

An Empirical Analysis of Board Composition, Audit Committee Effectiveness and Sustainability Performance in selected NSE-Listed Companies in India

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Abstract- This paper quantifies how board-level and audit-committee attributes shape ESG disclosure quality and sustainability performance across companies listed on India's NSE and BSE. Using firm-level data from annual reports and the Capitaline database for 2015–2024, the analysis applies two-way fixed-effects panel regression, system generalised method of moments (S-GMM), and a difference-in-differences window around the 2021 BRSR mandate, covering 486 firm-year observations. Audit-committee independence and financial expertise emerge as the strongest predictors of environmental and governance-pillar scores; board independence shows a weaker, context-dependent association. CEO duality carries a statistically significant negative effect on composite ESG ratings. Promoter shareholding attenuates disclosure incentives, whereas institutional ownership operates as a positive moderator. Estimates hold across industry sub-samples and alternative specifications. By isolating the incremental contribution of each governance mechanism, the study fills a gap in the emerging-market literature. It identifies specific regulatory and board-level interventions to strengthen sustainability governance in India.

Keywords: *Corporate governance ESG disclosure Audit committee Board independence Sustainability performance Indian listed companies Panel data Capitaline*

I. INTRODUCTION

India's listed company sector offers a concentrated test of how governance structures translate into sustainability disclosure. The Companies Act 2013, successive SEBI Listing Obligations and Disclosure Requirements (LODR) amendments, and the 2021 mandate for Business Responsibility and Sustainability Reporting (BRSR) have compressed what was once a voluntary governance conversation into a binding compliance framework within less than

a decade. However, concentrated promoter ownership and the relatively short track record of mandatory ESG reporting mean that the governance–disclosure link has not been fully mapped in the Indian context (Jain et al., 2022; Fahad & Busru, 2020). Three governance features warrant close examination: the independence and composition of the board, the structure and expertise of the audit committee, and the concentration of leadership authority as captured by CEO duality. Each is theoretically linked to agency-cost reduction and information asymmetry mitigation, yet Indian firm-level evidence does not consistently confirm these predictions (Gupta, 2023; Nandi & Panda, 2023).

ESG disclosure has moved from the periphery of annual reporting to a regulated pillar of corporate accountability. By 2024, over 1,000 Indian companies were subject to BRSR filings, and institutional investors globally had begun embedding ESG signals in portfolio construction criteria. Against this backdrop, three governance features deserve particular attention: (i) board independence and composition, (ii) audit-committee structure and expertise, and (iii) the concentration of leadership authority as captured by CEO duality. Each is theoretically linked to agency-cost reduction and information-asymmetry mitigation, yet empirical evidence from Indian listed firms does not consistently support these predictions (Gupta, 2023; Nandi & Panda, 2023).

1.1 Research Objectives

Against this backdrop, the present study pursues three interrelated objectives. First, it seeks to quantify the independent contribution of board-level attributes— independence ratio, board size, gender diversity, and CEO duality—to ESG disclosure scores as reported in

the Capitaline database. Second, it examines whether audit committee independence and financial expertise have an incremental positive effect on sustainability performance, after controlling for the board-level variables mentioned earlier. Third, it investigates the moderating role of ownership structure, distinguishing between promoter, institutional, and foreign shareholding patterns, to determine whether ownership concentration systematically weakens the governance–ESG linkage (Seth et al., 2025; Kumari et al., 2022).

1.2 Contribution to the Literature

Several gaps in the existing literature justify the study. Many earlier Indian investigations rely on hand-constructed disclosure indices drawn from annual reports alone, which limits comparability and introduces coding discretion. Anchoring ESG scores in the standardised Capitaline dataset—which itself draws on BRSR filings and audited disclosures—removes that source of noise. Unlike Uyar et al. (2022), who treated audit-committee attributes as a single composite, this paper disaggregates independence, expertise, size, and meeting frequency to identify which channel matters most. Finally, applying S-GMM and a difference-in-differences window around the 2021 BRSR mandate moves the analysis closer to causal identification than the cross-sectional associations reported in most prior work (Oware & Mallikarjunappa, 2022; Uyar et al., 2022).

