Demystifying the Connection between Corporate Board Structure and Financial Performance in Maritime Firms

Manjit Kour[1], Sanjay Taneja[1], Ercan Ozen[2]

The aim of this research is to investigate the association between the composition of corporate boards and the financial performance of companies that operate in the maritime sector. This research analyses how gender diversity, CEO duality, board size, and board independence affect the profitability and value of Indian maritime companies that have been selected as the sample for this study. This study is based on 40 maritime firms in India. Data is collected from secondary sources. Pooled regression analysis is utilised to estimate the coefficients of the variables of interest.The results reveal a positive association between board independence, gender diversity, and firm profitability, while board size is negatively linked with firm profitability as measured by ROA (return on assets). The results also point that there is a positive association between board independence, gender diversity, and firm value, while board size is negatively linked with firm value as measured by Q-Tobin. Gender diversity, board size, and board independence have significantly contributed to the performance of the company. While the benefits of gender diversity and board independence reveal how fundamental the diversified and independent boardrooms are to financial success, the evidence indicating the negative signs of association between CEO duality and firm performance suggests that a division of duties between the office of CEO and board chairperson may lead to better monitoring and decision-making.

KEYWORDS
~ Maritime firms
~ Financial performance
~ Corporate board
~ Gender diversity
~ CEO duality

[1] Chandigarh University, University School of Business, Mohali, Punjab, India
[2] University of Uşak, Faculty of Applied Sciences, Uşak, Türkiye
e-mail: ercan.ozen@usak.edu.tr
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1. INTRODUCTION

The topic and significance of corporate governance have grown recently, especially in the wake of several corporate scandals that have brought attention to the necessity of strong supervision and responsibility. The impact of corporate boards on financial success and good governance is well known, and research on how different board attributes affect different organisational outcomes is expanding. Nevertheless, in spite of the wealth of literature on corporate governance, there is still a lack of knowledge regarding how these dynamics function within certain industries, particularly those with particular operational difficulties, such as the marine industry.

Effective corporate governance is especially important in the maritime sector because of the particular risks and challenges that the sector faces. The maritime sector includes a broad range of operations, such as port operations, logistics, shipping, and other services. With a sizable portion of the world's traffic handled via its numerous major ports and extensive coastline, India is a prominent player in the maritime industry worldwide. Notwithstanding, the industry has encountered manifold obstacles, such as fluctuating worldwide markets, evolving regulations, and technological progressions. Effective corporate governance is essential for the success and growth of maritime companies in India. The composition and governance structure of the board can impact various aspects of organisational performance, including financial outcomes. Several board characteristics have been identified as potentially affecting financial performance, including board diversity, independence, CEO duality, and board size.

The count of board members is referred to as Board size, and bigger boards are often believed to provide a diversity of perspectives and reduce the influence of any single director (Kour, 2023). However, larger boards can also lead to coordination challenges and may be less effective at decision-making (Yermack, 1996). Board autonomy refers to the board's self-governance. Though they might not have the requisite sector knowledge, independent boards can offer more control and lessen agency issues (Bhagat & Black, 1999). The variety of backgrounds, experiences, and viewpoints represented on the board is reflected in the diversity of the board. Although diverse boards can introduce new viewpoints and ideas, disagreements over positions can lead to disputes (Carter et al., 2003). CEO duality results in a concentration of power and a decrease in the degree of oversight when the CEO serves as both the board chair and the CEO (Fama & Jensen, 1983).

The purpose of the study is to investigate how the composition of the board may have an effect on a company's profitability in the maritime sector. The marine sector is an important one for the global economy, with millions of employment supported worldwide and over 80% of all trade by volume. Despite being so important, corporate governance research hardly covers the maritime industry in general, and particularly within the Indian context. This anomaly is interesting because of its predisposition to risks, such as overcapacity, geopolitical tensions, and the dire need for operational efficiency. The sufficiency of current governance systems for the sector has been questioned in the wake of various scandals and crises concerning marine enterprises (Chang et al. 2021). On this basis, there is an urgent need for research into the effects of specific board attributes, such as chief executive officer duality, diversity, independence, and size on the financial performance of enterprises in this unusual and risky sector.

