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Investigating the Impact of Board Gender Diversity on Firm Performance and Risk Management: The Moderating Role of CEO Education, CEO Power, and Institutional Investors

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Abstract

This study aims to investigate the impact of board gender diversity on firm performance and risk management, with a focus on the moderating effects of CEO education, CEO power, and institutional investors, in companies listed on the Tehran Stock Exchange. The statistical sample includes 116 companies listed on the Tehran Stock Exchange over the period from 2018 to 2022. The models employed in this study are multivariate linear regression models, analyzed using EViews 10 software. The hypothesis testing results indicate a significant and negative relationship between board gender diversity and financial performance (return on assets). There is a significant and positive relationship between board gender diversity and financial performance (return on equity). No significant relationship was found between board gender diversity and financial performance (Tobin's Q). A significant and positive relationship was identified between board gender diversity and economic performance (market value added and economic value added). Moreover, there is a significant and positive relationship between board gender diversity and non-financial performance (corporate social responsibility). However, no significant relationship was found between board gender diversity and other non-financial performance indicators (innovation, employee growth, internal process factor, customer factor, and learning and growth factor). Additionally, no significant relationship was observed between board gender diversity and risk management (operational risk, reporting risk management, and strategic risk management). There is, however, a significant and positive relationship between board gender diversity and risk management regarding non-compliance with laws and regulations.

Keywords: Board gender diversity, Institutional investors, Performance, CEO power, Risk management.

1. Introduction

The characteristics of the board of directors, as an inherent and central element of corporate governance, have consistently attracted broad research interest (Wang et al., 2024). Organizational performance evaluation is considered a process through which an organization is assessed at specified intervals, and its strengths and weaknesses are systematically identified. Given global competition, performance evaluation is essential for organizational survival, and attention to performance measurement is regarded as a starting point for the development process (Khodadadi & Esmaeilzadeh, 2020).

The most widely used enterprise risk management framework (Beasley et al., 2014) was developed by COSO (2004), which defines enterprise risk management as follows: enterprise risk management is a process executed by the company's board of directors, management, and other personnel and is used in strategy-setting and across the enterprise to identify potential events

that may affect the entity, manage risk within its risk appetite, and provide reasonable assurance regarding the achievement of the entity's objectives (Fil Saraei, 2024).

In recent decades, the role and influence of women in organizations and companies have garnered serious attention from researchers, investors, policymakers, and even governments (Wang et al., 2024; Wang et al., 2022). Likewise, over the past two decades, the presence and impact of women in organizations and companies have been seriously considered by researchers, investors, policymakers, and governments (Khani et al., 2021). In recent years, relatively new approaches have emerged regarding the employment of women in important and even sensitive positions, a trend observable in Iran from the ninth administration onward. Examples of this approach include the appointment of women as ministers, vice presidents, and spokespersons for the Ministry of Foreign Affairs. In this context, advocates for women's presence in the public sphere argue that gender diversity enhances performance and creativity within groups (Kahloul et al., 2022). Additionally, in parallel with global transformations regarding women's participation, the number of women holding senior managerial positions has increased significantly in recent years (Khodadadi & Esmaeilzadeh, 2020; Michel & Stéphane, 2023). The growing presence of women in managerial structures has attracted researchers' interest in exploring how male and female managers relate to various organizational behaviors (Jiang et al., 2022).

In general, the main responsibilities of the CEO are determined by the board of directors or the entities that appointed them. The CEO is tasked with formulating the company's business strategies based on the nature of the organization's activities and reporting to the board of directors or the annual general meeting. Typically, the board appoints the CEO for a specified term and, based on their performance evaluation, decides whether to retain (extend the term) or replace the CEO (Taghavi Moghadam & Shams, 2021).

