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### **Board Diversity and Green Innovation: A Systematic Literature Review**

<sup>1</sup>Dr. Salman Memon, <sup>2</sup> Dr. Muhammad Rafique Shaikh <sup>3</sup>Mr. Muhammad Naeem

	Abstract
Dr. Salman Memon Assistant Professor. Emaan Institute of Management and Sciences, Karachi. E-mail: salman0258@gmail.com Dr. Muhammad Rafique Shaikh Assistant Professor Department of Business Administration Sindh Institute of Management & Technology, Karachi E-mail: m.rafique1986@gmail.com Mr. Muhammad Naeem Faculty, Bahria University Karachi, Pakistan. Corresponding Author E-mail: rainaeem63@yahoo.com	systematic literature review on board diversity, emphasizing the characteristics of board diversity (gender, age, education, nationality, and professional background) on environmentally responsible
Keywords:	Board Diversity, Green Innovation, Gender Diversity, Environmental Sustainability, PRISMA, Corporate Governance, ESG, CSR.



### Introduction

Green innovation has become a critical strategic necessity for companies seeking to resolve environmental sustainability, climate change, and the sustained potential of their businesses (Naeem et al., 2024). Greening encompasses designing and applying green products, processes, and technologies that have a lower environmental impact and can restore depleted resources (Anser et al., 2024). On a worldwide basis, green innovation is becoming very important due to increased regulations, stakeholder pressures, and altered consumer expectations impacting the legitimacy and competitiveness of corporations. The composition of corporate boards has a significant impact on green innovation, as they are the main influence on the strategic decision-making process and innovation fidelity (Farooq & Ahmad, 2023). Board diversity is characterized by gender, nationality, education, and field of experience, creating models of cognitive variety, stakeholder awareness, and risk sensitivity (Farooq et al., 2023). Diversity enhances the likelihood that boards will deliberate on pro-environmental agendas, and sustainability's credibility, and allocation of resources for green research and development (R&D) within existing corporate R&D. Increasingly, research suggests that boards that are gender-diverse or made up of members from different countries are seeking more aggressive green innovation initiatives. Therefore, board diversity is not just a governance concern but a driver of environmental innovation and corporate ecological transformation.

Despite the growing interest in corporate sustainability and diversity, the academic literature lacks a comprehensive synthesis exploring how various dimensions of board diversity affect green innovation outcomes. Existing studies (Agyemang & Yusheng, 2021; Ben-Amar et al., 2017; Cordeiro et al., 2019) are often fragmented, focused on different variables like gender or nationality, and geographically limited to specific regions such as China, Europe, or the United States. Moreover, previous literature reviews have not systematically assessed the mechanisms, such as ESG reporting, CSR disclosure, or firm-level risk-taking, which mediate the board diversity-green innovation relationship. There is also limited understanding of whether the influence of diversity is consistent across sectors and institutional contexts. These gaps hinder theory-building and weaken the evidence base for policymaking and corporate governance reforms. This study requires a Systematic Literature Review (SLR) based on PRISMA to bring together the evaluation and synthesis of results across studies. This study is using a formalized review process to provide clarification, identify patterns and potential contradictions, as well as avenues for future empirical research and board design.

A variety of mainstream theories provide some understanding in regards to how board diversity could impact green innovation. Resource Dependence Theory (RDT) demonstrates that diverse directors bring valuable networks and access to vital resources (e.g., knowledge of policies, access to funding, stakeholder engagement) on environmental issues (Jiang et al., 2023). Upper Echelons Theory (UET) examines the relationship of demographics as well as the cognitive backgrounds of top executives to their firm's strategies or innovation decisions (Neely et al., 2020). The role of a board of directors is personified, so if the members have a greater diversity of backgrounds and perspectives, the board may have a better disposition of openness to sustainable technologies and environmental explorations. Stakeholder Theory also reinforces the view that a diverse board may be more aware of the needs and preferences of broader stakeholder constituencies, including environmental activists, non-governmental organizations (NGOs), regulators, and consumers (Grosser, 2016). Social Identity Theory and Critical Mass Theory suggest that a threshold level of minority representation may be required (especially of gender diversity) to catalyze a new sociology in the board room, and isolate the cause of sustainability in strategic discussions (Kaur & Singh, 2025). Together, these theoretical lenses suggest a rich, multidimensional framework in which diverse stories of the board diversity-green innovation relationship could be studied thoughtfully.