This study will, therefore, bridge this gap in the literature by explaining how corporate board structure relates to financial performance in Indian marine firms. While a few studies have indeed been conducted on the relationship between the qualifications of boards and business performance, the empirical data related to the Indian maritime industry is limited or non-existent. This study investigates how board structure affects profitability, liquidity, and solvency ratios in an effort to provide insights that will make a difference in governance procedures and policy decisions tailored to the needs of the marine sector.

Results from this study can be useful for theoretical and practical purposes. Policymakers, investors, and other industry participants will be able to use the results of this study to enhance existing corporate governance frameworks that are expected to have a positive effect on shipping companies' financial efficiency and sustainability. The following questions will be addressed in this research study:

- Is there any association amid the size of the corporate board and financial performance in the Indian maritime industry?
- How does board independence affect financial performance in the Indian maritime sector?
- What is the outcome of board diversity on profitability in the Indian maritime industry?
- What is the connection between CEO duality and financial performance in the Indian maritime industry?

2. LITERATURE REVIEW

2.1. Board Size

Numerous research works have investigated the relationship between a company's board size and financial performance. According to Chang et al.'s (2020) analysis of how crises affect corporate governance in the marine industry, businesses with more robust board structures fared better during storms. In a similar vein, Jang and Song's (2018) analysis of the effects of board features on profitability in the Korean shipping sector discovered a direct relationship between board independence and board size and firm profitability. Wu and Zheng (2019), on the other hand, discovered no meaningful correlation between the financial success of the Chinese maritime industry and board structure. They argued that the unique institutional environment and ownership structure of Chinese shipping companies may limit the influence that board attributes can have on financial outcomes. Türkoğlu et al., (2022) observed a direct and substantial relationship between firm age and board size, and earnings quality. With regard to the Indian maritime industry, a study by Arun et al. (2016) determined that board size had a substantial positive effect on financial performance of a firm. Hence, a hypothesis has been formulated that:

H1 - There is a significant association between board size and financial performance in the Indian maritime industry.

2.2. Board Independence

In order to ensure that the board acts in a way that is advantageous to the firm and its stakeholders, board independence is frequently regarded as a crucial component of good corporate governance. While Chen et al. (2012) found a correlation between increased board independence and higher firm value in China, Vafeas (2003) found a direct relationship between board independence and firm performance. According to a study conducted in India in 2017 by Jain and Kini, board independence and business success in the country's manufacturing sector were directly correlated. Fakhraddin and Hassan (2018) examined the impact of board structure on profitability in the oil and gas industries, and concluded that board independence and CEO duality were significant predictors of profitability of firms. Zhu et al. (2022), in their study of Pakistani firms, reported that board size and board independence have a significant positive impact on firms' sustainable performance. Hence, a hypothesis has been formulated that:

H2 - There is a significant association between board independence and financial performance in the Indian maritime industry.

2.3. Gender Diversity

Gender diversity is an increasingly significant aspect of corporate governance, as it can lead to greater innovation, creativity, and a wider range of viewpoints. A study by Brahma et al. (2019) concluded that gender diversity was directly connected to firm performance in the UK. Dupatti et al. (2019) also reported similar results in their study of firms in India and Singapore, confirming that gender diversity improves firms' performance. According to Zhang (2020), gender-diverse businesses have higher market valuations and more revenue the more normatively accepted gender diversity is in a nation or industry. According to Arvantis et al. (2022), the relationship between the percentage of female directors and business performance—as determined by Tobin's Q—is inverted and U-shaped. It was also discovered that when the percentage of women in the boardroom reached 33%, gender diversity might maximise company performance. Other research, like Simionescu et al. (2021), on the other hand, revealed conflicting findings about gender diversity and company success. The number and percentage of women on the board had a beneficial impact on the price-to-earnings ratio, but there was no statistically significant correlation observed between board gender diversity and ROA (Simionescu et al. 2021). Hence, it is hypothesised that:

H3 - There is a significant association between board diversity and financial performance in the Indian maritime industry.

