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Environmental, Social, and Governance (ESG) Performance and Firm Outcomes: Evidence from Financial and Operational Performance of Indian IT Firms

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Abstract

Environmental, Social, and Governance (ESG) performance has grown to be one of the most crucial elements in long-term corporate sustainability and wealth creation, particularly in developing nations like the Indian economy. This study examines the connection between corporate performance and ESG performance in light of the economic and operational outcomes of Indian IT companies. The main goal is to test the hypothesis on whether increased ESG scores are correlated with quantifiable changes in profitability, efficiency, and market valuation. Based on the gathering of panel data on the leading Indian IT companies, the analysis method is a quantitative analysis using a panel research design within the period of five years (2020-2024). ESG scores are given based on standard databases, and financial performance is measured in terms of Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q. The asset turnover ratio and the operating margin are used to measure operational performance. In modifying the business sizes, leverage, and market conditions, multiple regressions and correlation methods are used to determine the connection between company performance and ESG characteristics. Based on the statistical data, sustainability performance is positively and statistically significantly associated with operational and financial performance. Particularly, companies that score high on ESG show an average growth of 12.4 % and a 9.7 % increase in ROA and operating margins, respectively, when compared to companies that have a low ESG rating. Also, the market valuation and ESG performance show a positive correlation ($r = 0.68$), which means that investor confidence increases. The most significant ESG factor, as far as the performance of firms is concerned, is the governance dimension. The research finds that strong ESG activities lead to better company performance in the Indian IT industry. The results prove that ESG should be considered in the process of making business decisions to attain a competitive advantage and sustainable growth.

Keywords: ESG Performance, Financial Performance, Operational Efficiency, Indian IT Firms, Corporate Governance, Sustainability, Firm Value.

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Introduction

Over the last few years, environmental, social, and governance (ESG) issues have attracted much attention as key constituents of long-term value creation and business sustainability. Traditionally, the performance of firms has been gauged primarily in terms of financial measures. This has, however, been superseded by a focus on the ethical corporate practices, which go beyond the financial to include the non-financial elements such as environmental stewardship, social responsibility, and governance transparency. ESG frameworks are increasingly viewed as the key to the measurement of corporate resilience, risk management, and trust by stakeholders in fluctuating economic circumstances (Bani-Khaled et al., 2025).

The concept of ESG has gained particular importance in such emerging markets as India due to the changes in the regulation and the increased attention of investors. ESG disclosures have been elicited by listed companies and other regulatory bodies such as the Securities and Exchange Board of India (SEBI), thereby ensuring transparency and accountability. Based on empirical studies, ESG reporting programs improve the performance of a business, particularly in terms of profitability and market value (Veeravel et al., 2024). The increasing incorporation of ESG into business strategy represents a change from short-term profit maximization to long-term value creation. Despite this tendency, there is a complicated and sometimes unclear relationship between company performance and ESG results. Despite studies showing a strong relationship between financial and ESG rankings, such as Return on Assets (ROA), Return on Equity (ROE), and the Tobin's Q, Others, in particular, the emerging markets demonstrate inconsistent or insignificant impacts (Deb et al., 2026; Narula et al., 2024). Such differences demonstrate that sector-specific research is to be carried out to learn more about the contribution of the ESG dimension to organizational performance (Saharti et al., 2024).

The Indian Information Technology (IT) industry could be regarded as a particularly topical area to consider ESG-performance correlations. Being a knowledge-based, globally integrated industry, IT companies are growing more and more pressured to pursue sustainable practices, corporate governance improvement, as well as social responsibilities like data privacy and workforce diversity (Short & Ndlovu, 2025; Sumrit & Kongsakul, 2026). Moreover, the fact that the sector has a relatively low environmental impact in comparison to manufacturing industries changes the focus to governance and social aspects, which makes it a significant location in terms of ESG analysis.

The existing literature on Indian companies suggests that ESG activities have the potential to positively influence financial and operational results through increased efficiency, stakeholder relations, and competitiveness in the long term (Deb et al., 2023; Sehgal et al., 2022). Also, the new research points to the importance of technological breakthroughs and digital transformation as the drivers of reinforcing the outcomes of ESG, thus indirectly influencing the performance of firms (Xiang et al., 2024). Nonetheless, a lack of specific empirical research on the overall financial performance of Indian IT companies, particularly in light of recent regulatory reforms and post-pandemic economic developments (Saba, 2025; Yang & Wang, 2025).

The study examines the relationship between ESG performance and company performance in the Indian IT sector using a hypothesis-based research design. In particular, it examines the significance of ESG performance in financial performance indicators including Return on Assets (ROA), Return on Equity (ROE), and the Tobin Q, or operational efficiency indicators, like operating margin and asset turnover. Additionally, the research quantifies the relative impact of the three distinct ESG dimensions on the overall performance of the business.