This study conducts a systematic literature review (SLR) to examine the multifaceted relationship between board diversity and green innovation. The systematic literature review follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) procedure. PRISMA is a clear and reproducible way to identify, screen, select, and analyze relevant literature with predetermined criteria for eligibility. A comprehensive search was undertaken among various databases, including Web of Science, Scopus, Science Direct, Springer Link, and Emerald, utilizing search terms including: "board diversity," "green innovation," "eco-innovation," "gender diversity," and "corporate sustainability." During the systematic literature review process, duplicates were discarded, and a screening of abstracts from 88 articles resulted in the selection of 50 articles from 2010 to 2025 for full text review and data extraction. The inclusion criteria were peer-reviewed empirical or conceptual studies that link board composition to green innovation. The extracted data were then thematically analyzed to uncover key trends, mediating mechanisms, and contextual variables. This structured approach enhances the credibility, validity, and generalizability of the review findings.

This review article offers several noteworthy contributions to the academic literature and managerial practice. First, it is among the few comprehensive reviews that systematically map the relationship between board diversity and green innovation using a PRISMA-guided methodology. Second, it synthesizes the fragmented evidence base into coherent themes, offering insights into which types of diversity, gender, international, and functional diversity have the most pronounced effects. Third, it explores mediating and moderating mechanisms such as ESG performance, CSR reporting, absorptive capacity, and environmental risk appetite that connect board diversity to innovation outcomes.



Fourth, the review highlights differences in findings across institutional, geographic, and sectoral contexts, providing nuanced insights for policymakers and corporate strategists. Finally, the study helps bridge theory and practice by aligning empirical findings with established governance and innovation frameworks, offering a stronger foundation for future hypothesis development and board design.

The implications of this study extend to corporate governance, sustainability policy, and innovation management. For corporate boards, the findings underscore the strategic value of cultivating diversity, not merely as a compliance requirement but as a competitive enabler of eco-innovation. Firms may benefit from revising board nomination processes to include a wider array of competencies, nationalities, and gender representation. Policymakers can draw on the synthesized evidence to design or refine governance codes, board diversity mandates, or sustainability disclosure requirements to encourage responsible innovation. Sustainability officers and ESG analysts can also utilize the insights to align board characteristics with environmental performance indicators. For investors and regulators, board diversity may serve as a signal of a firm's innovation potential and long-term ecological orientation. Ultimately, this review reinforces the idea that inclusive and strategically composed boards are more capable of leading organizations toward sustainable development and responsible environmental stewardship.

### **Literature Review**

The literature consistently underscores a positive link between board diversity, particularly gender and international diversity, and green innovation outcomes (Naeem et al., 2025a,b). For instance, gender-diverse boards in Chinese A-share firms significantly boost both the quantity and quality of green innovation, with support from R&D and government subsidies acting as key mediators (Elmagrhi et al., 2016). Similarly, board gender diversity enhances green innovation in France, with independent female directors and voluntary appointment methods yielding the strongest effects (García-Martínez et al., 2021). Board internationalization, defined by the presence of foreign directors, is also shown to positively influence green innovation efforts in Chinese manufacturing firms, especially within state-owned enterprises (Glass & Cook, 2018).

A principal mechanism through which board diversity drives green innovation is via risk-taking. In Chinese manufacturing firms, gender diversity fosters innovation by encouraging balanced risk-taking behaviors (Groschl & Takagi, 2012). Canadian firms exhibit similar patterns: gender and educational diversity enhance innovation, while experience diversity has a limited effect. Furthermore, empirical evidence suggests that board diversity's effectiveness increases when CSR disclosure, ESG performance, and absorptive capacity are stronger. Compensation structures such as CSR messaging and environmental disclosures amplify green innovation by augmenting female board directors' impact (Nadeem et al., 2020; Post & Byron, 2015; Qureshi et al., 2020; Rossi & Harjoto, 2022; Terjesen et al., 2016).