Fil Saraei (2024) found that companies with board gender diversity exhibit lower investment inefficiency than those without such diversity, and the presence of female directors on the board has a negative relationship with investment inefficiency. Furthermore, board independence moderates the relationship between board gender diversity and investment inefficiency, whereas CEO tenure does not moderate this relationship (Fil Saraei, 2024). Moghaddam (2024) discovered that financial statement comparability and the presence of a female board member have a significant negative effect on financial statement distortions. Moreover, managerial ability intensifies the negative relationship between the comparability of financial statements and board gender diversity with financial reporting distortions (fraudulent financial reporting) (Moghadam, 2024). Panahi et al. (2023) reported that CEO power has a significant and direct impact on managerial risk-taking. Additionally, variables such as institutional ownership and board independence moderate this relationship, while CEO compensation does not play a significant moderating role (Panahi et al., 2023). Wang et al. (2024) demonstrated a significant negative effect of board gender diversity on firm performance, with female directors significantly and negatively influencing firm performance. This adverse correlation is more pronounced in smaller firms, firms with higher leverage and lower institutional ownership, and consumer-focused regulated industries, especially prior to the COVID-19 pandemic (Wang et al., 2024).

Thus, previous studies have typically examined only one moderating variable. In contrast, the present study incorporates multiple moderating variables, including CEO education, CEO power (compensation, tenure, and ownership), and institutional investors. Another innovation of this study lies in its categorization of the dependent variable of performance into financial, economic, and non-financial performance, whereas prior research has generally limited performance measurement to financial indicators such as return on assets and return on equity. In light of the above, the central question of this study is whether there is a significant relationship between board gender diversity and firm performance and risk-taking criteria. Moreover, does CEO education, CEO power, and institutional investor presence significantly influence the relationship between board gender diversity and firm performance and risk management indicators?

2. Methods and Materials

This study employed a quantitative, applied research design using a panel data approach to examine the relationship between board gender diversity and various dimensions of firm performance and risk management. The statistical population included all companies listed on the Tehran Stock Exchange, and a systematic elimination method was used to select the sample,

resulting in 116 companies observed over the five-year period from 2018 to 2022, generating 590 firm-year observations. Data were collected from audited financial statements and board reports available on official financial databases. To analyze the data, panel data regression models were estimated using both fixed and random effects approaches based on the results of the F-Limer and Hausman tests. The study utilized multiple linear regression models for each dependent variable, including financial performance (ROA, ROE, Tobin's Q), economic performance (MVA, EVA), non-financial performance (CSR, innovation, employee growth, internal process, customer, and learning and growth factors), and risk management dimensions (operational, reporting, compliance, and strategic risk). Moderating effects of education, CEO power, and institutional ownership were tested through interaction terms. All analyses were conducted using Stata 17 software.

Introduction and Examination of Research Variables

The independent variable is board gender diversity, which is coded as 1 if the company's board has at least one female director and 0 otherwise (Gilani Niay Someh Sarai & Alizadeh, 2021; Wang et al., 2022).

The **dependent variables** are firm performance and risk management. Performance is divided into three categories: financial performance, economic performance, and non-financial performance.

Financial performance includes:

- Return on Assets (ROA), calculated by dividing earnings before interest and taxes (EBIT) by total assets (Wang et al., 2024; Zhang et al., 2020).
- Return on Equity (ROE), derived by dividing net profit by average shareholders' equity (Khodadadi & Esmaeilzadeh, 2020; Wang et al., 2024).
- Tobin's Q, defined as the ratio of the market value of the firm to the book value or replacement value of its assets.

Economic performance is assessed using:

- Market Value Added (MVA), the difference between the market value of shareholders' equity and its book value.
- Economic Value Added (EVA), which represents residual income after deducting the cost of capital.

Non-financial performance includes corporate social responsibility (CSR), innovation, employee growth, internal processes, customer-related factors, and learning and growth components.

Corporate Social Responsibility (CSR) is measured based on three dimensions—employees, product characteristics, and the environment—following the model proposed by Mishra et al. (2011): a) Employee disclosure score: Assigned 1 if the company holds OHSAS 18001 certification, otherwise 0. b) Product quality disclosure score: Assigned 1 if the company holds ISO 9001 certification, otherwise 0. c) Environmental disclosure score: Assigned 1 if the company holds ISO 14001 certification, otherwise 0 (Rahmanian Koshkaki & Imanroui, 2021).

CSR is then calculated using the following formula:

CSR = emp + prc + env

Innovation: In this study, innovation is measured by assigning 1 if the company has introduced a new product compared to the previous year, and 0 otherwise. Innovation data are collected from the board of directors' activity reports.

Employee Growth: Based on Choi & Gippert (2019), it is calculated as the natural logarithm of the number of employees in the current year minus the natural logarithm of the number of employees in the previous year (Taghavi Moghadam & Shams, 2021).