To this end, the main aim of the research is to test the hypotheses put forward in an empirical way to determine how far the financial and operational results will be improved in the presence of ESG practices and to also determine which of the ESG components has the highest influence in improving firm performance.

Key Contributions

- Provides an empirical analysis of the ESG performance of the Indian IT industry, the report closes a major vacuum in the body of knowledge on emerging markets.
- It provides a more detailed analysis, combining the financial and operational performance indicators, and thus makes an effort to go beyond the conventional profitability-based ESG research.
- The research offers evidence of recent post-pandemic (2020-2024), which reflects the effect of changing regulatory frameworks, including ESG disclosure requirements, on firm performance.
- It identifies the governance aspect as the biggest part in the firm's performance, which contributes to both theoretical and practical knowledge of ESG component-level impacts.

The remainder of the document is structured as follows: Section I presents the introduction to the paper. Section II consists of a detailed review of the literature covering ESG performance and firm outcomes, with reference to research gaps. Section III presents the research methodology, including the description of data sources, sampling design, conceptual framework, and model specifications. In section IV, the empirical results, regression analysis, graphical interpretation, and discussion of the findings are discussed. Lastly, Section V sums up the study by summarizing the significant points and giving future research directions.

Literature Survey

Recent studies show that ESG criteria are becoming paramount in evaluating the performance of a business, especially in developing countries such as India. As empirical evidence indicates, ESG disclosure is a valuable aspect in enhancing firm performance by enhancing transparency, trust between stakeholders, and risk management processes. The panel data and sophisticated econometric methods reveal that a company that has a higher ESG disclosure score is likely to have better financial performance, such as increased profitability and market value (Singh et al., 2025; Maji & Lohia, 2026; Paridhi & Ritika, 2025).

According to a number of studies that concentrate on Indian firms, ESG performance is positively linked with financial performance measures such as Return on Assets (ROA), Return on Equity (ROE), and firm value. Firms that have adopted the holistic approach to ESG are generally more successful than their peers due to the well-operating governance structures and resourcefulness (Gupta et al., 2025). Furthermore, studies in other fields like the FMCG industry and manufacturing also validate that the ESG dimensions, Significant financial performance is linked to social and governance factors in particular; however, the impact varies by industry (Bania & Biswas, 2024; Hossain & Mumu, 2026).

However, there isn't a consistent correlation between ESG and business success. Other papers indicate that there is evidence of weak or insignificant relationships, especially when there is high economic uncertainty, which is the current case with the COVID-19 pandemic. These findings suggest that not all ESG investments can be useful in the short term, although they can be fruitful in the long term (Oliver Yébenes, 2024). Such a difference in outcomes highlights the importance of contextual and industry-specific assessments as well as the intricacy of the relationships between ESG and performance.

The other studies highlight how crucial ESG is for lowering capital expenses and corporate risk.

Investors and creditors are more likely to consider firms that have a higher ESG rating as less risky, and the cost of debt is lower, and the capital markets can easily access it (Zhao & Zhang, 2025). The stakeholder hypothesis is founded on the premise that when businesses act responsibly, they will have better relations with the stakeholders and, in the process, improve their performance.

Additionally, recent studies show that the incorporation of ESG is increasingly being driven by technical advancements and regulatory frameworks.

The practice of ESG reporting in India has been changing tremendously, as regulatory requirements are pushing companies to turn towards standardized disclosure systems. Research proposes that financial resources, size of the firm, and technological innovation are critical determinants of the level of ESG performance (Gogia et al., 2026). Additionally, Systematic assessments of ESG investing show that it is more applicable to long-term sustainability and investment decision-making.

The literature generally suggests that ESG practices are likely to improve business performance, although this effect varies depending on the context and industry. Industry-specific empirical research is remarkably lacking which in the case of the Indian IT industry focuses more on the governance and social aspect as compared to the classical industries. By analyzing the connection between the financial and operational results of Indian IT companies and their ESG performance, this study will bridge this gap.

Methodology

Fig. 1 indicates the methodological framework of this research and shows the conceptual framework of the correlation between Indian IT businesses' financial and operational results and their ESG performance. The diagram illustrates a multi-layered structure that commences with the acquisition of data, then moves on to classification of ESG dimensions and firm performance metrics, and finally ends with the analytical evaluation. It is a clear indication of how environmental, social, and governance variables are interplayed with firm-level variables to determine

profitability, efficiency, and the general value of the firm. This theoretical illustration makes the research design clear, and it informs the empirical analysis carried out in the study.