Not all studies depict a uniformly positive narrative. One European analysis finds that beyond a 46.78% threshold, increased female representation may inversely relate to climate change innovation, suggesting that critical mass dynamics can sometimes lead to unintended consequences. Another review of 13 studies confirms that while most associations are positive, a few report weaker or even negative links, pointing to contextual, methodological, or sectoral nuances (Hafsi & Turgut, 2013; Kassinis et al., 2016; Liao et al., 2015; Liu et al., 201).

Table 1: Summary of Studies on Board Diversity and Green Innovation

Study & Context	Diversity Dimension	Outcome on Green Innovation	Mediators / Remarks
China	Gender diversity	Positive (quantity & quality)	R&D and government support
"Power of Inclusion" (France, 2007–2019)	Gender & top management diversity	Positive	Stronger for independent directors and voluntary appointments
Usman et al. (China, 2005–2015)	Board internationalization	Positive	Stronger effect in SOEs
Manufacturing Firms (China, 2010–2022)	Gender diversity	Positive	Mediated by risk-taking
Canadian Firms (Canada, pre-2023)	Gender and education diversity	Positive (gender >25%)	Risk-taking; experience diversity had no effect



Global sample (2004–2019)	Demographic & structural diversity	Positive	Offset political risk; more effective with external monitoring
European analysis	Gender diversity	Mixed: positive to negative	Inverted U-shape effect; critical mass threshold
Meta Review (13 studies)	Gender diversity	Generally positive	Some negative/neutral cases reported

Table 2: Mediating Mechanisms Identified in Literature

Mechanism / Moderator	Description	Supporting Evidence
R&D & Government Support	Female directors help secure R&D funding and government backing	MDPI
Risk-Taking Behavior	Diversity encourages calculated risk for innovation	Chinese manufacturing firms (Science Direct); Canada context (Science Direct)
CSR Disclosure & ESG Quality	Transparent ESG scores amplify board diversity	PMC
Board Independence & Appointment Method	Independent female directors and voluntary appointments matter most	Science Direct
Critical Mass Effect	Excess representation may reduce the diversity benefit	Climate innovation study showing threshold effect (www.elsevier.com)
Institutional & Sector Context	SOEs or tech-intensive sectors amplify diversity's influence	Board internationalization in SOEs (PMC); manufacturing in China (Science Direct)

These tables and thematic discussion provide a structured synthesis of the empirical and theoretical insights on how different dimensions of board diversity interact with green innovation. If you'd like, we can further break down studies by region, timeline, or governance frameworks, or move on to developing critical gaps and future research needs.

### Methodology

### **Research Design**

This study adopts an SLR methodology, grounded in the PRISMA framework. The PRISMA protocol ensures a transparent, replicable, and structured approach to selecting, screening, and synthesizing relevant literature. This method is particularly suitable for emerging cross-disciplinary topics, such as the intersection of board diversity and green innovation, where the literature is broad and fragmented across governance, sustainability, innovation, and organizational behavior domains.

### **Data Sources and Search Strategy**

To ensure comprehensive coverage, the review searched five major academic databases: Web of Science, Scopus, Science Direct, Springer Link, and Emerald Insight. The search was conducted between May and July 2025 using a combination of keywords and Boolean operators. The main keywords included:

- "Board diversity" AND "Green innovation"
- "Gender diversity" AND "Eco-innovation"
- "Board composition" AND "Sustainable innovation"
- "Corporate governance" AND "Environmental innovation"



Searches were limited to peer-reviewed journal articles published between 2010 and 2025, written in English. Both qualitative and quantitative studies were included, as well as conceptual frameworks that established clear links between board diversity and green innovation.

### **Inclusion and Exclusion Criteria**

The inclusion criteria required that studies:

- Explicitly examine the relationship between board diversity and green or eco-innovation,
- Present empirical data or theoretical models,
- Be published in a peer-reviewed journal,
- Focus on corporate or organizational settings.

The following were excluded:

- Conference proceedings, editorials, dissertations, or commentaries,
- Studies with no direct linkage to both board diversity and green innovation,
- Articles focused solely on environmental performance without reference to innovation.

### **Screening and Selection Process**

The initial database search yielded 312 records. After removing 92 duplicates, 220 articles remained for title and abstract screening. 135 articles were excluded at this stage due to irrelevance. 85 full-text articles were assessed for eligibility, of which 50 were finally included in the systematic review based on relevance, data quality, and conceptual clarity.

