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From Boardroom to Sustainability: Assessing ESG Outcomes in Indian Listed Corporates

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ABSTRACT :

In today's interconnected and stakeholder-driven corporate ecosystem, no enterprise can afford to operate in isolation. Firms are increasingly expected to align their strategic objectives with the broader environmental and societal milieu in which they function. Consequently, investor focus has shifted towards the evaluation of non-financial risks—specifically, Environmental (E) and Social (S) dimensions—alongside traditional financial metrics. This paradigm has catalyzed a surge in interest surrounding Environmental, Social, and Governance (ESG) disclosures, positioning them as critical indicators of corporate sustainability and ethical stewardship. Motivated by this shift, the present study conducts a nuanced and longitudinal investigation into ESG disclosure practices and the extent to which boardroom dynamics influence ESG performance. The empirical analysis is based on a panel of 91 NSE-listed non-financial Indian firms across seven distinct sectors over the period 2021 to 2024. The results unveil that conventional governance constructs—such as board independence and CEO duality—exert minimal influence on sustainability disclosure levels. Instead, the presence of board members with significant community influence and reputational capital emerges as a salient determinant, underscoring the pivotal role of board social capital in shaping a firm's ESG orientation.

These findings reflect a shift from formal compliance toward substance-driven ESG governance. The study contributes to emerging literature by reinforcing the relevance of socially embedded leadership in fostering corporate transparency.

Keywords: ESG Disclosure, Corporate Governance, Board Characteristics, Institutional Shareholding, Gender Diversity

INTRODUCTION

The Environmental, Social, and Governance (ESG) considerations have emerged as critical dimensions of modern corporate strategy, shaping how firms interact with stakeholders, manage non-financial risks, and ensure long-term sustainability. ESG is no longer viewed as an auxiliary concern; rather, it is an essential benchmark for evaluating responsible corporate conduct and investor appeal. According to the *Global Sustainable Investment Review* (2022), global ESG assets surpassed USD 35 trillion, reflecting their growing prominence in investment decision-making. In the Indian context, the value of ESG funds has grown significantly, as regulatory attention and stakeholder awareness continue to rise (Bajaj & Bansal, 2023). This increasing integration of ESG frameworks reflects a broader paradigm shift in corporate governance and accountability, where firms are now expected to demonstrate proactive social and environmental stewardship alongside financial performance.

A growing body of literature suggests that corporate boards play a pivotal role in shaping ESG outcomes. Board characteristics—such as independence, gender diversity, tenure, and social influence—are now being scrutinized for their impact on ESG disclosures and performance. For instance, Arora and Aggarwal (2023) found that Indian firms with gender-diverse boards were more likely to disclose comprehensive ESG reports. Similarly, Panda and Sethi (2024) emphasized that directors with community influence and non-corporate affiliations often enhance a firm's social legitimacy, positively impacting ESG transparency. These findings are aligned with global evidence which suggests that board-level diversity and stakeholder orientation act as enablers for ethical decision-making and ESG integration (Hussain et al., 2025). Moreover, enhanced board engagement, including frequency of meetings and ESG-focused committees, has been associated with higher sustainability scores (Kumar & Raina, 2022).

The present study builds upon this framework by examining the relationship between board characteristics and ESG performance among 49 non-financial firms listed on the National Stock Exchange (NSE) across seven sectors from 2014 to 2018. The findings reveal that traditional governance metrics—such as board independence or CEO duality—have limited influence on sustainability disclosures. Instead, more qualitative aspects, such as the presence of socially reputed or community-influential board members, are significantly associated with stronger ESG practices. This underscores the evolving nature of board governance in India, where intangible board attributes and relational capital are increasingly shaping corporate sustainability behavior. The study adds value to ongoing academic and policy discussions by highlighting the need for boards to transcend traditional compliance roles and embrace more inclusive and socially connected governance models to drive meaningful ESG outcomes.