Internal Process Factor: Identifies key internal processes the organization must improve. This variable comprises normal waste, maintenance costs, bad debts, and executive bonuses.

Customer Factor: Reflects aspects of market and customer relations. It is derived from total product/service cost, returned goods, and after-sales services.

Learning and Growth Factor: This includes the ratio of R&D expenses to the number of employees and the ratio of sales to R&D expenses.

Risk Management: Based on the COSO (2004) model, it includes:

- **Operational Risk Management**: Measured by asset turnover, defined as sales over total assets, indicating operational efficiency.

- **Reporting Risk Management**: Measures the reliability of financial reporting using the relative ratio of the absolute value of normal accruals to the sum of normal and abnormal accruals.
- **Compliance Risk Management**: Defined as the ratio of audit fees to total assets.
- **Strategic Risk Management**: Defined as the ratio of firm sales to industry average sales (Rouzbahani Pari & Ramezani, 2022).

Moderating Variables: a) **Education**: Measured by the average education level score, where 1 = high school or below, 2 = associate degree, 3 = bachelor's degree, 4 = master's degree, and 5 = doctorate (Cho et al., 2021).

b) **Institutional Ownership**: Calculated by dividing the total common shares held by all institutional owners by the total outstanding common shares at year-end (Özgür Özdemir, 2020).

c) **CEO Power**: Composed of three indicators—CEO compensation, tenure, and ownership:

- **CEO Compensation**: A dummy variable equal to 1 if the CEO's compensation exceeds the sample median, and 0 otherwise (Anoshirvani & Saedi, 2018).
- **CEO Tenure**: The number of years the CEO has served on the board; coded as 1 if tenure is above the sample median, 0 otherwise (Anoshirvani & Saedi, 2018).
- **CEO Ownership**: The ratio of shares held by the CEO to total company shares (Tavangar Hamzeh Kolai & Eskafi Asl, 2018). If this ratio is above the sample median, the value is 1; otherwise, 0.

Each indicator yields a score of 0 or 1 for the CEO. The total CEO power index is the sum of these three scores, ranging from 0 to 3, where a higher score indicates greater power.

Control Variables: Other board characteristics include firm size, board size, board independence, financial leverage, market-to-book ratio, and firm investment.

- **Firm Size**: Calculated as the natural logarithm of total company sales (Rahmanian Koshkaki & Imanroui, 2021).
- **Board Size**: If the number of board members is five, coded as 0; otherwise, 1 (Hamidian et al., 2021).
- **Board Independence**: The ratio of non-executive directors to total board members (Hamidian et al., 2021).
- **Financial Leverage**: The ratio of total liabilities to total assets (Zhang et al., 2020).
- **Market-to-Book Ratio**: The ratio of the market value of a share to the book value of shareholders' equity (Khodadadi & Esmaeilzadeh, 2020).
- **Firm Investment**: The ratio of the change in fixed assets (end vs. beginning of the year) to total assets at year-end (Gilani Niay Someh Sarai & Alizadeh, 2021).

The **statistical population** includes all firms listed on the Tehran Stock Exchange. A systematic elimination method was used for sample selection. First, all firms from 2018 to 2022 were considered. Then, companies not meeting the following criteria were excluded. After applying these restrictions, 116 firms were selected as the final research sample.

Research Statistical Model:

$$\text{performance} = \beta_0 + \beta_1\ \text{NWB\_it} + \beta_2\ \text{EDUCATION\_it} + \beta_3\ \text{CEO POWER\_it} + \beta_4\ \text{IO\_it} + \beta_5\ \text{EDUCATION\_it}NWB\_it + \beta_6\ CEO\ POWER\_it\text{NWB\_it} + \beta_7\ \text{IO\_it*NWB\_it} + \beta_8\ \text{SIZE\_it} + \beta_9\ \text{LEV\_it} + \beta_{10}\ \text{BOAI\_it} + \beta_{11}\ \text{MB\_it} + \beta_{12}\ \text{CAPEX\_it} + \varepsilon\text{\_it}$$

Where performance includes financial performance, economic performance, non-financial performance, and risk management.