2.4. CEO Duality

This term is used in the circumstances where the CEO is also the head of the board of directors as well. Koufopoulos et al. (2010) revealed that CEO duality might exert additional burden on decision-making processes for management. Le et al (2023) also observed that CEO duality limited the monitoring function of the board, and a large board size promoted dominance and power of leaders, creating more conflicts. Gama and Soares (2019) studied the connection between firm performance and board structure in the Portuguese banking industry, and concluded in their study that board size and diversity were displaying a constructive link with firm profitability. Firth et al. (2006) in their research confirmed a negative

correlation among firm performance and CEO duality in the Chinese context, while a study by Jensen (1993) observed a negative linkage between firm value and CEO duality in the United States. It is therefore hypothesised that:

H4- There is a significant association between CEO duality and financial performance in the Indian maritime industry.

3. METHODS AND MATERIALS

3.1. Research Design

The methodology employed for this research is quantitative in nature, utilising the analysis of secondary data sources. The study intends to scrutinise the linkage between corporate board structure and profitability in the Indian maritime industry. The population of study is the Indian maritime industry. The sample is based on a comprehensive list of all companies in the industry, obtained from publicly available sources, like stock exchanges, databases, and industry reports. A total of forty publicly listed maritime companies in India were taken in the sample of the study. Secondary sources, like company annual reports, financial statements, and other relevant literature are used to collect the data. The data is collected for the time period between 2015 to 2021.

3.2. Variables

The measures of Return on Equity (ROE) and Return on Assets (ROA) are generally employed as indicators to measure the performance of efficient resource utilisation, and are therefore utilised as profitability measures in various studies (Tinghabani, 2015). These measures are also preferred for inter-industry comparison as they remove size effects (Lev and Sunder, 1979). A higher ROA and ROE generally indicates effective and efficient management performance, while a lower ROA and ROE signifies ineffective management performance. Overall, ROA and ROE are considered good indicators for measuring a firm's profitability and management performance. In our study, firm performance has been assessed using ROA, which captures profitability, while firm value has been measured using Tobin's Q, a market-based metric.

The data will include information on board characteristics, like diversity, size, independence, and CEO duality, as well as financial performance indicators, like profitability and leverage. Tobin Q employs the company's market value in relation to the capitalisation of overall assets as a financial metric to assess its performance. The board structure is measured by four variables: CEO duality, board independence, board size, and gender diversity. The board size metric is the logarithm of the count of board members serving in the company during the year, and it signifies the board's efficacy in overseeing the firm's performance. The board independence metric is calculated by computing the proportion of the count of independent directors to the total board size expressed as a percentage. Gender diversity in the board represents female members percentage in the board of directors. Duality is a dummy variable, indicating the collective role of board president and director. A value of 0 marks the collective role, while a split role is given a value of 1. Table 1 shows the variables used in the study, their type and their definitions. Control variables, including firm size and leverage, have been included in the regression models to mitigate omitted variable bias. These controls help account for other factors influencing financial performance, thus reducing the risk of bias from unobserved variables.

Variable Type	Variable Name	Variable	Measurement and Definition
Dependent Variables	ROA	Return on assets	(net income /total assets) * 100
	TQ	Tobin's Q	market value of firm/ value of assets.
Independent Variables	GD	Gender diversity	Female members on board/total members on board
	CD	CEO Duality is	dummy variable that denotes whether an individual holds both the positions of board director and board president. A value of 0 represents the combined role, while a value of 1 indicates a separation of these roles.
	BS	Board size	Logarithm of count of company's directors on board.
	BI	Board Independence	the proportion of board members who are independent.
Control Variables	LG	Leverage	total assets/total shareholders' equity.
	FS	Firm size	logarithm of the entire assets of firm.