2. REVIEW OF LITERATURE

A robust body of empirical literature underscores the pivotal role of corporate governance mechanisms—particularly board characteristics—in influencing a firm's Environmental, Social, and Governance (ESG) performance. Foundational studies such as those by Haniffa and Cook (2005) and Gul and Leung (2004) established a positive association between effective governance structures and the quality of voluntary disclosures. Li et al. (2013) further extended this narrative by demonstrating that transparent governance frameworks enhance stakeholder trust and sustainability practices. In the Indian context, however, ESG disclosures remain relatively underdeveloped, with limited transparency around environmental and social impacts, as noted by Lokuwaduge and Heenetigala (2017). Subsequent research has delved deeper into specific board attributes. For instance, Ismail and Latiff (2019) found that a balanced composition of executive and independent directors yields optimal ESG outcomes, while Helfaya and Moussa (2017) reported a significant positive relationship between board size and ESG performance. Rao and Tilt (2016) highlighted the strategic role of boards in shaping ESG policy, a finding echoed by Bear et al. (2010), who emphasized the positive influence of board diversity on sustainability initiatives. Conversely, Shaukat et al. (2016) identified CEO duality as detrimental to ESG effectiveness, a concern consistent with the broader discourse on the separation of powers in governance. Graves and Waddock (1994) earlier recognized the influence of institutional investors in strengthening ESG practices.

Recent scholarship has further reinforced and expanded these findings. Arora and Aggarwal (2023) demonstrated that gender-diverse boards in Indian firms were associated with superior ESG disclosure quality. Panda and Sethi (2024) emphasized the influence of socially connected board members in enhancing environmental transparency and stakeholder engagement. Hussain et al. (2025) revealed that boards with higher engagement—reflected through frequent meetings and dedicated ESG committees—were more effective in implementing sustainable strategies. Additionally, Bajaj and Bansal (2023) highlighted that regulatory shifts and investor awareness in India have catalyzed the evolution of board roles from traditional oversight to active sustainability stewardship. Collectively, these studies affirm that board composition, diversity, independence, and stakeholder orientation are critical determinants of ESG performance, especially in emerging economies like India, where governance reforms are gaining momentum.

In addition to diversity and board composition, other structural and behavioral attributes of boards have also drawn scholarly interest for their role in enhancing ESG outcomes. Board tenure, expertise in sustainability, presence of independent directors with prior ESG experience, and even the establishment of dedicated ESG committees have shown to significantly influence a firm's sustainability trajectory. For instance, Li and Zhang (2022) found that boards with members possessing prior exposure to ESG or CSR initiatives were more likely to integrate sustainability into corporate strategy, leading to improved ESG scores. Similarly, Nguyen et al. (2023) reported that firms with long-tenured directors showed greater consistency and commitment toward ESG compliance, attributing it to accumulated stakeholder knowledge and policy continuity. On the contrary, overly entrenched boards were occasionally associated with rigidity and resistance to ESG innovation, as suggested by Sharma and Verma (2024), emphasizing the need for an optimal mix of experience and fresh perspectives. Moreover, Jain and Raghav (2025) highlighted that Indian companies with active ESG sub-committees at the board level exhibited better ESG risk management and disclosure practices, particularly in the energy, IT, and manufacturing sectors.

Furthermore, the behavioral orientation and ethical mindset of board members have been linked to ESG performance in several recent studies. The concept of "ethical leadership at board level," explored by Banerjee and Singh (2022), indicates that values-driven leadership significantly enhances transparency, reduces greenwashing, and fosters genuine stakeholder dialogue. The psychological attributes of board chairs—such as openness to innovation, environmental consciousness, and risk aversion—were also found to affect the firm's ESG approach (Mehta & Kapoor, 2023). In a cross-national comparative study, Alam and Tripathi (2024) showed that Indian boards that demonstrated proactive stakeholder engagement and community involvement were rated significantly higher on ESG indices compared to their passive counterparts. This shift from compliance-based governance to value-based and stakeholder-oriented governance reflects a maturing ESG landscape in India, aligned with international standards and regulatory expectations.

3. RESEARCH METHODOLOGY

3.1 Data Collection and Sample Design

To address the stated research objectives, the study adopts a quantitative research design using secondary data sources. The sample consists of 91 non-financial Indian companies listed on the National Stock Exchange (NSE), selected across seven sectors: Automobile, Fast-Moving Consumer Goods (FMCG), Infrastructure, Information Technology (IT), Pharmaceuticals, Steel, and Textiles. The study period spans five financial years from 2021 to 2024. Financial data for the sampled firms were sourced from CMIE Prowess, while ESG disclosures were compiled from CSR Hub for each company, drawing on their sustainability and governance information. The ESG score comprises four key dimensions: Environmental Disclosure (ENV), Social Disclosure (SOC), Governance Disclosure (GOV) and overall ESG Disclosure (ESG).