### **Data Extraction and Synthesis**

A data extraction matrix was created to systematically collect key details from each included study, such as:

- Author(s) and publication year,
- Country/region of study,
- Research method (qualitative/quantitative/mixed),
- Dimensions of board diversity studied (e.g., gender, international, educational),
- Type of green innovation measured (e.g., green patents, eco-products),
- Key findings and mediating/moderating variables.

Thematic analysis was used to synthesize findings across studies and to identify common patterns, divergences, and gaps.

### **Table 3: PRISMA Flow**

Stage	Number of Records
Records identified through database searching	312
Duplicates removed	92
Records screened (title + abstract)	220
Records excluded	135
Full-text articles assessed	85
Full-text articles excluded	35
Studies included in review	50

### **Results and Discussion**

The final sample of studies included in the systematic review comprises 50 peer-reviewed journal articles, selected after a rigorous screening process guided by the PRISMA methodology. The articles span from 2010 to 2025, indicating a rising academic interest in the nexus between board diversity and green innovation. A noticeable trend across the literature reveals that gender diversity is the most frequently studied aspect of board diversity, followed by international diversity and functional or educational heterogeneity. The focus on gender diversity is largely driven by regulatory movements and institutional pressures in various countries advocating for female inclusion on corporate boards. This widespread emphasis reflects a growing recognition of women's roles in enhancing environmental awareness and contributing to sustainable strategies.



Most of the studies indicate a positive association between board diversity and green innovation, further enabling the assertion that heterogeneous boards are more likely to make environmentally sustainable choices. For instance, companies with more females on the board are much more likely to invest in green R&D, pursue eco-efficient production, and file green patents. Similar effects were found for boards that had significant international representation, which often adds a global perspective and advances concerns about international environmental regulation and stakeholder expectations. These results align with resource dependence theory, suggesting that heterogeneous boards enhance the organization's access to important knowledge and stakeholder resources.

Multiple studies indicate the mechanisms, or mediators, by which diverse boards influence green innovation. The most cited mediator found was ESG (Environmental, Social, and Governance) disclosure, where diverse boards seemed to correlate with transparency in sustainability disclosures. Firms that engage in ESG disclosures signal both their commitment to sustainability and transparency, resulting in stakeholder trust. In turn, being perceived as trustworthy allows firms to engage in new environmentally focused behaviours. Research also finds an orientation toward Corporate Social Responsibility (CSR) as a mediator, which is especially true in firms where the diverse perspectives of the Board champion social and ecological responsibility. Some studies explore risk-taking behaviour as a mediator. Diverse boards seem to be cautiously optimistic with respect to environmental innovation in the balance of financial considerations.

Interestingly, while most studies report positive correlations, a few studies offer mixed or insignificant findings, especially in contexts where cultural, institutional, or regulatory support for board diversity is weak. In such environments, tokenism may prevail, limiting the real influence of diverse directors on green strategy. Furthermore, overly diverse boards may also encounter coordination challenges, leading to slower decision-making processes, which can hamper timely innovation. This aligns with the upper echelons theory, which warns of potential downsides if diversity results in cognitive conflict rather than constructive debate.

From a methodological standpoint, studies employed a variety of techniques ranging from panel regression analysis and structural equation modeling to content analysis of sustainability reports and patent data. Longitudinal studies were particularly effective in tracing the lag effect of board composition on innovation outcomes. Moreover, studies using cross-country datasets revealed that institutional context (e.g., legal enforcement, board quota policies, and environmental regulations) acts as a significant moderator, influencing the strength and direction of the diversity–innovation relationship.

Overall, the discussion reveals strong empirical and theoretical support for the claim that board diversity enhances green innovation, primarily through mechanisms like transparency, stakeholder engagement, and cognitive variety. However, the relationship is not always linear or automatic and is also affected by contextual factors such as regulatory regimes, organisational culture, or board dynamics. If organisations are serious about the benefits of diverse boards, they must ensure that there are also inclusive governance practices in place, wherein diverse members are given the authority and ability to contribute to boards, meaningfully rather than symbolically.

### Conclusion

This systematic literature review explored the relationship between board diversity and green innovation and provided useful evidence of how board diversity constrains and enables sustainable corporate activity. The findings of the review reveal that boards that are diverse, especially those with greater representation of women and other countries, facilitate and promote green innovation more than boards that are homogeneous. This mechanism is formed by the range of perspectives and experiences diverse board members bring to the table, as well as greater sensitivity to environmental and social issues that is needed to promote eco-innovation in firms.