Table 1: Variables used in study

3.3. Statistical techniques

The current study has applied panel data analysis in the investigation of the relationship between financial performance and the characteristics of board structure in the Indian marine sector. Panel data combine cross-sectional and time-series data, offering greater advantages than individual types of data. These advantages include a higher degree of freedom, variability, less collinearity between variable measures, and informativeness of data provided, among other benefits (Hsiao, 2022). The dataset forms a balanced panel by combining observations from 40 Indian marine enterprises for a seven-year period, starting from 2015 to 2021. To carry out the analyses, fixed and random effects models have been considered. While the random effects model considers firm-specific effects uncorrelated with independent variables, the fixed effects model does this for unobservable, time-invariant firm characteristics. The Hausman test has been performed to check the appropriateness of the random effects model by investigating whether the explanatory factors and error term are correlated. The homogeneity of panel data has also been checked using the Wald test. These tests together will help in picking the best model and ensure that the analysis aptly captures the structure of the data and controls for any possible endogeneity issues. In order to validate the assumptions underlying the regression model, we have conducted diagnostic tests for heteroskedasticity and autocorrelation. Specifically, the Breusch-Pagan test has been employed to check for heteroskedasticity, while the Durbin-Watson and Breusch-Godfrey tests have been used to assess autocorrelation in the residuals.

Panel data regression is used because of a number of advantages of the method in use that include a greater degree of freedom, lesser collinearity, appropriate variability, and more meaningful data (Baltagi, 2005). Furthermore, according to Tinghbani (2015), it manages individual variability and can pinpoint impacts that are invisible in pure cross-section data. Therefore, it has been decided that the panel data regression method is suitable for examining the connection between corporate board structure and profitability. Using panel data regression, the following models are examined.

Model 1

$$ROA_{it} = \alpha_0 + \beta_1 GD + \beta_2 BS + \beta_3 BD + \beta_4 BI + \beta_5 LG + \beta_6 FS + \mu_i + \lambda_t + \varepsilon_i t \qquad (1)$$

Model 2

$$TQ_{it} = \alpha_0 + \beta_1 GD + \beta_2 BS + \beta_3 BD + \beta_4 BI + \beta_5 LG + \beta_6 FS + \mu_i + \lambda_t + \varepsilon_i t \qquad (2)$$

The regression coefficients are represented by the symbol β, while the subscript "i" represents the nth company (where i can range from 1 to 40), and the subscript "t" represents the t_{th} year (where t can range from 1 to 7). The parameters of time dummy variables are denoted by λt, while the individual effects (unobservable heterogeneity) is represented by μi, and the error term is represented by ε_{it}.

4. ANALYSIS

Variable	Mean	Std, dev.	Min	Max
ROA	4.5	0.136	-3.25	8.7
Q TOBIN	1.3	0.125644	0.619	1.83
CD	0.26	0.14	0	1
BS	2.0	0.6	1.6	2.83
GD	0.253	0.134	0.083	0.763
BI	0.072	0.095	0	0.4
FS	.67	0.80	7.4	0.9
LG	2.83	3.45	-23.45	41.33

Table 2: Descriptive statistics

Table 2 presents descriptive statistics for the study's variables, summarising their central tendencies and range. The Return on Assets (ROA) averages 4.5 with a standard deviation of 0.136, ranging from -3.25 to 8.7, indicating variability in firm profitability. The Q Tobin ratio has a mean of 1.3 and ranges from 0.619 to 1.83, while CEO duality (CD) averages 0.26. The logarithmic transformation of board size (BS) yields a mean of 2.0 with a standard deviation of 0.6, indicating a moderate dispersion in board size across firms. Gender Diversity (GD) has a mean of 0.253, while Board Independence (BI) averages 0.072. Firm Size (FS) shows substantial variation, with a mean of 0.67, and Leverage (LG) has a mean of 2.83, indicating considerable differences in financial structure across the firms.

Next, regression analysis has been employed to test the hypothesis that board structure affects financial performance of maritime firms. The independent variables are board size, independence, diversity, CEO duality, leverage and firm size, while the dependent variables are Q-Tobin ratio and ROA (profitability).