II. LITERATURE REVIEW AND THEORETICAL FOUNDATIONS

2.1 Agency Theory and Board Independence

Agency theory anchors most corporate-governance scholarship. The separation of ownership from control gives rise to conflicts of interest that independent directors are expected to mitigate through more vigilant oversight (Jensen & Meckling, 1976). In India, SEBI mandates that at least one-third of the board of listed companies comprise independent directors, rising to one-half when the chair is an executive. Agarwala and Agarwala (2022) applied a dynamic GMM framework to 76 NSE-listed non-financial firms over 2013–2019 and confirmed a significant positive relationship between the proportion of independent directors and CSR

performance. Sahore and Verma (2019) documented a consistently positive association between board independence and both voluntary financial and non-financial disclosures. Taken at face value, these findings support the monitoring hypothesis.

The evidence, however, is not unanimous. Jain et al. (2022), examining 53 environmentally sensitive NIFTY100 firms over 2015–2019, found that a higher count of independent directors did not translate into improved sustainability disclosure. Yadav et al. (2023), using system GMM on NSE Nifty 100 firms, reached the same conclusion. The divergence points toward a specific mechanism: formal independence—defined by the absence of material relationships—may be a necessary condition, but directors' substantive engagement and domain expertise are likely to matter at least as much.

2.2 Audit Committee Characteristics and Sustainability Oversight

Audit committees have traditionally been tasked with overseeing financial-reporting integrity. The expansion of mandatory ESG disclosure under BRSR has, however, begun to extend its purview. Seth et al. (2025) analysed 1,304 firm-year observations spanning 2018–2024. They established that audit-committee independence and financial expertise are the most consequential predictors of environmental and governance performance, whereas committee tenure exerts no statistically significant effect. The finding that tenure is irrelevant is noteworthy: it challenges the intuitive assumption that longer-serving members accumulate insights that improve the quality of oversight.

Uyar et al. (2022), working with 59,172 firm-year observations globally, confirmed that audit-committee independence and expertise are positively associated with CSR-reporting adoption, external-assurance engagement, and GRI-framework uptake. Their moderation analysis identified a substitution effect: audit committees became significant drivers of CSR reporting primarily where no dedicated CSR committee existed, indicating that the two governance bodies can perform overlapping functions.

2.3 CEO Duality, Ownership Structure, and ESG Incentives

CEO duality—the combination of the chief executive and board chair roles in a single individual—is widely viewed as a risk of power concentration. Gupta (2023) documented a significant negative relationship between CEO duality and composite ESG scores for Nifty-500 firms over 2012–2022, consistent with the theoretical expectation that unified leadership weakens the board's ability to challenge management on sustainability commitments. A contrasting finding emerged from Devarapalli et al. (2024), who reported a positive effect of CEO duality on integrated-reporting quality among 46 Indian firms; this result likely reflects the narrow scope of integrated reporting, in which concentrated leadership may accelerate the integration of financial and non-financial narratives.

Ownership structure introduces another critical moderating dimension. Jain et al. (2022) reported that promoter shareholding is negatively and significantly associated with sustainability disclosure, consistent with the idea that controlling shareholders have fewer incentives to voluntarily disclose information that might invite minority-shareholder scrutiny. At the same time, Arti et al. (2024), studying ten BSE-listed pharmaceutical companies, found that both institutional and foreign shareholdings positively influence sustainability reporting, reinforcing the monitoring role attributed to sophisticated external investors.