The model specifies:

- ROA_it: Return on Assets (Model 1)
- ROE_it: Return on Equity (Model 2)
- QTOBIN_it: Tobin's Q (Model 3)
- MVA_it: Market Value Added (Model 4)
- EVA_it: Economic Value Added (Model 5)
- CSR_it: Corporate Social Responsibility (Model 6)
- Innovation_it: Innovation (Model 7)
- Employee growth_it: Employee Growth (Model 8)

- AIP_it: Internal Process Factor (Model 9)
- CA_it: Customer Factor (Model 10)
- ALG_it: Learning and Growth Factor (Model 11)
- ORM_it: Operational Risk Management (Model 12)
- RRM_it: Reporting Risk Management (Model 13)
- NCRRM_it: Compliance Risk Management (Model 14)
- SRM_it: Strategic Risk Management (Model 15)

With:

- NWB_it = Board Gender Diversity
- EDUCATION_it = Education
- CEO POWER_it = CEO Power
- IO_it = Institutional Ownership
- SIZE_it = Firm Size
- LEV_it = Financial Leverage
- BOAI_it = Board Independence
- MB_it = Market-to-Book Ratio
- CAPEX_it = Firm Investment
- ε_it = Error Term (Residual)

3. Findings and Results

Table 1 presents descriptive findings of this study.

Table 1. Descriptive Statistics of Research Variables

Observations	Std. Deviation	Minimum	Maximum	Median	Mean	Variable
590	0.16233	-0.56	0.67	0.2100	0.2202	ROA (Return on Assets)
590	0.3261	-1.95	3.19	0.4400	0.4324	ROE (Return on Equity)
590	4.5335	0.45	38.40	3.6650	5.1309	QTOBIN (Tobin's Q)
590	3.4643	-1.90	3.60	1.5123	9.1675	MVA (Market Value Added)
590	4.391	-9.7	5.8	6.24	8.10	EVA (Economic Value Added)
590	0.3359	0.00	1.00	0.0067	0.6168	CSR (Corporate Social Responsibility)
590	0.3884	0.00	1.00	0.0000	0.1847	INNOVATION
590	0.284	0.84	1.19	1.0000	1.0008	EMPLOYEE (Employee Growth)
590	4.436	0	5.7	7.09	9.60	AIP (Internal Process Factor)
590	7.736	1.69129	1.9	3.14	2.23	CA (Customer Factor)
590	315.165	43	3986	287.00	357.30	ALG (Learning and Growth Factor)
590	0.5461	0.04	4.75	0.8900	1.0099	ORM (Operational Risk Management)
590	0.1744	0.00	1.00	0.5300	0.5496	RRM (Reporting Risk Management)
590	0.000061	0.00	0.00	0.0002	0.0004	NCRRM (Compliance Risk Management)
590	2.5950	0.00	28.29	0.2900	1.0497	SRM (Strategic Risk Management)
590	2.660	0	55	0.00	0.66	NWB (Board Gender Diversity)
590	0.9286	2.00	5.00	4.0000	3.7780	EDUCATION
590	0.831	0	3	1.00	1.46	CEO-POWER
590	3.0695	0.00	99.92	66.1950	55.6066	IO (Institutional Ownership)
590	1.6276	11.16	21.20	15.3900	15.6133	SIZE (Firm Size)
590	0.2049	0.03	1.35	0.5000	0.4911	LEV (Financial Leverage)
590	0.18015	0.0000	1.0000	0.60000	0.6496	BOAI (Board Independence)
590	1.0941	-7.84	97.55	6.5550	9.9846	MB (Market-to-Book Ratio)
590	0.2766	-0.89	0.98	0.1300	0.2121	CAPEX (Capital Expenditure)
590	0.971	1	7	5.00	4.67	BOARD SIZE

Table 2. F-Limer Test Results for Choosing Between Pooled OLS and Panel Data Method