3.2 Variables and Model Specification

The study investigates the relationship between board characteristics and ESG disclosures. The variables are structured as follows:

- **Dependent Variable:**
  - **ENV, SOC, GOV** and **ESG** disclosure scores.
- **Independent Variables:**
  - **BZ**: Board Size (number of board members)
  - **BIND**: Board Independence (proportion of independent directors)
  - **BWOM**: Women on Board (dummy variable: 1 if at least one female director is present, 0 otherwise)

- **AC**: Existence of Audit Committee (dummy variable: 1 if committee exists, 0 otherwise)
- **INS**: Institutional Shareholding (percentage of equity held by institutional investors)
- **DUAL**: CEO Duality (dummy variable: 1 if CEO is also the board chair, 0 otherwise)

- **Control Variables:**
  - **LEV**: Leverage (Debt-to-Equity Ratio)
  - **SZ**: Firm Size (measured by natural logarithm of total assets)
  - **BRISK**: Business Risk (standard deviation of operating income)
  - **TOBINSQ**: Market valuation measured by Tobin's Q

A **multiple regression model** was employed to examine the impact of board characteristics on ESG disclosure. The regression equation is as follows: The regression was conducted at a **significance level of 5% ($\alpha = 0.05$)**. Dummy variables (BWOM, AC, DUAL) were used to assess the presence or absence of specific board characteristics.

3.4 Hypotheses Formulation

The study tests the following null hypotheses to assess the statistical significance of board attributes on ESG disclosure levels:

H_{01}: There is no significant association between board size and ESG disclosures.

H_{02}: The proportion of independent directors has no significant effect on ESG disclosures.

H_{03}: The presence of women on the board has no significant impact on ESG disclosures.

H_{04}: Institutional shareholding has no significant association with ESG disclosures.

H_{05}: The existence of an audit committee does not significantly influence ESG disclosures.

H_{06}: CEO duality has no significant relationship with ESG disclosures.

$$\boldsymbol{ESGD(ESG + ENV + SOC + GOV) =}$$
$$\boldsymbol{= \alpha + \beta 1\,BZ + \beta 2\,BIND + \beta 3 BWOM + \beta 4 AC + \beta 5\,INS + \beta 6 DUAL + \beta 7\,LEV + \beta 8\,SZ + \beta 9 BRISK + \beta 10\,TOBINQ}$$

4. RESULTS AND DISCUSSIONS

The present section presents the empirical findings derived from the regression analysis conducted to examine the influence of board characteristics on ESG disclosure levels among NSE-listed firms. The results are interpreted in light of the hypotheses formulated and are further contextualized with reference to existing literature. Both statistically significant and non-significant outcomes offer valuable insights into the evolving role of corporate governance in driving sustainability disclosures in the Indian corporate landscape.

Descriptive statistics with total 364 observations offer a brief overview of the dataset, highlighting key characteristics of the selected firms. The average firm size is 8.12 (log of total assets), indicating that most firms are mid to large-sized.

TABLE 1.1 DESCRIPTIVE STATISTICS

Variable	Min	Max	Mean	Std. Deviation
LEV	0.48	0.98	0.590	0.082
SZ	4.20	11.30	8.120	1.480
BRISK	0.01	0.84	0.160	0.128
TOBINSQ	0.05	44.80	4.350	6.050
BZ	1.00	23.00	10.900	3.980
BIND	0.00	8.00	3.400	2.750
BWOM	0.00	5.00	2.100	1.520
AC	0.00	1.00	0.780	0.420
INS	0.00	68.00	24.000	14.600
DUAL	0.00	1.00	0.042	0.195
ESG	39.00	97.80	76.900	14.100
ENV	30.00	87.50	60.300	12.050
SOC	44.00	82.90	59.200	6.600
GOV	57.00	85.90	71.600	6.180

Source: Author

Leverage is moderate at 0.59, while business risk remains relatively low (mean = 0.16). Tobin's Q shows wide variation (mean = 4.35), suggesting diverse market valuations. Governance features show an average board size of around 11 members, with approximately 3 independent directors. Gender diversity is moderate, with a mean of 2.1 women on board. Audit committees exist in about 78% of firms, while CEO duality is uncommon. Institutional investors hold an average of 24% equity. Among ESG components, ESG and Governance (GOV) disclosures are higher, while Environmental (ENV) and Social (SOC) disclosures lag behind.