2.4 Legitimacy and Resource-Dependence Perspectives

Legitimacy theory enriches the governance–ESG story by proposing that companies in industries facing heightened public scrutiny have more substantial incentives to disclose environmental and social information (Suchman, 1995). Kumari et al. (2022) provided direct support: comparing NSE 500 firms in environmentally sensitive and non-sensitive industries over 2015–2020, they found that sustainability committees, board size, and meeting frequency were

3.2 Variable Definitions

The table below summarises the operationalisation of the key variables used in the analysis.

Variable	Operationalisation	Source
ESG Score (composite)	Capitaline composite ESG rating (0–100)	Capitaline ESG Module
E-Score	Environmental sub-score	Capitaline / BRSR Filing
S-Score	Social sub-score	Capitaline / BRSR Filing

each positively associated with environmental disclosure in both groups, though the magnitude of effects was larger for sensitive industries. Resource-dependence theory complements this perspective by emphasising the human capital and networks that directors bring to the organisation. Gupta (2023) confirmed that board qualification—measured by educational and professional credentials—significantly and positively influences ESG performance, consistent with this theoretical prediction.

III. DATA SOURCES, SAMPLE, AND METHODOLOGY

3.1 Data Sources and Sample Construction

Governance and ownership variables were extracted from the audited annual reports of NSE- and BSE-listed companies, supplemented by the Capitaline database maintained by Capital Market Publishers. Capitaline provides standardised, board-level and ownership-level fields that are reconciled with regulatory filings submitted to SEBI, making it a reliable secondary source for Indian corporate data. ESG disclosure scores were obtained from Capitaline's ESG module, which aggregates information disclosed under BRSR and earlier BRR frameworks into environmental (E), social (S), and governance (G) sub-scores as well as a composite rating.

The initial universe comprised all non-financial companies listed on the NSE Nifty 500 index between 2015 and 2024. After removing firms with missing values on key variables and those in the banking, insurance, and real estate sectors—whose governance and disclosure norms differ materially—the final balanced panel contains 486 firm-year observations across 81 firms. The ten-year window straddles the introduction of mandatory CSR in 2014 and the 2021 BRSR mandate, allowing the study to capture both pre- and post-regulatory-reform behaviour.

G-Score	Governance sub-score	Capitaline / BRSR Filing
Board Independence	% independent directors on the board	Annual Report / Capitaline
Board Size	Total number of board members	Annual Report
Gender Diversity	Proportion of women directors	Annual Report
CEO Duality	1 if CEO = Board Chair; 0 otherwise	Annual Report
AC Independence	% independent members on audit committee	Annual Report
AC Expertise	1 if ≥ 1 member holds financial-expert status	Annual Report
AC Size	Number of audit-committee members	Annual Report
Promoter Holding	% shares held by promoters	Capitaline / BSE Filing
Institutional Holding	% shares held by institutional investors	Capitaline
Foreign Holding	% shares held by foreign investors	Capitaline
Firm Size	ln(Total Assets)	Capitaline Financial Data
Leverage	Total Debt / Total Assets	Capitaline Financial Data
ROA	Net Income / Total Assets	Capitaline Financial Data

Table 1: Variable Definitions and Data Sources

3.3 Econometric Strategy

Three complementary estimation strategies are deployed. The baseline specification is a two-way fixed-effects panel regression that controls for time-invariant firm heterogeneity and year-specific shocks. Because governance variables may themselves be endogenous—firms with poor ESG outcomes may subsequently reform their boards—a system GMM estimator (Arellano & Bond, 1991) is applied as the primary robustness check. Lagged levels and first differences of the dependent variable are employed as instruments, with the Sargan over-identification test confirming instrument validity in all specifications.

A third estimation window exploits the 2021 BRSR mandate as a quasi-natural experiment. Using a difference-in-differences design—where firms subject to the top-1000 market-capitalisation cutoff constitute the treated group and firms just below the threshold serve as controls—the study isolates the causal effect

of the disclosure mandate on subsequent ESG scores. This approach is inspired by Oware and Mallikarjunappa (2022), who applied a similar DiD logic to the 2014 CSR mandate.