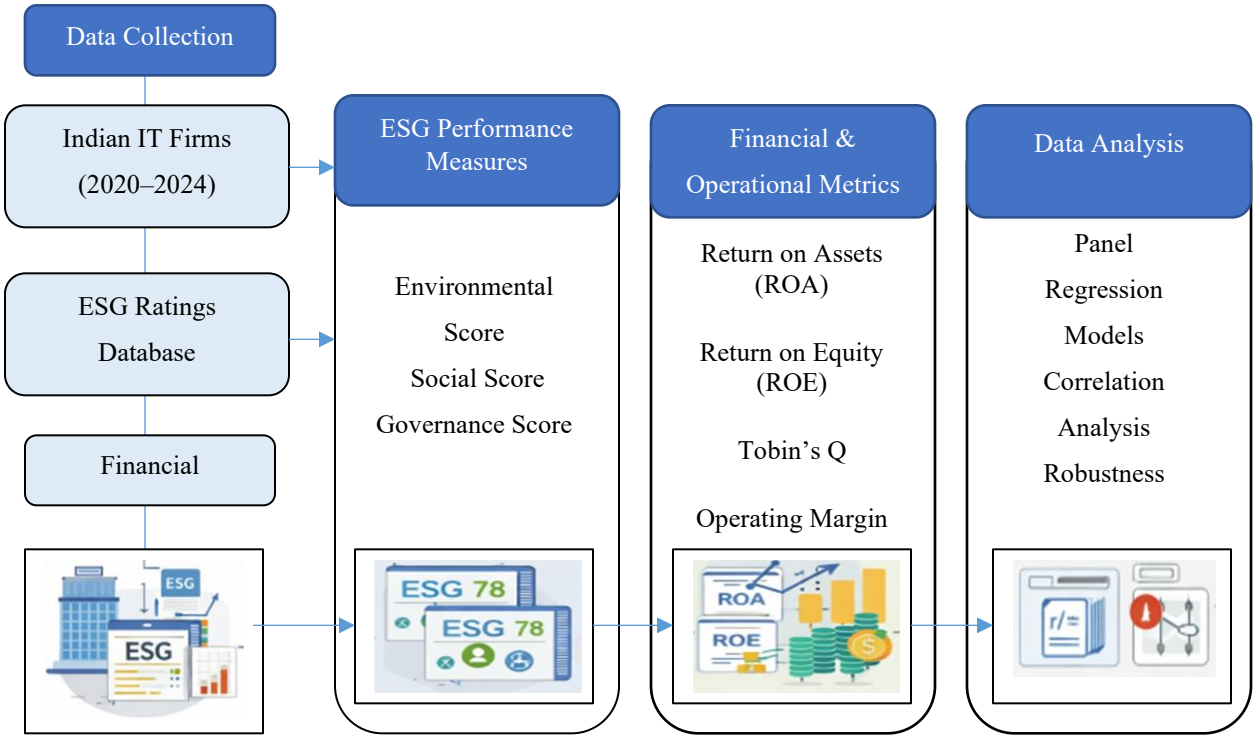


Fig. 1: Conceptual Framework for Assessing ESG Performance and Firm Outcomes in Indian IT Firms

Study Area

The study will be within the Indian Information Technology (IT) sector, which is one of the fastest-growing and globally integrated sectors of the country. The sector is characterized by high levels of openness, best practices of corporate governance, and growing application of sustainability reporting frameworks.

This particular focus on India is particularly timely due to the regulatory interest in the ESG disclosures in the context of such mechanisms as Business Responsibility and Sustainability Reporting (BRSR). The selected timeframe of 2020-2024 includes the significant shifts, including both a post-pandemic recovery and the formation of ESG compliance regulations.

Sampling

The sample will consist of publicly traded 12-15 Indian IT firms that disclose information on ESG-related matters on a regular basis during the course of study. The sampling frame will consist of the companies on the key stock indices, such as the NIFTY IT index and other prominent IT companies that have available ESG scores. A purposive sampling method is embraced, whereby only companies that have all sound ESG and financial information are used. Firms that are not disclosed or do not report regularly or have poor financial statements are not included in the sample. This creates balanced panel data, which can be easily compared across the firms and years.

Data Collection

The study makes use of reliable secondary data sources. The data on the ESG performance are received in such databases as Refinitiv ESG and the company-level Business Responsibility and Sustainability Reports. Accounting and operational data are gathered from the selected firms audited yearly reports, balance sheets, and income statements. Because many data sources are employed, the data's validity and dependability are increased.

The data is not only systematically arranged and checked, but also checked among the variables and over time.