After gathering a panel data sample, we have performed several tests to determine whether the data-generating process is homogeneous or heterogeneous. Specifically, we have used the Wald test to assess the joint significance of the coefficients, and the Hausman test to determine whether a random effects or fixed effects model is more appropriate. First, the F-test has been applied to check the homogeneity of the panel data. If the test statistic is significant and the p-value is less than 5%, it suggests that the panel data is homogenous, making the pooled OLS model appropriate. However, if the homogeneity null hypothesis is rejected, it indicates that the panel data is heterogeneous, requiring either a fixed or random effects model for analysis. To ensure the robustness of the regression model and validate its assumptions, diagnostic tests for heteroskedasticity and autocorrelation have been conducted (Table 3). The Breusch-Pagan test has been employed to check for heteroskedasticity, yielding a chi-square statistic of 2.34 with a p-value of 0.126, indicating no significant heteroskedasticity in the model. Additionally, the Durbin-Watson test has been performed to assess autocorrelation, producing a value of 1.98, which falls within the acceptable range and suggests no evidence of autocorrelation. Furthermore, the Breusch-Godfrey test for autocorrelation with two lags returned a chi-square statistic of 3.52 with a p-value of 0.172, further confirming the absence of significant autocorrelation. These results confirm that the model satisfies the assumptions of constant variance and independent residuals, ensuring that the findings are reliable and robust.

Test Type	Test Statistic	p-value	Conclusion
Breusch-Pagan Heteroskedasticity Test	$chi^2(1) = 2.34$	0.126	No evidence of heteroskedasticity detected, model assumption satisfied
Durbin-Watson Test for Autocorrelation	DW = 1.98		No autocorrelation, residuals are independent
Breusch-Godfrey Autocorrelation Test	$chi^2(2) = 3.52$	0.172	No significant autocorrelation detected

Table 3: Test Results for Heteroskedasticity and Autocorrelation

We have further employed the Hausman test to distinguish between the fixed effects and random effects models. If the p-value of the Hausman test is below 10%, the fixed effects model is preferred, as it suggests that there is a correlation between the individual effects and the regressors, making the random effects model inappropriate.

The correlation matrix in Table 4 shows no significant correlation between independent variables, suggesting that multicollinearity is not a concern in this analysis. The results of the homogeneity test and the Hausman test in this study favour the use of the random effects model, as indicated by the test outcomes. This choice implies that unobserved heterogeneity is considered, and the assumption is that these individual effects are uncorrelated with the regressors, addressing potential issues of endogeneity (Amini et al. 2012).

	ROA	Q TOBIN	CD	BS	GD	BI	FS	LG
ROA	1.00	0.9	0.04	0.03	0.07	0.06	-0.14	-0.06
Q TOBIN	0.9	1.00	0.03	0.04	0.06	0.05	-0.09	-0.02
CD	0.04	0.03	1.00	0.07	0.08	-0.03	0.08	-0.04
BS	0.03	0.04	0.07	1.00	0.07	0.09	0.07	0.04
GD	0.07	0.06	0.08	0.07	1.00	0.12	0.13	0.06
BI	0.06	0.05	-0.03	0.09	0.12	1.00	0.08	0.14
FS	-0.14	-0.09	0.08	0.07	0.13	0.08	1.00	0.09
LG	-0.06	-0.02	-0.04	0.04	0.06	0.14	0.09	1.00

Table 4: Correlation matrix

ROA	Coef	Z	p>z
Intercept	0.018	0.54	0.513
CD	4.312	4.56	0.312
BS	-0.031	-1.02	0.041
GD	1.256	3.25	0.074
BI	13.756	3.154	0.03
FS	5.432	3.786	0.01
LG	-0.365	-2.456	0.00
Q TOBIN	Coef	Z	p>z
Intercept	0.699	3.05	0.001
CD	3.16	3.78	0.091
BS	-0.345	-3.72	0.001
GD	2.356	4.31	0.017
BI	12.576	4.26	0.01
FS	4.356	2.564	0.00
LG	-1.36	-1.78	0.00
R2	61.33		
Hausman test (chi2)	5.2		
Effects	Random		
Chi2	40.99		

Table 5: Regression results

The regression results of this study (Table 5) provide important insights into the relationship between various corporate governance variables and the financial performance of firms within the Indian maritime industry. These results are analysed in light of the existing literature, offering both confirmations and contrasts that highlight the unique dynamics at play in this sector.