IV. EMPIRICAL RESULTS

4.1 Descriptive Statistics and Correlations

Table 2 presents summary statistics for the key variables. The average composite ESG score across the sample is 54.3 (SD = 12.7), indicating moderate but heterogeneous disclosure quality. Board independence averages 42.8 %, broadly consistent with—and slightly above—the SEBI minimum of 33.3 %. Promoter shareholding remains high at 51.6%, confirming the concentrated-ownership character of Indian listed firms, as documented by Jain et al. (2022). Audit-committee independence stands at 78.2%, well above the majority requirement, while only 64% of firms report having a financial expert on the committee.

Variable	Mean	Std Dev	Min	Max	Obs
ESG Score	54.32	12.74	18.60	91.40	486
E-Score	48.91	15.30	10.20	95.10	486
S-Score	55.18	13.89	22.40	88.70	486
G-Score	59.07	11.56	28.90	94.20	486
Board Indep. (%)	42.81	10.44	25.00	66.67	486
Board Size	8.64	2.31	5.00	15.00	486
Gender Diversity (%)	18.42	9.87	0.00	40.00	486
CEO Duality	0.34	0.47	0.00	1.00	486
AC Independence (%)	78.22	12.40	50.00	100.00	486
AC Expertise	0.64	0.48	0.00	1.00	486
Promoter Hold. (%)	51.63	16.78	8.40	82.10	486
Inst. Hold. (%)	22.47	11.92	2.10	58.60	486
Foreign Hold. (%)	8.83	9.14	0.00	46.50	486
ln(Total Assets)	9.87	1.23	7.12	13.44	486
Leverage	0.38	0.21	0.02	0.89	486
ROA (%)	8.91	6.44	-12.30	34.50	486

Table 2: Descriptive Statistics (n = 486 firm-year observations)

Pairwise correlations reveal a moderate positive association between audit-committee independence and the composite ESG score (r = 0.32), and between board independence and the G-Score (r = 0.28). CEO duality is negatively correlated with ESG performance (r = -0.24), whereas promoter shareholding is weakly negatively correlated (r = -0.19). No pairwise correlation exceeds 0.45 among the regressors, and VIF diagnostics confirm the absence of severe multicollinearity.

4.2 Fixed-Effects Regression Results

Table 3 presents results from two-way fixed-effects specifications. Column (1) regresses the composite ESG score on board-level attributes alone; column (2) adds audit-committee variables; and column (3) further includes ownership-structure controls. All specifications contain firm and year fixed effects and cluster standard errors at the firm level.

Regressor	Model (1) ESG Score	Model (2) ESG Score	Model (3) ESG Score
Board Independence	0.184***	0.142**	0.131**
Board Size	0.273**	0.251**	0.244**
Gender Diversity	0.091	0.078	0.074
CEO Duality	-1.824***	-1.691***	-1.658***
AC Independence	—	0.312***	0.298***
AC Expertise	—	1.437***	1.381***
AC Size	—	0.188	0.172
Promoter Holding	—	—	-0.044**
Institutional Holding	—	—	0.031*
Foreign Holding	—	—	0.018
ln(Total Assets)	1.234***	1.189***	1.152***
Leverage	-2.011**	-1.945**	-1.872**
ROA	0.143***	0.141***	0.139***
Firm FE / Year FE	Yes / Yes	Yes / Yes	Yes / Yes
R ²	0.384	0.451	0.467
Obs.	486	486	486

Table 3: Two-Way Fixed-Effects Regressions (*** p < 0.01; ** p < 0.05; * p < 0.10)

Board independence retains a statistically significant positive coefficient across all columns, though its magnitude declines once the audit-committee and ownership variables are included. This attenuation suggests that part of the board-independence effect is channelled through audit-committee composition—consistent with the substitution logic in Uyar et al. (2022). CEO duality, by contrast, carries a significant and stable negative coefficient: firms whose CEO also chairs the board score, on average, 1.66 points lower on the composite ESG metric after controlling for size, profitability, and leverage. Gender diversity shows no statistically significant association in any specification; Yadav et al. (2023) argued that numerical representation of women on boards is insufficient without corresponding expertise and influence, a reading that the data here support.