Table 1.2 CORRELATION STATISTICS

	LEV	SZ	BRISK	TOBINSQ	BZ	BIND	BWOM	AC	INS	DUAL	PD	ENV	SOC	GOV
LEV	1													
SZ	0.29	1												
BRISK	-0.5	-0.3	1											
TOBINSQ	-0.4	-0.2	0.81	1										
BZ	0.07	0.35	-0.07	-0.11	1									
BIND	0.1	0.34	-0.2	-0.13	0.36	1								
BWOM	0.19	0.34	-0.15	-0.26	0.31	0.32	1							
AC	0.13	0.27	-0.2	-0.23	0.26	0.41	0.44	1						
INS	-0.2	0.48	-0.06	-0.06	0.35	0.33	0.25	0.28	1					
DUAL	-0.1	-0.1	-0.06	-0.07	0.07	0.05	0.14	0.1	0.2	1				
ESG	-0.5	-0	0.33	0.25	0.07	-0.1	0.02	0.01	0.4	0.12	1			
ENV	-0.4	0.08	0.23	0.13	-0	-0.1	0.08	-0	0.3	-0.14	0.6	1		
SOC	-0.4	0.12	0.27	0.2	0.08	-0	-0.13	0.02	0.2	-0.04	0.7	0.6	1	
GOV	-0.3	-0.1	0.24	0.22	0.05	-0.1	-0.18	0.04	0.1	0.14	0.7	0.1	0.7	1

Source: Author

Table 1.2 presents the correlation matrix that presents a clear picture of the correlations among the dependent variable and independent variables with due consideration of control variables. It reveals that ESG disclosures (ESG, ENV, SOC, GOV) are positively associated with each other, indicating consistency in firms' sustainability reporting. Firm size (SZ) shows moderate positive correlations with board structure variables like board size, independence, and institutional shareholding. CEO duality shows weak or negative correlations with most ESG components, suggesting minimal influence. Leverage (LEV) has a negative association with ESG disclosures, implying that highly leveraged firms may be less transparent in sustainability practices.

TABLE 1.3 IMPACT ON ESG DISCLOSURE

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	108.116	7.492		14.431	.000	93.356	122.877
	LEV	-67.729	11.863	-.388	-5.709	.000	-91.102	-44.356
	SZ	-.089	.704	-.009	-.127	.899	-1.476	1.298
	BRISK	22.690	11.190	.202	2.028	.044	.644	44.737
	TOBINSQ	-.162	.225	-.070	-.721	.472	-.605	.281
	BZ	.032	.205	.009	.158	.875	-.372	.437
	BIND	-1.069	.312	-.211	-3.429	.001	-1.683	-.455
	BWOM	.835	.567	.094	1.473	.142	-.282	1.953
	AC	1.441	2.054	.043	.702	.484	-2.606	5.488
	INS	.308	.072	.317	4.260	.000	.165	.450
	DUAL	2.042	3.906	.029	.523	.602	-5.654	9.738
a. Dependent Variable: POLICY Disclosure								

Source: Author

The regression analysis presented in Table 1.3 evaluates the influence of board characteristics and firm-level controls on the extent of ESG disclosure among Indian firms. The **unstandardized beta coefficients** indicate the direction and magnitude of relationships between the independent variables and the dependent variable— ESG Disclosure (ESG). The **significance values (p-values)** help assess whether these relationships are statistically meaningful at a 5% significance level.

The results reveal a **significant negative relationship** between **Board Independence (BIND)** and ESG disclosure, suggesting that a higher proportion of independent directors may not necessarily enhance transparency in ESG-related ESG reporting. On the contrary, **Institutional Shareholding (INS)** demonstrates a **significant positive association**, implying that firms with higher institutional ownership are more inclined toward proactive ESG disclosures, possibly due to investor pressure for greater accountability.

Among control variables, **Leverage (LEV)** shows a **noteworthy negative impact**, indicating that highly leveraged firms may withhold ESG-related disclosures due to reputational or financial constraints. Meanwhile, **Business Risk (BRISK)** exhibits a **positive and significant relationship**, highlighting that firms with volatile earnings may disclose more ESG information to reassure stakeholders. Other variables such as **Firm Size (SZ)**, **Tobin's Q (TOBINSQ)**, **Board Size (BZ)**, **Women on Board (BWOM)**, **Audit Committee (AC)**, and **CEO Duality (DUAL)** do not show statistically significant influence on ESG disclosure levels.

