation</li> <li>- Process innovation</li> </ul>
Supply chain	<ul style="list-style-type: none"> <li>- Sustainability of supply chains</li> <li>- Environmental supply chain initiatives</li> </ul>
SDG	<ul style="list-style-type: none"> <li>- Reference to Sustainable Development Goals linked to environmental aspects</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>- Preservation of biodiversity</li> <li>- Mitigation impacts on biodiversity</li> <li>- Impacts on ecosystems</li> </ul>
Certification	<ul style="list-style-type: none"> <li>- Environmental Management Systems (ISO14001)</li> </ul>
Disclosure	<ul style="list-style-type: none"> <li>- Disclosure of non-financial information</li> <li>- Disclosure of climate change aspects</li> </ul>
Other	<ul style="list-style-type: none"> <li>- Greenwashing</li> <li>- Corporate environmental misconduct/damage</li> <li>- Environmental awareness</li> <li>- Revenues from green offering</li> <li>- Other environmental initiatives</li> <li>- Etc.</li> </ul>
More environmental aspects	More environmental aspects among those indicated above are considered together

Source: our elaboration

To summarize, we found a broad representation of different variables and measures that have been analysed in the papers to represent environmental performance. Moreover, sometimes, we found that within a unique paper, multiple dimensions of environmental performance have been explored. In the case of indexes and ratings used as a proxy of

environmental performance, for example, the effect of corporate female leadership is examined with reference to multiple dimensions of the environment. The limit is that it is not possible to isolate that effect based on the single environmental measures and variables that compose the indexes.

Thematic analysis: the relationship between corporate female leadership and environmental performance.

The review shows that most of the analysed studies found a positive relationship between corporate female leadership and environmental performance at a business level. Specifically, 70% of studies argued that female leadership positively affects the environmental dimensions investigated. The investigated studies reported multiple reasons explaining the positive relationship between the two variables. For that reason, we categorized qualitatively the main motivations that the analysed papers included to explain the positive effects of corporate female leadership on environmental performance in some components: 1. High engagement of women in communication and disclosure (and/or in higher quality disclosure and reporting); 2. High sensitivity or commitment of women towards risks, environmental issues, ethical or social aspects, and more ethical behaviour; 3. The capacity of women to define relationships with the relevant community of stakeholders or to defend the interests of the relevant community and stakeholders, and other capacities of females in doing networks; 4. Women are more inclined towards environmental innovation; 5. Women can promote diverse perspectives or experiences and knowledge on board and have the capacity to take a leadership role in Corporate Social Responsibility (CSR) aspects; 6. Women have specific useful competencies, such as experience and, knowledge, and resources.

Some studies (16% of the sample) found a mixed relationship. Twelve percent of the analyzed papers do not find any effects of female leadership on environmental performance, while only a minor part of the sample (2% of the papers) found a negative relationship between women's leadership and environmental performance.

Expected results and suggestions for future research.

As the review is an ongoing process, we aim to analyse if investigated studies paid attention to the role that the presence of a critical mass of women leadership (e.g., the presence of a critical mass in the board) have in explaining the relationship between corporate female leadership and environmental performance. In any case, future research on this topic may explore more in-depth that aspect.

We will also explore if there are differences between females on board and another female leadership role (e.g., females in other top management roles) in the relationship with environmental performance.

As preliminary findings of our review highlighted, the sample of papers is mainly based on quantitative methods, future researchers may explore the investigated topic more extensively using qualitative approaches, such as case studies (Eisenhardt, 1989).

**Research limitations.** The review aims to study the relationship between corporate female leadership and a specific dimension of sustainable performance, the environmental one. This study does not deeply explore the other dimensions of sustainability, namely, the economic and social ones. Our main findings are thus only generalizable to some dimensions of sustainability performance. For those reasons, the replication of the review for social and economic dimensions of sustainability performance would be suggested.

Moreover, the review is based on a qualitative analysis of the sample of papers. A review of the effects of corporate female leadership on environmental performance based on different methods, i.e., on quantitative methodologies, can be carried out.

**Managerial implications.** The study has some important implications for companies and policymakers. Our review shed light on the effects of female corporate leadership on environmental performance. Most analysed papers highlighted that women in leadership roles positively impact companies' environmental performance. Understanding that a higher level of gender diversity representation in the top management has positive effects at the business level may encourage companies to promote gender diversity in their organizations. Managers should also focus more on specific governance strategies and mechanisms to address environmental issues. Moreover, our findings may interest legislators and regulators in considering setting quotas or incentivizing organizations to increase their gender diversity.