4.3 System-GMM and Robustness Checks

To address potential reverse causality—firms may adjust board composition in response to poor ESG outcomes rather than the reverse—the full specification (Model 3) is re-estimated using system GMM. The Sargan statistic (p = 0.34) confirms instrument exogeneity, and the first-stage F-statistics exceed 15 in all cases, ruling out weak instruments. The S-GMM point estimates broadly replicate the fixed-effects picture: AC independence and AC expertise remain significant at the one-per-cent level, CEO duality retains its negative sign and magnitude, and promoter holding continues to attenuate disclosure quality. Board independence, however, loses significance in the S-GMM specification, suggesting that part of the previously estimated effect may reflect endogenous board reshuffling rather than a causal governance channel.

4.4 Pillar-Level Analysis and Industry Heterogeneity

Table 4 disaggregates the dependent variable into its three ESG pillars to identify where governance mechanisms have the most significant impact. Audit-committee independence and expertise exert the most significant incremental effects on the Environmental and Governance sub-scores. In contrast, their association with the Social sub-score is weaker and, for AC size, insignificant. This pattern echoes Seth et

al. (2025), who documented a similar environmental-governance tilt in audit-committee effectiveness. Board size, by contrast, is positively associated with all three pillars, though the coefficient is largest for the Social score. This industry-level effect becomes apparent when the sample is restricted to consumer-facing firms.

Regressor	E-Score	S-Score	G-Score
Board Independence	0.098*	0.114*	0.182**
Board Size	0.198**	0.311***	0.201**
CEO Duality	-2.104***	-1.344**	-1.287**
AC Independence	0.341***	0.192*	0.378***
AC Expertise	1.612***	0.891**	1.554***
Promoter Holding	-0.051**	-0.038*	-0.042**
R ²	0.442	0.398	0.481

Table 4: Pillar-Level Fixed-Effects Regressions (*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$)

Industry-stratified regressions (results available on request) reveal that the governance–ESG linkage is strongest in the manufacturing and mining sectors, consistent with legitimacy-theory predictions: firms operating in environmentally sensitive industries face greater public scrutiny and therefore have more substantial incentives to demonstrate governance credibility through high-quality disclosure (Kumari et al., 2022). In contrast, for services-sector firms, the association between board independence and ESG scores is statistically indistinguishable from zero.

4.5 Difference-in-Differences: The 2021 BRSR Mandate

The DiD specification compares ESG-score trajectories for firms inside the top-1000 capitalisation threshold (treated) against those just below it (control) before and after the 2021 BRSR mandate. The estimated treatment effect is +4.18 points ($p < 0.05$), implying that the mandatory disclosure regime lifted composite ESG scores by approximately 8% relative to the pre-mandate mean. Parallel-trend tests conducted on pre-treatment data confirm no significant divergence in the two years prior to the policy change. The finding is consistent with Oware and Mallikarjunappa (2022), who documented a positive effect of mandatory CSR policies on social performance disclosure.

5. DISCUSSION

5.1 Audit Committee Effectiveness as the Key Governance Lever

Across all specifications and sub-samples, audit-committee independence and financial expertise emerge as the most reliable governance predictors of ESG performance. Two implications follow. For Indian regulators, the finding argues for mandating sustainability expertise—not only financial expertise—on audit committees, given the expanded scope of BRSR filings. For agency theory, the result confirms that effective monitoring requires not only structural independence but also the domain knowledge needed to evaluate the substantive quality of non-financial disclosures (Seth et al., 2025). The irrelevance of audit-committee tenure points in a different direction: long tenure appears to add less than fresh perspectives and genuine distance from management.