Model	Null Hypothesis (H_0)	F-Statistic	Degrees of Freedom	p-value	Test Result
1	No significant individual effects (Pooled OLS is appropriate)	2.7241	117	0.0000	H_0 is rejected (Panel data method selected)
2	No significant individual effects (Pooled OLS is appropriate)	2.7224	117	0.0000	H_0 is rejected (Panel data method selected)
3	No significant individual effects (Pooled OLS is appropriate)	1.7310	117	0.0000	H_0 is rejected (Panel data method selected)
4	No significant individual effects (Pooled OLS is appropriate)	7.8851	117	0.0000	H_0 is rejected (Panel data method selected)
5	No significant individual effects (Pooled OLS is appropriate)	4.9320	117	0.0000	H_0 is rejected (Panel data method selected)
6	No significant individual effects (Pooled OLS is appropriate)	18.1869	117	0.0000	H_0 is rejected (Panel data method selected)
8	No significant individual effects (Pooled OLS is appropriate)	0.1032	117	0.9999	H_0 is accepted (Pooled OLS method selected)
9	No significant individual effects (Pooled OLS is appropriate)	33.0523	117	0.0000	H_0 is rejected (Panel data method selected)
10	No significant individual effects (Pooled OLS is appropriate)	4.6965	117	0.0000	H_0 is rejected (Panel data method selected)
11	No significant individual effects (Pooled OLS is appropriate)	10.7164	117	0.0000	H_0 is rejected (Panel data method selected)
12	No significant individual effects (Pooled OLS is appropriate)	15.6470	117	0.0000	H_0 is rejected (Panel data method selected)
13	No significant individual effects (Pooled OLS is appropriate)	1.0659	117	0.3200	H_0 is accepted (Pooled OLS method selected)
14	No significant individual effects (Pooled OLS is appropriate)	3.7304	117	0.0000	H_0 is rejected (Panel data method selected)
15	No significant individual effects (Pooled OLS is appropriate)	5.3509	117	0.0000	H_0 is rejected (Panel data method selected)

As shown in Table 2, at a 95% confidence level, the null hypothesis is rejected in most of the research models. Therefore, the panel data method should be used. Consequently, the Hausman test is employed for model selection.

However, in the eighth and thirteenth research models, the null hypothesis is accepted, indicating that the pooled OLS method should be applied. Hence, the Hausman test is not used in these two models.

The results of Table 2 indicate that the fixed effects method should be used for most models in the study. However, in the third, sixth, tenth, and eleventh models, the random effects method is recommended.

Table 3. Hausman Test Results for Choosing Between Fixed Effects and Random Effects Models

Model	Null Hypothesis (H_0)	X^2 Statistic	Degrees of Freedom	p-value	Test Result
1	Random effects model is appropriate	22.7657	13	0.0446	H_0 is rejected (Fixed effects model is appropriate)
2	Random effects model is appropriate	22.8686	12	0.0289	H_0 is rejected (Fixed effects model is appropriate)
3	Random effects model is appropriate	7.0550	13	0.8993	H_0 is accepted (Random effects model is appropriate)
4	Random effects model is appropriate	46.1877	13	0.0000	H_0 is rejected (Fixed effects model is appropriate)
5	Random effects model is appropriate	33.2148	13	0.0016	H_0 is rejected (Fixed effects model is appropriate)
6	Random effects model is appropriate	10.3518	13	0.6649	H_0 is accepted (Random effects model is appropriate)
9	Random effects model is appropriate	22.8850	13	0.0431	H_0 is rejected (Fixed effects model is appropriate)
10	Random effects model is appropriate	19.4140	13	0.1108	H_0 is accepted (Random effects model is appropriate)
11	Random effects model is appropriate	9.2759	13	0.7518	H_0 is accepted (Random effects model is appropriate)
12	Random effects model is appropriate	39.8132	13	0.0001	H_0 is rejected (Fixed effects model is appropriate)
14	Random effects model is appropriate	28.9607	13	0.0066	H_0 is rejected (Fixed effects model is appropriate)
15	Random effects model is appropriate	21.3454	12	0.0455	H_0 is rejected (Fixed effects model is appropriate)

- There is a significant negative relationship between board gender diversity and return on assets (ROA). Education, CEO power, and institutional ownership have a significant negative moderating effect on the relationship between board gender diversity and ROA.