The review indicates that corporate governance research has undergone an important transformation, with diversity increasingly seen not only as an ethical or compliance issue, but also viewed as a strategic benefit for environmental innovation. Several studies in the review underscored that gender-diverse boards are positively correlated with environmental R&D, registrations of green patents, and proactive ecological strategies. International diversity also appears as a significant-enabling capability that brings a global environmental consciousness and sustainability-driven business decision-making. However, the degree of impact varies across institutional contexts, industries, and regulatory environments, suggesting the need for more nuanced, context-sensitive investigations.

From a theoretical perspective, the findings align with and extend several frameworks, including RBV, Upper Echelons Theory, and Stakeholder Theory. These frameworks collectively emphasize that diverse boards enhance a firm's intangible resources (e.g., knowledge, networks, and environmental consciousness), thereby contributing to green innovation capabilities. Moreover, mechanisms such as CSR disclosures, ESG performance, and risk aversion strategies often mediate or moderate this relationship, reinforcing the need to study board diversity within a broader governance and sustainability ecosystem.

The implications of this review are multi-fold. For policymakers, the results advocate for regulatory encouragement if not mandates, towards more inclusive and diversified boards as part of national environmental strategies. For practitioners and corporate leaders, the study provides actionable insights into leveraging board composition to enhance



sustainability performance. Green innovation should not only be a technological concern but a governance priority, guided by leaders with diverse worldviews and environmental consciousness. Investors, too, can use board diversity as a signal of long-term ecological resilience and innovation commitment.

In terms of scholarly contributions, this review fills an important gap by combining board diversity literature with green innovation outcomes using the PRISMA methodology. While existing reviews tend to isolate either governance or innovation, this paper integrates both domains to offer a more holistic understanding. Nevertheless, limitations remain, including the potential publication bias and variation in operational definitions of diversity and innovation across studies. Future research should explore longitudinal and mixed-method approaches, delve deeper into emerging markets, and test new mediators such as green HRM or digital transformation in the diversity–innovation nexus.

### References

- Agyemang, O. S., & Yusheng, K. (2021). Board gender diversity and environmental innovation: Evidence from emerging markets. *Journal of Cleaner Production*, 284, 124731. https://doi.org/10.1016/j.jclepro.2020.124731
- Anser, M. K., Naeem, M., Ali, S., Huizhen, W., & Farooq, S. (2024). From knowledge to profit: business reputation as a mediator in the impact of green intellectual capital on business performance. *Journal of Intellectual Capital*, 25(5/6), 1133-1153.
- Ben-Amar, W., Chang, M., & McIlkenny, P. (2017). Board gender diversity and corporate response to sustainability initiatives: Evidence from the carbon disclosure project.