5.2 The Limits of Board Independence

Board independence, while significant in the fixed-effects model, loses explanatory power when S-GMM is applied—a pattern observed in other Indian studies (Jain et al., 2022; Nandi & Panda, 2023). One plausible channel is that the Indian definition of independence, anchored in the absence of pecuniary relationships, does not capture the social and cultural ties that can soften a director's willingness to challenge management. A second possibility is reverse causality: boards that are reformed after ESG underperformance

may inflate the cross-sectional correlation without reflecting a genuine governance mechanism. For policy, the takeaway is that numerical independence ratios, while necessary, should be complemented by director-effectiveness evaluations and mandatory training on sustainability issues.

5.3 CEO Duality and Concentrated Ownership

The negative effect of CEO duality on ESG scores is both statistically significant and stable across specifications. Gupta (2023) documented the same pattern for Nifty-500 firms, and Bhat et al. (2023) extended the finding to a stakeholder-centric framing of sustainable governance. In the Indian institutional context—where promoter-led firms frequently combine the CEO and chair roles—this carries regulatory weight: SEBI may consider strengthening the existing guidelines that discourage duality in large listed companies.

Promoter shareholding's negative association with ESG disclosure is consistent with the information-asymmetry channel identified by Jain et al. (2022): controlling shareholders who can extract private benefits have less reason to voluntarily disclose information that might attract regulatory attention or minority-shareholder activism. Institutional ownership, by contrast, acts as a partial offset, consistent with the monitoring hypothesis (Arti et al., 2024).

5.4 Regulatory Impact of the BRSR Mandate

The positive and statistically significant DiD estimate for the 2021 BRSR mandate aligns with the broader pattern of Indian regulatory interventions that yield measurable improvements in disclosure. The Companies Act 2013 CSR mandate, as shown by Oware and Mallikarjunappa (2022), appears to have increased social-performance disclosure; the BRSR appears to have produced a comparable uplift in composite ESG scores. This finding supports the logic of legitimacy theory that coercive institutional pressures can shift corporate behaviour, particularly when regulatory expectations are clearly articulated and uniformly enforced.

VI. LIMITATIONS AND FUTURE RESEARCH

Three boundary conditions shape how broadly the conclusions transfer. First, the sample covers only

Nifty 500 non-financial firms, so the findings may not extend to smaller-capitalisation companies or those in the financial sector. Second, ESG scores sourced from Capitaline are grounded in BRSR and predecessor BRR filings, where the transition between the two frameworks created inconsistencies in scoring; the panel may capture regulatory-change artefacts rather than genuine disclosure shifts. Third, the ten-year window spans a period of active regulatory reform; as BRSR implementation matures, the governance–ESG relationship may stabilise at different magnitudes.

Future work should address these limitations by expanding the sample to include mid-cap and small-cap firms, incorporating third-party-verified environmental performance data (such as emissions figures from pollution-control boards), and conducting qualitative process research—interviews with audit committee chairs and sustainability officers—to illuminate how governance structures influence disclosure quality. The interaction between sustainability and audit committees, as documented by Uyar et al. (2022), also warrants a dedicated investigation in India.

VII. CONCLUSION

This paper has demonstrated that, among Indian listed companies, audit-committee independence and financial expertise are the governance attributes most consistently linked to higher ESG disclosure scores. Board independence contributes positively but less robustly, and its effect appears to be partially subsumed by the audit committee channel. CEO duality imposes a measurable cost on sustainability performance, while concentrated promoter ownership attenuates disclosure incentives. The 2021 BRSR mandate produced a measurable increase in ESG scores for firms within its scope.

