Refining ESG Disclosure's Role in Corporate Economic, Environmental, and Social Sustainability Performance

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1. Introduction

In light of corporate sustainability, today’s organizations must adhere to a higher number of environmental, social, and governance (ESG) standards. The transformation of sustainability performance enhances outcomes for people, the environment, and businesses as firms adopt environmentally friendly practices [1–3]. ESG information assists stakeholders in evaluating a company’s performance and making informed decisions, driving this transition [4, 5]. This study explores the intricate relationship among ESG disclosure, firm governance structure, investor engagement in ESG, and improvements in sustainability performance. Previous research demonstrates that these characteristics have complex relationships that need to be understood further to illustrate how they assist organizations in becoming more environmentally conscious [6–9].

The heightened emphasis on responsible and ethical corporate conduct in global business drove this investigation. Disclosure renders companies more accountable and transparent when confronting ESG issues [10, 11]. The study delves into the intricate relationship between ESG disclosure and sustainability performance to uncover how exposure enhances firm sustainability. Corporate governance heavily influences sustainability strategy. Complex governance structures, such as board composition and CEO compensation, affect the direction and pace of sustainability initiatives.
This study elucidates how intricate corporate governance systems either impede or bolster changes in sustainability performance.

Based on prior investigations, it has been established that investors are exerting a growing influence on the strategies firms employ to tackle ESG issues [14–16]. The involvement of investors, particularly through active engagement, has emerged as a pivotal factor in guiding organizations towards the attainment of their sustainability objectives [17–19]. This study analyzes how investors’ ESG practices affect a company’s capacity for development. The findings of this study will provide insights that businesses, investors, and policymakers can leverage to strike a balance between long-term sustainability objectives and economic development.

This study comprises five main parts. Section 1 furnishes the background, issue statement, key concepts, purpose, research questions, and importance of the study. Section 2 evaluates the literature and formulates hypotheses. Section 3 addresses the study’s sample, data, and research design. Results from empirical testing and discussion are presented in Section 4. Finally, Section 5 concludes the study.

2. Literature Review and Hypothesis Development

Many academic studies have evaluated corporate sustainability, ESG, and performance, examining aspects such as ESG disclosure, corporate governance, active investor involvement, and company sustainability. Prior research suggests that organizations should be honest in ESG reporting, maintain excellent control, and allow investors to influence them [20–22]. Hypotheses are evaluated utilizing these new ideas by Akbar et al. [23] to explore their relationships, aiding empirical research. Good ESG disclosure, corporate governance, and involved investors can foster sustainable business practices. Applying these concepts may illuminate the complex link between ESG standards and sustainable outcomes.

Stakeholder theory posits that companies have duties beyond shareholders, considering the care of customers, suppliers, staff, and communities. It holds that balancing stakeholder requirements ensures a company’s success and longevity. While research continues, stakeholder theory explains how ESG disclosure, excellent corporate governance, and active investor involvement promote sustainability [24–26]. Sharing ESG information, collaborating with investors, and having solid governance may help businesses thrive and satisfy stakeholders.

The Resource-Based View (RBV) of the company emphasizing distinct abilities and resources for competition. The RBV suggests that ESG practices may enhance a company’s social, environmental, and economic performance. Strategic ESG disclosure, corporate governance, and investor involvement may improve long-term competitiveness. Viewing through the RBV lens demonstrates how well-managed internal capabilities can increase sustainability and provide the firm with an advantage [27–29].

2.1. Sustainability Performance Transformation Index and ESG Disclosure Implementation

The Sustainability Performance Transformation Index (SPTI) evaluates corporate performance in terms of people, the environment, and the economy. It assesses factors such as waste management, employee satisfaction, and overall company performance. The SPTI aims to enhance a company’s sustainability. ESG disclosure provides insight into governance, ethical practices, and social performance. It includes a company’s social, environmental, and leadership policies, activities, and outcomes, which can assist investors, employees, and customers make informed decisions [30, 31].

The SPTI significantly influences ESG disclosures, particularly in ESG-focused businesses where SPTIs tend to be high. Enhanced transparency and accountability are associated with robust ESG disclosure practices, which help organizations manage sustainability risks and capitalize on opportunities, ultimately contributing to improved sustainability outcomes [32, 33].

Hypothesis 1 (H1): There is a positive relationship between ESG disclosure and the Sustainability Performance Transformation Index, signifying higher SPTI in companies with robust disclosure practices.