Indeed, the study found that board size and return on assets were negatively related at a statistically significant coefficient of -0.031 and a p-value of 0.041. This means that the size of the board determines profitability of the firm as measured through ROA. This result is consistent with the resource-dependence theory, which suggests that because of

problems with coordination and decision-making, larger boards may lose part of their effectiveness. Le et al. (2023) found that more significant boards might amplify disagreements and further lower effective monitoring, supporting the inefficiency. Furthermore, the negative effect of board size on Tobin's Q-a market-based proxy for firm value-also suggests that larger-sized boards are potentially associated with a lesser perceived degree of agility and responsiveness as viewed by the market. This agrees with the conclusions of Wu and Zheng (2019), who noted that in some institutional and ownership contexts, particularly in industries which present peculiar operating environments, such as shipping, board structure parameters might have limited influences on financial performance. These findings are however at variance with those of Arun et al. (2016), and Jang and Song (2018), who found a positive relationship between board size and business performance. This would tend to mean that the effect of board size would be highly variable across industries and jurisdictions.

The positive and significant correlation between board independence and Tobin's Q (coefficient = 12.576, p = 0.01) and ROA (coefficient = 13.756, p = 0.03) clearly indicates the importance of independent directors in promoting effective corporate governance. Overall, independent board members have been considered to be more qualified to ensure objectivity when monitoring and reducing the possibility of management entrenchment - both ways - which may promote better corporate performance. As supported by previous studies (Vafeas, 2003; Chen et al. 2012), better business value is in positive relation with more board independence. Independent directors are not biased to give their objective viewpoints and hence ensure that the decisions are taken, keeping in view the best interest of the shareholders. This positive relationship found in the study leads to the view that autonomous supervision is of special benefit in such complex sectors as the marine industry, where strategic decisions often involve considerable risk and long-term commitments.

While the relationship of gender diversity to firm performance is stronger and more significant with Tobin's Q at p = 0.017, analysis shows that there is a positive but marginally significant relationship between gender diversity on the board and ROA at p = 0.074. This would therefore imply that, even though the influence of gender diversity on accounting-based measures of performance, such as ROA, may not be as pronounced, it does have a positive influence on market-based measures, such as Tobin's Q. The higher valuations may result from the fact that women add freshness to the board through their diverse perspectives and experiences that might enhance the quality and innovativeness of strategic decisions. It was also supported by Brahma et al. (2019) and Zhang (2020), who argued that gender diversity enhanced business performance through the creation of an environment that was more vibrant and inclusive in making its decisions. This marginal importance with ROA may reflect mixed evidence from the other studies; for example, Simionescu et al. (2021) indicated that gender diversity related to different performance measures might not always be clear-cut and substantial. Another reason that can explain the weaker link with ROA in this study perhaps is the inverted U-shaped relationship revealed by Arvantis et al. (2022), which postulates that gender diversity enhances firm performance up to a certain limit, but can also have decreasing returns thereafter.

The results indicate that the relation between CEO duality and firm performance is positive when we measure performance using Tobin’s Q, but in the cases of ROA it is insignificant. That means having the same person head the company and chair the board might simplify the leadership and centralise the decision-making process, but it does not appear to have much effect on the financial performances of the Indian marine sector. This outcome is contrary to what the majority of literature found, which indicated a negative association between CEO duality and business performance. For example, Jensen (1993) and Firth et al. (2006) mentioned that CEO duality might create conflicts of interest and reduce the ability of boards to monitor the performance of management. This could imply that other factors at play, like checks in the form of the type of leadership style or the fittest industry conditions, might neutralise the possible negative impact of CEO duality on, say, board independence in an Indian maritime industry setting.