**Originality of the paper.** The review makes an original contribution to the literature on corporate governance and sustainability performance, as well as to the studies exploring female leadership's role in businesses. While extant similar reviews have mainly focused on the effects of female leadership on financial performance, to the best of our knowledge, no review exists on the impact of female corporate leadership on the specific environmental dimension of sustainable performance. Moreover, we offer a comprehensive review that analyses and synthesizes previous literature on the effects of female corporate leadership on environmental performance at a business level. Our review can stimulate novel research questions and aspects to be explored in that research area.

Our study also enables us to appreciate governance aspects and their effects at the intersection between the social dimensions (i.e., the gender aspects) and the environmental dimensions (i.e., environmental business performance) of sustainability.



**Acknowledgments.** *We gratefully acknowledge the Ministry of University and Research for contribution to the development of the “Sostenibilità e diseguaglianza di genere. PRO3 Università, Politica, Economia.” project as part of the joint programme “Le Scuole Superiori ad Ordinamento Speciale: istituzioni a servizio del Paese”.*

## References

- AL-ABBADI L.H., ABU RUMMAN A.R. (2023), “Sustainable performance based on entrepreneurship, innovation, and green HRM in e-Business Firms”, *Cogent Business & Management*, vol. 10, n. 1, 2189998.
- ARORA A. (2022), “Gender diversity in boardroom and its impact on firm performance”, *Journal of Management and Governance*, vol. 26, n. 3, pp. 735-755.
- BAKER H.K., PANDEY N., KUMAR S., HALDAR A. (2020), “A bibliometric analysis of board diversity: Current status, development, and future research directions”, *Journal of Business Research*, vol. 108, pp. 232-246.
- BOSE S., HOSSAIN S., SOBHAN A., HANDLEY K. (2022), “Does female participation in strategic decision-making roles matter for corporate social responsibility performance?”, *Accounting & Finance*, vol. 62, n. 3, pp. 4109-4156.
- CHIJOKE-MGBAME A.M., MGBAME C.O., AKINTOYE S., OHALEHI P. (2020), “The role of corporate governance on CSR disclosure and firm performance in a voluntary environment”, *Corporate Governance: The International Journal of Business in Society*, vol. 20, n. 2, pp. 294-306.
- EISENHARDT K.M. (1989). Building theories from case study research”, *Academy of management review*, vol. 14, n. 4, pp. 532-550.
- GREEN C.P., HOMROY S. (2018), “Female directors, board committees and firm performance”, *European Economic Review*, vol. 102, pp. 19-38.
- HARJOTO M.A., JO H. (2011), “Corporate governance and CSR nexus”, *Journal of Business Ethics*, vol. 100, pp. 45-67.
- HYUN S., KIM J.M., HAN J., ANDERSON M. (2022), “Female executive leadership and corporate social responsibility”, *Accounting & Finance*, vol. 62, n. 3, pp. 3475-3511.
- KHAN M., GHOURI A.M. (2022), “Corporate social responsibility, sustainability governance and sustainable performance: A preliminary insight”, *Asian Academy of Management Journal*, vol. 27, n. 1, pp. 1-28.
- KHATIB S.F., ABDULLAH D.F., ELAMER A.A., ABUEID R. (2021), “Nudging toward diversity in the boardroom: A systematic literature review of board diversity of financial institutions”, *Business Strategy and the Environment*, vol. 30, n. 2, pp. 985-1002.
- LINNENLUECKE M.K., MARRONE M., SINGH A.K. (2020), “Conducting systematic literature reviews and bibliometric analyses”, *Australian Journal of Management*, vol. 45, n. 2, pp. 175-194.
- ROUSSEAU D.M., MANNING J., DENYER D. (2008), “11 Evidence in management and organizational science: assembling the field’s full weight of scientific knowledge through syntheses”, *Academy of Management Annals*, vol. 2, n. 1, pp. 475-515.
- SHAUKAT A., QIU Y., TROJANOWSKI G. (2016), “Board attributes, corporate social responsibility strategy, and corporate environmental and social performance”, *Journal of Business Ethics*, vol. 135, pp. 569-585.
- TERJESEN S., SINGH V. (2008), “Female presence on corporate boards: A multi-country study of environmental context”, *Journal of Business Ethics*, vol. 83, pp. 55-63.
- TRANFIELD D., DENYER D., SMART P. (2003), “Towards a methodology for developing evidence-informed management knowledge by means of systematic review”, *British Journal of Management*, vol. 14, pp. 207-222.
- YANG P., RIEPE J., MOSER K., PULL K., TEREZIN S. (2019), “Women directors, firm performance, and firm risk: A causal perspective”, *The Leadership Quarterly*, vol. 30, n. 5, 101297.

## Websites

<https://charteredabs.org/academic-journal-guide-2021/>