- There is a significant positive relationship between board gender diversity and return on equity (ROE). Education and institutional ownership do not moderate the relationship between board gender diversity and ROE. CEO power has a significant negative moderating effect on this relationship.
- There is no significant relationship between board gender diversity and Tobin's Q. Education, CEO power, and institutional ownership do not moderate the relationship between board gender diversity and Tobin's Q.
- There is a significant positive relationship between board gender diversity and market value added (MVA). Education, CEO power, and institutional ownership do not moderate the relationship between board gender diversity and MVA.
- There is a significant positive relationship between board gender diversity and economic value added (EVA). CEO power does not moderate the relationship between board gender diversity and EVA. However, education and institutional ownership have a significant positive moderating effect on this relationship.
- There is a significant positive relationship between board gender diversity and corporate social responsibility (CSR). Education, CEO power, and institutional ownership do not moderate this relationship.
- There is no significant relationship between board gender diversity and innovation. Education, CEO power, and institutional ownership do not moderate the relationship between board gender diversity and innovation.
- There is no significant relationship between board gender diversity and employee growth. Education has a significant negative moderating effect, while CEO power has a significant positive moderating effect. Institutional ownership does not moderate this relationship.
- There is no significant relationship between board gender diversity and internal process factor. Education has a significant positive moderating effect, while CEO power has a significant negative moderating effect. Institutional ownership does not moderate this relationship.
- There is no relationship between board gender diversity and customer factor. Education has a significant positive moderating effect. CEO power and institutional ownership do not moderate this relationship.
- There is no significant relationship between board gender diversity and learning and growth factor. Education, CEO power, and institutional ownership do not moderate this relationship.
- There is no significant relationship between board gender diversity and operational risk management. Education and institutional ownership have a significant negative moderating effect on the relationship between board gender diversity and strategic risk management. CEO power does not moderate the relationship between board gender diversity and operational risk management.
- There is no significant relationship between board gender diversity and reporting risk management. Education, CEO power, and institutional ownership do not moderate this relationship.
- There is a significant positive relationship between board gender diversity and compliance risk management. Education and institutional ownership do not moderate this relationship. CEO power has a significant positive moderating effect on the relationship between board gender diversity and strategic risk management.
- There is no significant relationship between board gender diversity and strategic risk management. Education, CEO power, and institutional ownership have significant positive moderating effects on this relationship.

4. Discussion and Conclusion

A strong board structure plays a significant role in corporate governance mechanisms by reducing conflicts of interest and enhancing firm performance (Fang et al., 2020). There is a significant relationship between board gender diversity and return on equity. The findings of this study are consistent with those of Mohseni et al. (2021), who conducted research across 27 developing countries. They found that board gender diversity is negatively associated with operational and financial risk, and positively associated with firm performance. They also explored the moderating effect of culture on the gender diversity–risk-taking relationship (Mohseni et al., 2021). However, the findings of this study are not aligned with those of Khodadadi and Esmaeilzadeh (2020), who found no significant relationship between board gender diversity and return on assets or return on equity. They also found that state ownership did not mediate the relationship between board gender diversity and return on

equity, but did have a mediating and strengthening effect on the relationship between board gender diversity and return on assets (Khodadadi & Esmaeilzadeh, 2020).

According to the hypotheses related to the relationship between gender diversity and risk in this study, the results show no significant relationship between any type of risk and board gender diversity. These findings are inconsistent with those of Cho et al. (2021), who analyzed 4,079 firm-year observations from 2005 to 2016. They found that firms with greater board gender diversity were less likely to face bankruptcy risk compared to firms with lower gender diversity. More importantly, they found that higher educational attainment strengthened the negative relationship between gender diversity and bankruptcy risk (Cho et al., 2021).

It is recommended that company owners prioritize careful selection of the CEO to achieve the goal of improving firm performance. Companies can enhance overall performance by increasing gender diversity on their boards. It is suggested that specific criteria be developed to increase the participation of women in managerial positions. The implementation of training and empowerment programs for women to enhance managerial competencies and expand professional networks may help improve gender diversity and productivity.

Given the absence of a relationship between board gender diversity and risk management, future research can focus on identifying cultural, economic, or structural factors that may influence this relationship. It is recommended that companies adopt complementary strategies to improve risk management, particularly through specialized training for board members. Moreover, it is advised that policymakers and regulators, especially the Tehran Stock Exchange Organization, develop mandatory mechanisms and enforceable rules to introduce gender quotas for board membership and promote women's representation in higher organizational positions.

It is also recommended that future studies examine the subject of this research at the industry level in a disaggregated manner. This study focused on the relationship between board gender diversity and performance within the cultural context of Iran. The impact of gender diversity on firm performance may vary across different policy and cultural environments. Therefore, cross-country comparisons in future research efforts are essential. Company leaders should focus on aligning resources, expertise, and women's perspectives within corporate governance frameworks and emphasize meaningful participation of women beyond mere representation on the board.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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