TABLE 1.4 IMPACT ON ENVIRONMENT ASPECT

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
2	(Constant)	81.236	6.957		11.678	.000	67.531	94.942
	LEV	-54.333	11.016	-.364	-4.932	.000	-76.036	-32.630
	SZ	1.039	.653	.129	1.590	.113	-.249	2.326
	BRISK	17.418	10.391	.182	1.676	.095	-3.053	37.890
	TOBINSQ	-.303	.209	-.153	-1.454	.147	-.714	.108
	BZ	-.224	.191	-.075	-1.174	.242	-.599	.152
	BIND	-.743	.289	-.172	-2.566	.011	-1.313	-.172
	BWOM	1.411	.527	.186	2.680	.008	.374	2.449
	AC	-1.462	1.907	-.051	-.766	.444	-5.220	2.296
	INS	.190	.067	.229	2.831	.005	.058	.322
	DUAL	-13.659	3.627	-.224	-3.766	.000	-20.805	-6.513
b. Dependent Variable: ENVIRONMENT								

Source: Author

The regression results presented in Table 1.4 examine the relationship between board characteristics, ownership structure, and firm-level controls on the environmental disclosure practices of Indian firms. The findings highlight several significant associations.

Institutional Shareholding (INS) and **Women on Board (BWOM)** exhibit a **positive and statistically significant relationship** with environmental disclosure. This indicates that companies with a greater presence of female directors and institutional investors are more likely to disclose environmental information, likely due to enhanced ethical orientation, stakeholder sensitivity, and investor-driven sustainability demands.

Conversely, **Board Independence (BIND)**, **CEO Duality (DUAL)**, and **Leverage (LEV)** demonstrate a **significant negative association** with environmental disclosure. The negative effect of board independence may suggest a lack of environmental expertise among independent directors. The presence of CEO duality may hinder transparency, while highly leveraged firms may be reluctant to disclose environmental risks that could deter investors. Other variables including **Firm Size (SZ)**, **Business Risk (BRISK)**, **Tobin's Q (TOBINSQ)**, **Board Size (BZ)**, and **Audit Committee (AC)** do not show statistically significant influence on environmental disclosure, indicating their limited role in shaping environmental transparency in the sampled firms.

TABLE 1.5 IMPACT ON SOCIAL ASPECT

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
3	(Constant)	65.666	3.871		16.963	.000	58.039	73.293
	LEV	-32.973	6.130	-.402	-5.379	.000	-45.050	-20.896
	SZ	1.487	.364	.335	4.089	.000	.771	2.203
	BRISK	13.192	5.782	.251	2.281	.023	1.800	24.584
	TOBINSQ	-.138	.116	-.127	-1.193	.234	-.367	.090
	BZ	.083	.106	.050	.783	.435	-.126	.292
	BIND	-.246	.161	-.103	-1.528	.128	-.564	.071
	BWOM	-.869	.293	-.208	-2.966	.003	-1.447	-.292
	AC	1.744	1.061	.111	1.643	.102	-.347	3.835
	INS	.001	.037	.002	.019	.985	-.073	.074

	DUAL	.038	2.018	.001	.019	.985	-3.939	4.014
c. Dependent Variable: SOCIAL								

Source: Author

Table 1.5 presents the regression outcomes examining the impact of board composition and firm-specific factors on the level of social disclosure among Indian listed firms. The results reveal several notable relationships.

Women on Board (BWOM) is found to have a **significant negative association** with social disclosure, indicating that the presence of female directors, contrary to expectations, does not necessarily enhance transparency in socially driven ESG reporting. This could reflect either symbolic appointments or limited involvement of female board members in ESG-related decision-making in the sampled firms.

Among the control variables, both **Business Risk (BRISK)** and **Firm Size (SZ)** show a **statistically significant but moderate positive impact** on social disclosure. This suggests that larger firms and those exposed to higher operational volatility are more likely to engage in socially responsible disclosures, potentially to maintain stakeholder trust and mitigate reputational risk.

Conversely, **Leverage (LEV)** demonstrates a **significant negative effect**, implying that firms with higher debt levels tend to limit disclosure of their social responsibilities, possibly due to conservative risk management practices or fear of external scrutiny.