2.2. Sustainability Performance Transformation Index and Corporate Governance Structure

Company governance encompasses rules, practices, and processes delineating the duties and relationships of shareholders, directors, and management. A company manager’s primary objective is to ensure stakeholder satisfaction and long-term success. The SPTI evaluates a company’s social, environmental, and economic performance, considering energy consumption, waste disposal, labor conditions, human rights, and community engagement. This framework aids organizations in assessing and enhancing their environmental performance [34–36].

Management plays a crucial role in influencing the SPTI. Business sustainability is enhanced when management and stockholders share long-term objectives within a
robust corporate governance system. Factors contributing to this improvement include solid boards, transparent reporting, and active engagement with stakeholders [37, 38].

Hypothesis 2 (H₂): A robust corporate governance structures are linked to higher SPTI scores in companies.

2.3 Sustainability Performance Transformation Index and Investor Engagement in ESG Practices

We monitor and assist companies with ESG practices, emphasizing investor participation in ESG initiatives such as management involvement, proxy voting, or collaboration. The primary goal is to persuade companies to prioritize long-term value. The SPTI evaluates changes in company sustainability performance through ESG disclosures, focusing on how effectively a company communicates its sustainable development efforts and outcomes to stakeholders [39, 40].

The impact of the SPTI on ESG investors remains uncertain. High SPTI ratings aid organizations in managing ESG risks and seizing opportunities, potentially leading to increased profitability and investor confidence. ESG practices also help investors improve a company's SPTI score and overall sustainability. Investors can support the SPTI in various ways. Firstly, by encouraging companies to update their ESG data, which consumers rely on to assess sustainability. Secondly, by incentivizing firms to enhance their ESG practices, thereby benefiting society, the environment, and governance. Finally, investors who value ESG may promote sustainable business practices [41, 42].

Hypothesis 3 (H₃): There is a positive relationship between the SPTI and investor engagement in ESG practices.

3. Materials and Methods

3.1. Sample and Data

This study includes 121 participants with diverse backgrounds in India, selected based on factors such as business size, industry presence, and data availability. This strategic selection process ensures that participants comprehensively understand corporate sustainability. Firms were chosen using strict criteria to ensure representation across various company types, enhancing the generalizability of the findings to other contexts [43]. Given the diverse composition of the sample, the study enables analysis of ESG disclosure, corporate governance structures, investor participation, and changes in sustainability performance across different industries. Representative businesses were selected from multiple sectors, taking into account industrial and technical challenges, as well as potential opportunities.

The chosen sample size was deemed appropriate for statistical analysis and research purposes, guaranteeing sufficient data to determine the relationships. Detailed statistical analysis enhances the reliability and validity of the research, providing robust support for the study's objectives. A total of 15 well-designed survey questions were employed to collect quantitative data, utilizing Likert scales to assess ESG disclosure, corporate governance, investor participation, and sustainability performance. Additionally, three demographic questions were included to gather information on gender, age, and profession for better analysis. Flowchart analysis is shown in Figure 1.

3.2. Research Design

3.2.1. Dependent Variable

The Sustainability Performance Transformation Index (SPTI) is central to this research, summarizing a company's sustainability initiatives. The SPTI prioritizes economic, environmental, and social sustainability, offering a comprehensive overview of a company's sustainability efforts. This assessment encompasses energy consumption, waste management, working conditions, human rights, and community engagement. Various variables are considered to gauge the extent to which a corporation is committed to improving its environmental practices, tracking its progress along a transformational pathway to address existing
sustainability challenges. The SPTI illuminates how businesses balance social, environmental, and financial considerations, providing a detailed and concrete depiction of sustainability efforts [44, 45].

3.2.2. Independent Variables

The following components are essential for comprehending the intricate links between organizational activities and sustainability performance:

1) ESG Disclosure Implementation (ESGDI): This variable includes information about company environmental, social, and governance disclosures [46].

2) Corporate Governance Structure (CGS): This variable assesses business management through board composition, CEO remuneration, and shareholder participation [47]. The research investigates how effectively firm governance systems promote sustainability.

3) Investor Engagement in ESG Practices (IEESGP): As company ESG decisions are significantly influenced by shareholders, this criterion demonstrates the importance of investors in fostering business sustainability [48]. According to poll respondents, investors can potentially encourage environmentally friendly practices within corporations.

3.2.3. Control Variables

Additional control variables enhance analysis by accounting for confounding factors influencing the explanatory-dependent relationship. The chosen variables include:

1) Company Size: Categorizing firms as “small,” “medium,” and “large” helps in better understanding size-related considerations.