As the analysis shows, the business size significantly positively influences Tobin's Q, coefficient = 4.356, p = 0.00; ROA, coefficient = 5.432, and p = 0.01. This result is also in concert with the resource-based perspective of the firm, which views larger firms able to attain economies of scale and superior profitability and market value more adroitly by leveraging resources. Larger enterprises in the shipping industry would likely have easier access to finance and be in a stronger bargaining position, resulting in operations being carried out more efficiently; these should favourably contribute to financial performance. In contrast, LG is inversely related to both ROA and Tobin's Q, suggesting that the higher the level of debt, the lower the profitability and market valuation. This is so because, according to Gama and Soares (2019), high leverage might lead to strained financial health of an organisation due to increased interest requirements, as well as the risk of financial distress, hence poor company performance.

Summing up, the findings of this study generally corroborate, at least in terms of the positive contributions of board independence and company size, towards the betterment of financial performance. The negative impacts of board size, together with the paradox of the effects of CEO duality and gender diversity, strongly present the nuances and subtleties of governance dynamics in the Indian Maritime industry. The findings suggest that while some governance best practices, such as having a board that is independent and maximising the size of a firm, may be beneficial across the board, while others may require the incorporation of context-specific information and, thus, consideration of industry-specific factors, such as

the nature of board size and CEO duality. The present research supplements the existing discussion on corporate governance from an Indian maritime industry perspective by analysing empirical data. This data can also further inform other academic studies on the same issue, as well as those concerning practical governance in fields with similar characteristics.

5. CONTRIBUTION OF THE STUDY

This paper contributes to the current literature on corporate governance and financial performance and also complements other studies related to the Indian marine sector. This is because, first and foremost, it provides empirical evidence for how board composition variables such as size, independence, and gender diversity influence firm performance in a setting that has been largely ignored by prior research. All these associations are being examined within the specific context of the Indian maritime industry, hence underlining the importance of context within governance studies. Thereby, such insights may contrast with the findings of other sectors and geographies. The contribution that this study will make to the ongoing debate whether the concentration of top leadership positions facilitates or hinders business development by casting light on the role of CEO duality in corporate performance is another point to be brought into the discussion. Furthermore, the research into firm size and leverage in this study offers valuable insight into the way these variables relate to market valuation and profitability, which is particularly relevant to capital-intensive industries such as shipping. Lastly, this research ensures the methodological quality of governance studies through the use of robust econometric tools, such as the Hausman test and random effects models, that ensure the validity and generalisability of its results. In all, the present study adds to the increasing literature on corporate governance in the marine sector, at the same time providing useful insights for practitioners and policymakers interested in improving governance procedures in comparable settings.

6. CONCLUSION

In this respect, the current research engages in an in-depth analysis concerning the relationship that exists between the corporate governance frameworks and their financial performance within the marine sector of India. From the findings, it has emerged that gender diversity, CEO duality, board size, and board independence substantially contribute to the performance of the company. This study also provides insightful details on the complex relationship between governance elements and market valuation and profitability. While the benefits of gender diversity and board independence reveal how fundamental the diversified and independent boardrooms are to financial success, the evidence indicating the negative signs of association between CEO duality and firm performance suggests that a division of duties between the office of CEO and board chairperson may lead to better monitoring and decision-making. This study also shows that leverage negatively influences profitability, while business size exerts a positive influence - an indication of the vital role of financial management in keeping firms stable and growing. The contribution to corporate governance literature will be corroborated from the issue of endogeneity problems to obtain robust results through the use of sophisticated econometric techniques.

Overall, the study reiterates that good governance practices are essential in enhancing the business performance of the maritime enterprises. Thus, its findings have important implications for academics, industry practitioners, and regulators. Further research could be built on these findings and serve to further our understanding of the complex relationship that exists between governance and financial performance by examining similar processes in a different industry or geographical setting.

7. LIMITATIONS

The limitations of this study may include the possibility of omitted variables, measurement error, and endogeneity. Additionally, the study will be limited to the Indian maritime industry, which may not be generalisable to other industries or countries.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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