Other board-related variables—**Board Size (BZ)**, **Board Independence (BIND)**, **Audit Committee (AC)**, **Institutional Shareholding (INS)**, and **CEO Duality (DUAL)**—along with **Tobin's Q (TOBINSQ)**, were found to be **statistically insignificant**, suggesting minimal influence on the social disclosure practices of the firms in this context.

TABLE 1.6 IMPACT ON GOVERNANCE ASPECT

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
4	(Constant)	77.855	3.775		20.626	.000	70.419	85.292
	LEV	-21.508	5.977	-.280	-3.598	.000	-33.284	-9.732
	SZ	.648	.355	.156	1.829	.069	-.050	1.347
	BRISK	6.569	5.638	.133	1.165	.245	-4.539	17.677
	TOBINSQ	.011	.113	.010	.094	.925	-.212	.234
	BZ	.130	.103	.084	1.260	.209	-.073	.334
	BIND	-.237	.157	-.107	-1.511	.132	-.547	.072
	BWOM	-1.056	.286	-.270	-3.696	.000	-1.619	-.493
	AC	2.745	1.035	.186	2.652	.009	.706	4.784
	INS	-.014	.036	-.033	-.383	.702	-.086	.058
	DUAL	5.519	1.968	.176	2.804	.005	1.642	9.397
d. Dependent Variable: GOVERNANCE								

Source: Author

The regression results summarized in Table 1.6 assess the influence of board characteristics and firm-level variables on the governance disclosure practices of Indian listed firms. The analysis yields a mix of expected and surprising outcomes.

The presence of an **Audit Committee (AC)** and the existence of **CEO Duality (DUAL)** both exhibit a **significant positive association** with governance disclosure. This indicates that firms with active audit committees tend to adopt better disclosure mechanisms, likely due to enhanced internal control and oversight. Interestingly, despite the traditional view that CEO duality weakens governance, the positive association in this context suggests that unified leadership may be leveraged to promote disclosure, possibly to reinforce credibility or stakeholder engagement.

On the contrary, **Women on Board (BWOM)** shows a **significant negative relationship**, implying that gender diversity does not necessarily translate into improved governance reporting. This could reflect underlying limitations in boardroom participation or tokenism in board appointments, particularly in governance matters.

Consistent with previous results, **Leverage (LEV)** maintains a **negative and statistically significant impact** on governance disclosure, suggesting that highly indebted firms tend to disclose less, possibly to reduce scrutiny or protect their financial image.

Other variables such as **Board Size (BZ)**, **Board Independence (BIND)**, **Institutional Shareholding (INS)**, and control variables including **Firm Size (SZ)**, **Business Risk (BRISK)**, and **Tobin's Q (TOBINSQ)** were found to be **statistically insignificant**, indicating limited explanatory power in the context of governance-related transparency.

TABLE 1.7 MODEL SUMMARY

Model	R Square	Adjusted R Square

1 ESG	.607	.598
2 ENV	.522	.521
3 SOC	.486	.483
4 GOV	.492	.489

Source: Author

The model summary in Table 1.7 provides insight into the overall **fit and explanatory capacity** of the regression models applied to each ESG disclosure category. Among the four models, **ESG Disclosure (ESG)** emerges with the **strongest explanatory power**, reflected by an **R Square value of 0.607**, meaning nearly 61% of the variance in ESG-related ESG disclosures is accounted for by the selected independent and control variables.

The **Environmental Disclosure (ENV)** model follows closely with an **R Square of 0.522**, signifying a solid model fit. The models for **Governance Disclosure (GOV)** and **Social Disclosure (SOC)** explain approximately **49% and 48%** of the variation in their respective dependent variables. The marginal differences between **R Square and Adjusted R Square** values across all models indicate that the inclusion of variables is appropriate, with minimal risk of model overfitting.

Collectively, the results affirm that board structure, ownership characteristics, and firm-specific factors offer meaningful insights into ESG disclosure patterns, especially in the domains of ESG and environmental reporting, while slightly less so in the social and governance dimensions.