2) Industry Type: This variable contextualizes results by considering industry-specific concerns and opportunities.

3) Geographical Location: This control variable illustrates how location influences sustainability outcomes related to differences in laws, markets, and social standards.

4. Results and Discussion

4.1. Descriptive Statistics

Table 1 presents descriptive statistics for the variables examined in this study, offering an initial insight into their characteristics and laying the groundwork for further exploration through correlation analyses. The SPTI ranges from 3.00 to 15.00, with a mean of 11.2975 and a standard deviation of 3.75864. The distribution exhibits a slight negative skew (-1.125), indicating a slight asymmetry towards higher SPTI scores. The kurtosis value of 0.220 suggests a relatively normal distribution, with a minor weakness in the curve.

Regarding the independent variables, ESGDI, CGS, and IEESGP display similar patterns. Each of them ranges from 3.00 to 15.00, with mean values of 11.7355, 11.6198, and 11.8430, respectively. Standard deviations hover around 4, indicating moderate dispersion in responses. The skewness values range from -1.164 to -1.196, and -1.190 for ESGDI, CGS, and IEESGP suggest negative skewness, indicating a tendency towards higher scores. Kurtosis values of 0.220, 0.206, and -0.039 indicate distributions generally within normality, with minimal deviations. The consistent negative skewness across variables indicates a positive response trend. The kurtosis values suggest a distribution pattern close to normal, supporting the robustness of the data.
4.2. Correlations Analysis

The presented output in Table 2 sheds light on the intricate relationships among variables, utilizing Spearman's rho to assess the strength and direction of associations. The correlation coefficients reveal robust and significant connections among the factors. Notably, the SPTI demonstrates areas of strength for a relationship with each of the three independent variables:

- SPTI and ESGDI: The correlation coefficient of 0.765 (Sig. < 0.01) indicates areas of strength for a relationship. As organizations improve their ESG disclosure practices, there is a corresponding increase in the SPTI.
- SPTI and CGS: The correlation coefficient of 0.869 (Sig. < 0.01) suggests a strong positive relationship. This implies that organizations with well-defined corporate governance structures tend to have higher SPTI scores.
- SPTI and IEESGP: The correlation coefficient of 0.896 (Sig. < 0.01) demonstrates areas of strength for an association. This suggests heightened investor engagement in ESG practices aligns with increased SPTI scores.

Furthermore, strong correlations among the independent variables indicate potential interdependencies. A correlation coefficient of 0.963 (Sig. < 0.01) highlights a distinct relationship between ESGDI and CGS. The correlation coefficient of 0.873 (Sig. < 0.01) indicates a strong positive relationship between ESGDI and IEESGP. A correlation coefficient of 0.943 (Sig. < 0.01) suggests significant strength areas for a relationship between CGS and IEESGP. These results underscore the interconnected nature of ESG-related factors and their collective impact on sustainability performance. The high correlation coefficients and their statistical significance provide empirical support for the hypotheses positing relationships between ESG disclosure, corporate governance, investor engagement, and sustainability performance transformation.

4.3. Results of the Regression Analysis

The regression analysis reveals an exceptionally robust model for predicting the SPTI determinant. The model summary in Table 3 demonstrates a significant fit, with both the R-squared and Adjusted R-squared values standing impressively at 0.979. This implies that approximately 97.9% of the variability in the SPTI is elucidated by the amalgamation of the three independent variables: ESGDI, CGS, and IEESGP. Such a high explanatory power underscores the model's efficacy, especially when considering the complexity introduced by multiple predictors, thus offering a nuanced understanding of the variance accounted for.

The analysis of variance (ANOVA) in Table 4 further validates the model's strength. The F-statistic value of 1836.058, coupled with a p-value below 0.01, unequivocally confirms the statistical significance of the model. This robust statistical measure indicates that the three independent variables collectively exert a significant influence in predicting the variation observed in the SPTI variable.

Delving deeper into the examination of coefficients reveals the distinct contributions of each independent variable to the SPTI. As depicted in Table 5, specifically:

- The ESGDI standardized coefficient stands at -1.835 with a p-value < 0.01, signifying significance at the 1% level. This suggests that, when holding other factors
constant, a one-unit increase in ESGDI correlates with a substantial 1.835-unit decrease in the SPTI.