Among Indian listed companies, audit-committee independence and financial expertise are the governance attributes most consistently linked to higher ESG disclosure scores. Board independence contributes positively but less reliably, and its effect is partially channelled through the audit committee's composition. CEO duality imposes a measurable cost on sustainability performance, while concentrated promoter ownership attenuates disclosure incentives. The 2021 BRSR mandate produced a measurable increase in ESG scores for firms within its scope. For

regulators, the evidence points toward extending audit-committee mandates to encompass sustainability oversight and toward mandating genuine—not merely formal—independence. For corporate boards, directors' expertise and knowledge of sustainability should be weighted alongside structural independence. For investors, audit-committee composition deserves a place in ESG screening frameworks alongside headline scores. Together, these lessons point toward a more differentiated governance standard for sustainability in India's listed company sector.

REFERENCES

- [1] Agarwala, N., & Agarwala, N. (2022). Does board independence influence CSR performance? A GMM-based dynamic panel data approach. *Social Responsibility Journal*, 19(5), 942–960.
- [2] Arti, S. D., & Sharma, A. K. (2024). Corporate governance and sustainability reporting: A study of listed pharmaceutical companies in India. *Research Bulletin – ICAI*, 49(4), 25–36.
- [3] Arellano, M., & Bond, S. (1991). Some tests for specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, 58(2), 277–297.
- [4] Bhat, K. U., Chen, Y., Jebran, K., & Memon, Z. A. (2023). Effect of board structure on stakeholders' centric perspective of sustainable corporate world. *Journal of Global Responsibility*, 15(2), 244–264.
- [5] Bhat, K. U., Chen, Y., Jebran, K., & Memon, Z. A. (2024). Does sustainability assurance enhance the connection between corporate governance and firm performance in India? *Investment Management & Financial Innovations*, 21(3), 214–228.
- [6] Devarapalli, R., Kumari, P., & Yadav, S. S. (2024). Impact of corporate governance characteristics on integrated reporting quality: An empirical analysis, evidence from India. *Indian Journal of Corporate Governance*, 17(1), 26–48.
- [7] Fahad, P., & Busru, S. A. (2020). Impact of corporate governance on CSR disclosure. *International Journal of Disclosure and Governance*, 17, 82–103.
- [8] Gupta, M. (2023). Corporate board structure and ESG performance: An empirical study of listed firms in the emerging market. *Corporate Governance and Sustainability Review*, 7(2), 8–21.
- [9] Jain, A., Lohia, N., Mishra, S., & Gupta, S. (2022). Do ownership structures and governance attributes matter for corporate sustainability reporting? An examination in the Indian context. *Management of Environmental Quality*, 33(5), 1077–1096.
- [10] Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- [11] Kumari, P., Yadav, S. S., & Goyal, P. (2022). Board characteristics and environmental disclosures: Evidence from sensitive and non-sensitive industries of India. *International Journal of Managerial Finance*, 19(4), 731–755.
- [12] Nandi, S., & Panda, A. K. (2023). Towards a sustainable future: The interaction of corporate governance and sustainable policies with corporate social responsibility. *Indian Journal of Corporate Governance*, 16(2), 196–218.
- [13] Oware, K. M., & Mallikarjunappa, T. (2022). Corporate social responsibility assurance, board characteristics and social performance disclosure. Evidence of listed firms in India. *International Journal of Finance & Economics*, 27(4), 3567–3582.
- [14] Sahore, N., & Verma, S. (2019). Corporate voluntary disclosures and board independence of Indian companies. *Corporate Governance and Sustainability Review*, 3(1), 40–51.
- [15] Seth, R., Chadha, S., & Sharma, S. (2025). Demystifying the nexus of audit committee characteristics and sustainability performance. *Managerial Finance*, 51(3).
- [16] Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–606.
- [17] Uyar, A., Kuzey, C., Kilic, M., & Karaman, A. S. (2022). Audit and CSR committees: Are they complements or substitutes in CSR reporting, assurance and GRI framework adoption? *International Journal of Accounting and Information Management*, 30(4), 493–519.
- [18] Yadav, S., Jhariya, S., Srivastava, D. K., & Kumar, M. (2023). Sustainability disclosures and corporate boards: A stakeholder approach to

decision-making. *Journal of Applied Accounting Research*, 25(2), 362–384.