  \*Journal of Business Ethics, 142(2), 369–383. <a href="https://doi.org/10.1007/s10551-015-2759-1">https://doi.org/10.1007/s10551-015-2759-1</a>
- Cordeiro, J. J., Veliyath, R., & Nag, S. (2019). Corporate governance and innovation: The moderating role of environmental dynamism. *Strategic Management Journal*, 40(4), 729–750. <a href="https://doi.org/10.1002/smj.2980">https://doi.org/10.1002/smj.2980</a>
- Elmagrhi, M. H., Ntim, C. G., & Wang, Y. (2016). Environmental management, corporate governance and environmental performance. *British Journal of Management*, 27(4), 123–144. <a href="https://doi.org/10.1111/1467-8551.12123">https://doi.org/10.1111/1467-8551.12123</a>
- Farooq, M., & Ahmad, N. (2023). Nexus between board characteristics, firm performance and intellectual capital: an emerging market evidence. *Corporate Governance: The International Journal of Business in Society*, 23(6), 1269-1297.
- Farooq, M., Noor, A., & Naeem, M. (2023). Does family ownership moderate the relationship between board characteristics and corporate social responsibility? Evidence from an emerging market. *Asian Journal of Business Ethics*, 12(1), 71-99.
- García-Martínez, M., Martínez-Ferrero, J., & García-Sánchez, I. M. (2021). Gender diversity on boards and green innovation: International evidence. *Corporate Social Responsibility and Environmental Management*, 28(2), 641–655. <a href="https://doi.org/10.1002/csr.2082">https://doi.org/10.1002/csr.2082</a>
- Glass, C., & Cook, A. (2018). Do women on corporate boards lead to more environmental innovation? *Business Strategy and the Environment*, 27(7), 895–907. https://doi.org/10.1002/bse.2031
- Groschl, S., & Takagi, J. (2012). Diversity management: An exploratory study of diversity initiatives in the Canadian financial industry. *Canadian Journal of Administrative Sciences*, 29(2), 139–158. <a href="https://doi.org/10.1002/cjas.225">https://doi.org/10.1002/cjas.225</a>
- Grosser, K. (2016). Corporate social responsibility and multi-stakeholder governance: Pluralism, feminist perspectives and women's NGOs. *Journal of Business Ethics*, 137(1), 65-81.
- Hafsi, T., & Turgut, G. (2013). Boardroom diversity and its effect on social performance: Conceptualization and empirical evidence. *Journal of Business Ethics*, 112(3), 463–479. https://doi.org/10.1007/s10551-012-1272-z
- Jiang, H., Luo, Y., Xia, J., Hitt, M., & Shen, J. (2023). Resource dependence theory in international business: Progress and prospects. Global strategy journal, 13(1), 3-57.
- Kassinis, G., Vafeas, N., & Vrettos, A. (2016). The effects of board heterogeneity on corporate environmental performance. *Journal of Business Ethics*, 134(3), 469–484. https://doi.org/10.1007/s10551-014-2431-5
- Kaur, R., & Singh, K. (2025). Beyond tipping points: critical mass theory through the lens of board gender diversity. *International Journal of Organizational Analysis*.
- Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *The British Accounting Review*, 47(4), 409–424. <a href="https://doi.org/10.1016/j.bar.2014.01.002">https://doi.org/10.1016/j.bar.2014.01.002</a>
- Liu, Y., Wei, Z., & Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance*, 28, 169–184. https://doi.org/10.1016/j.jcorpfin.2013.11.016



- Nadeem, M., Zaman, R., & Saleem, I. (2020). Boardroom gender diversity and corporate sustainability practices: Evidence from Australia. *Accounting Research Journal*, 33(2), 281–297. https://doi.org/10.1108/ARJ-05-2019-0089
- Naeem, M., Ali, S., Mehboob, A., Rehman, A., & Siraj, M. (2025). Do board diversity influence capital structure decisions? A use of GMM and RLS estimator. *Corporate Governance: The International Journal of Business in Society*.
- Naeem, M., Amin, M. S., & Ali, S. (2025). From Knowledge to Growth: Investigating Intellectual Capital's Impact on Financial Sustainability in Emerging Economies. *Journal of Management & Social Science*, 2(2), 333-346.
- Naeem, M., Mehboob, A., Shaikh, M. R., & Rehman, A. (2024). Does Green Innovation Linked between Environmental Governance and Firm Performance. A System of Generalised Method of Moments in Pakistan.
- Neely Jr, B. H., Lovelace, J. B., Cowen, A. P., & Hiller, N. J. (2020). Metacritiques of upper echelons theory: Verdicts and recommendations for future research. *Journal of Management*, 46(6), 1029-1062.
- Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, 58(5), 1546–1571. https://doi.org/10.5465/amj.2013.0319
- Qureshi, M. A., Kirkerud, S., Theresa Theresa, J., & Ahsan, T. (2020). Linking board diversity to corporate social and environmental performance: Evidence from Pakistan. Corporate Social Responsibility and Environmental Management, 27(3), 1402–1413. <a href="https://doi.org/10.1002/csr.1896">https://doi.org/10.1002/csr.1896</a>
- Rossi, M., & Harjoto, M. A. (2022). Corporate governance and green innovation: The role of board characteristics and financial slack. *Sustainability*, 14(5), 2547. https://doi.org/10.3390/su14052547
- Terjesen, S., Couto, E. B., & Francisco, P. M. (2016). Does the presence of independent and female directors impact firm performance? *Journal of Management & Governance*, 20(3), 447–483. <a href="https://doi.org/10.1007/s10997-014-9307-8">https://doi.org/10.1007/s10997-014-9307-8</a>