- Similarly, the CGS standardized coefficient is 2.499 with a p-value < 0.01, indicating statistical significance at the 1% level. This highlights that, under constant conditions, a one-unit increase in CGS results in a notable 2.499-unit increase in the SPTI.

- Lastly, the IEESGP standardized coefficient stands at 0.309 with a p-value < 0.01, also demonstrating significance at the 1% level. This suggests that, while holding other variables constant, a one-unit increase in IEESGP correlates with a discernible 0.309-unit increase in the SPTI.

Together, these findings underscore the robustness of the predictive model and offer invaluable insights into the individual contributions of each independent variable, thereby enriching the understanding of the factors influencing the SPTI.

4.4. Discussion

This study elucidates the interconnectedness of ESG disclosure, corporate governance, investor involvement, and sustainability improvement. Results of regression analysis suggest that these indicators have a significant impact on predicting changes in the SPTI, offering valuable insights for academia and practical application.

Naturally, ESG transparency influences the SPTI positively. However, this study found that ESG disclosure implementation has a negative impact on SPTI, indicating that companies with robust ESG transparency tend to exhibit lower SPTIs. This unexpected finding may suggest that leaders in ESG disclosure also uphold strong sustainability practices, thereby mitigating potential adverse effects [49–51]. However, it remains unclear whether transparency alone enhances sustainability. Further research is warranted to elucidate the influence of ESG disclosure on sustainability outcomes.

Conversely, this study proved that the SPTI is significantly influenced by corporate governance in a positive way. Governance systems are pivotal in shaping environmental behavior, with higher SPTI scores observed for well-governed companies. Strong governance is instrumental in organizational survival, aligning with stakeholder theory and emphasizing the importance of addressing environmental and social challenges [52, 53].

Furthermore, this study also found that there is a positive link between investor ESG engagement and the SPTI. Investors substantially influence company sustainability, with ESG factors increasingly shaping investment decisions. Companies that address these demands experience improvements in SPTI, underscoring the growing importance of prudent investment in global advancement [54, 55].

Lastly, with an R-squared score obtained close to 100% and the F-statistics value significant at 1% level, the model effectively explains significant relationships between the chosen variables. The SPTI can be predicted by ESG transparency, strong corporate governance, and investor engagement, providing a comprehensive understanding of company sustainability across multiple dimensions. Businesses should adopt a holistic approach to improvement, considering ESG disclosure, management practices, and investor involvement collectively.

5. Conclusions, Implications and Limitations

This study reveals that although ESG transparency appears to have a positive influence on SPTI, the unexpected negative impact suggests that companies with robust ESG disclosure may already integrate strong sustainability practices. Conversely, corporate governance demonstrates a clear positive correlation with SPTI, highlighting the critical role governance plays in driving environmental behavior and organizational resilience. Additionally, investor ESG engagement emerges as a significant factor positively affecting SPTI, underscoring the growing importance of aligning investment decisions with sustainability goals.

This research contributes to corporate sustainability by examining real-world ESG disclosure, corporate governance, investor involvement, and sustainability performance. The robust regression model demonstrates how these factors affect the Sustainability Performance Transformation Index overall and individually. The complex implications necessitated studying and implementing commercial improvements, which assist companies, investors, and governments address sustainable development issues. The findings of this study may aid firms that seek to generate revenue while maintaining social and ecological responsibility amidst the development of global sustainability issues.

This research possesses both strengths and limitations. The utilization of cross-sectional data renders demonstrating causality challenging. Longitudinal research implies that ESG disclosure, corporate governance, and investor involvement could influence sustainability. However, it’s crucial to note that this study only scrutinized a limited number of businesses and localities, hence its conclusions may lack universal applicability. Furthermore, future studies should contemplate integrating additional variables hypothesized to impact SPTI, thereby enriching the
literature concerning corporate economic, environmental, and social sustainability performance.

**Author Contributions:** Conceptualization, S.R. and I.H.; methodology, S.R.; software, S.R.; validation, I.H.; formal analysis, S.R. and I.H.; investigation, S.R.; resources, S.R.; data curation, S.R.; writing—original draft preparation, S.R.; writing—review and editing, I.H.; visualization, S.R. and I.H.; supervision, I.H.; project administration, I.H. The authors have read and agreed to the published version of the manuscript.

**Funding:** This study does not receive external funding.

**Data Availability Statement:** Not available.

**Acknowledgments:** The authors would like to express their gratitude to their respective institutions.

**Conflicts of Interest:** The authors declare that there are no conflicts of interest.

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