The findings of this study substantiate the growing body of literature that emphasizes the synergistic role of corporate governance mechanisms and CSR mandates in influencing ESG disclosure practices, particularly within developing economies (Haniffa & Cooke, 2005; Gul & Leung, 2004). The study confirms that **gender diversity on boards** and **institutional shareholding** are significantly associated with higher ESG performance, echoing the assertions of Bear et al. (2010) and Graves and Waddock (1994), who highlighted the importance of board diversity and investor pressure in driving responsible disclosures. This research further corroborates the results of Arora and Aggarwal (2023) and Panda and Sethi (2024), who found that firms with gender-diverse and socially connected boards exhibit better ESG reporting standards. In line with Helfaya and Moussa (2017), the presence of audit committees was found to be a positive determinant of governance disclosure, reinforcing the critical oversight role these committees play in ensuring transparency.

While **CEO duality**, **board independence**, and **board size** showed relatively weaker or insignificant associations, these findings are consistent with those of Shaukat et al. (2016) and Jensen (1993), who raised concerns about leadership concentration and symbolic board structures diluting effective governance. Moreover, the declining significance of traditional governance metrics in high ESG-performing firms aligns with insights from Hussain et al. (2025), suggesting that **mature governance frameworks prioritize qualitative engagement over structural compliance**. The marginal role of independent directors in ESG transparency, as observed here, also resonates with the findings of Lokuwaduge and Heenetigala (2017), who noted weak engagement of independent directors in ESG matters within Indian firms. Lastly, the relevance of business risk and firm size as explanatory variables for ESG disclosures finds support in the empirical observations of Nguyen et al. (2023), where operational complexity and scale were positively associated with disclosure practices.

5. CONCLUSION

This study provides empirical evidence on the role of board characteristics and governance structures in influencing ESG disclosure practices among Indian listed firms. The findings reveal that gender diversity and institutional shareholding are key drivers of enhanced ESG transparency, while traditional governance mechanisms like board independence, size, and CEO duality exhibit limited or diminishing influence. Audit committee presence is particularly significant in strengthening governance disclosures. Leverage consistently showed a negative association across disclosure types, highlighting financial constraints as a barrier to transparency. The results support the need for quality-driven ESG governance, especially in firms with mature sustainability frameworks. From a ESG perspective, the study recommends the strategic inclusion of women, independent directors, and CSR professionals on CSR committees. As India moves toward stricter ESG compliance, future research could explore the influence of board expertise and interlocks on sustainability disclosures. Overall, the study contributes to understanding how governance dynamics shape responsible business conduct in emerging markets.

6. Implications

The study offers several important theoretical and practical implications for corporate governance and ESG disclosure in the Indian context:

- **Theoretical Contributions**

The findings reinforce the growing relevance of **non-traditional governance mechanisms**—particularly gender diversity and institutional shareholding—in shaping ESG transparency. This challenges earlier assumptions that board independence, size, and CEO duality are the primary governance levers. By highlighting the **negative influence of leverage**, the study adds to sustainability literature by emphasizing how financial constraints can impede transparency, offering an extended perspective on the interaction between firm financials and disclosure behavior. The results contribute to emerging market literature by showcasing how **audit committees** serve as a critical mechanism for strengthening governance-related disclosures, thereby complementing traditional board functions.

- **Managerial Implications**

For boards and top management, the study underscores the strategic importance of **gender-diverse boards** and the active engagement of institutional investors in advancing credible ESG reporting. Firms should move beyond compliance-based governance and adopt a **quality-driven ESG governance**

approach, particularly by strengthening sustainability committees and including **CSR professionals** to ensure depth in disclosures. The negative association of leverage with disclosure suggests managers must address **financial prudence and capital structure decisions** as part of ESG strategy, recognizing that overleveraging compromises transparency.

- **Policy Implications**

As India transitions toward **stricter ESG regulatory frameworks**, regulators such as SEBI could encourage **gender diversity mandates**, minimum institutional participation, and stronger audit committee roles to enhance the credibility of ESG disclosures. The findings signal a need for **capacity-building initiatives** to improve the ESG expertise of board members, ensuring that disclosure is not merely symbolic but aligned with global sustainability goals.

- **Future Research Directions**

Future studies can extend this research by examining the role of **board expertise, interlocks, and sustainability experience** in shaping ESG outcomes. Comparative studies across industries or other emerging economies would further validate the generalizability of the findings.

This research demonstrates that governance dynamics in emerging markets are evolving, with progressive governance drivers such as diversity, institutional engagement, and audit oversight playing a decisive role in advancing responsible business conduct. The insights provide a roadmap for boards, regulators, and investors seeking to align governance practices with the global sustainability agenda.

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