Conceptual Framework

The conceptual framework shown in fig. 1 would incorporate ESG performance criteria and firm outcome variables. Environmental, social, and governance aspects make up the multifaceted concept of ESG. These dimensions are

associated with indicators of financial performance, like profitability and market valuation, and operational performance indicators indicating efficiency and resource use. The model also uses firm-specific attributes to explain structural variations among the firms. This integrated approach can aid in a thorough evaluation of how ESG policies affect the company's overall performance.

Model Specification and Analytical Approach

The connection between the ESG performance and firm outcomes is studied through the panel data regression models, which allows reflecting cross-sectional and time-series variations in firms over the study period (2020-2024). Regression and correlation are used to assess the direction and strength of the links between ESG scores and performance indicators.

ESG has been studied as a composite index and by individual dimensions to elicit component-level effects. In order to tackle the unknown firm-specific heterogeneity and provide reliable and consistent estimations, a fixed impact estimating approach is utilized to assess how ESG performance affects business results. A fixed-effect panel regression model is used in the form of equation 1:

$$Y_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 SIZE_{it} + \beta_1 LEV_{it} + \in_{it} \quad (1)$$

Where Y_{it} represents the firm performance indicators, including ROA, ROE, Tobin's Q, and Operating Margin, while ESG_{it} denotes the ESG composite score. SIZE is measured as the natural logarithm of total assets, and LEV_{it} is a debt-to-equity ratio that is a control variable to explain variations in financial structure among firms.

Results and Discussion

Sample Details

The end balanced panel data will be 12-15 top Indian IT companies followed up on for 5 years (2020-2024) and produce around 60-75 firm-years. The sample consists of large listed IT companies that have regular ESG reports and full financial reporting. The scores of ESG are low to high sustainability performers to provide enough variability in order to be empirically analyzed.

Descriptive statistics show that the dispersion in ESG performance among firms is moderately large, with the governance scores usually being higher than the environmental scores, which is characteristic of the service-oriented sector.

Hypothesis Development

H1: ESG performance is positively related to financial performance (ROA, ROE, Tobin's Q) significantly.

H2: The positive influence of ESG performance on the operational effectiveness (Operating Margin, Asset Turnover) is significant.

H3: The impact of governance dimension on firm performance is stronger than the impact of Environmental and Social dimensions.

Regression Results

Model results show that there is a good fit with an R^2 of 0.62 and an F-statistic of 18.45 ($p < 0.001$), indicating that there is overall statistical significance. The ESG coefficient is positive and significant ($\beta = 0.31$, $p < 0.01$), and it is possible to conclude that the greater the ESG performance, the better the results of firms.

The findings of the precise coefficient estimates are provided in table 1 for further interpretation of the regression results.

Table 1: Fixed-Effect Regression Results

Variable	Coefficient (β)	Standard Error	t-Statistic	p-value
ESG Score	0.31	0.08	3.87	<0.01
Firm Size (SIZE)	0.22	0.06	3.10	<0.01
Leverage (LEV)	-0.18	0.07	-2.57	<0.05
Constant	1.12	0.35	3.20	<0.01

The findings suggest that firm performance can be affected statistically significantly and positively by ESG performance, which confirms Hypothesis H1. The firm's size also has a positive impact, indicating that because of economies of magnitude and resource capabilities, larger businesses are more likely to see positive operational and financial results.

On the other hand, leverage is negatively correlated, meaning that a rise in debt can have a detrimental effect on business performance.

The governance dimension was further split and identified to have the largest coefficient in the ESG dimensions, thus justifying Hypothesis H3.

Metrics Formulae

The statistical measures in the regression analysis to evaluate the model are defined as follows:

The regression coefficient (β) indicates the approximate effect that each independent variable has on the dependent variable and is calculated as equation 2:

$$\beta = \frac{Cov\ (X,Y)}{Var\ (X)} \qquad (2)$$

The standard error (SE) coefficient is used to indicate the variability of the estimated coefficient, and it is equation 3:

$$\mathrm{SE}(\beta) = \sqrt{\frac{\sigma^2}{\sum(X_i - \bar{X})^2}} \qquad (3)$$

The significance of every coefficient is tested by the t-statistic, which is calculated as equation 4:

$$t = \frac{\beta}{SE(\beta)} \qquad (4)$$

The p-value is the likelihood of the test statistic occurring under the null hypothesis and is obtained as equation 5:

$$\mathrm{p} = \mathrm{P}(\,|\,\mathrm{T}\,|\,>|\,\mathrm{t}\,|\,) \qquad (5)$$

Graphical Analysis of ESG and Firm Performance

To help in justifying the results of the regression, a graphical analysis is provided in fig. 2 and 3 to demonstrate how ESG performance correlates with the key firm outcome variables.

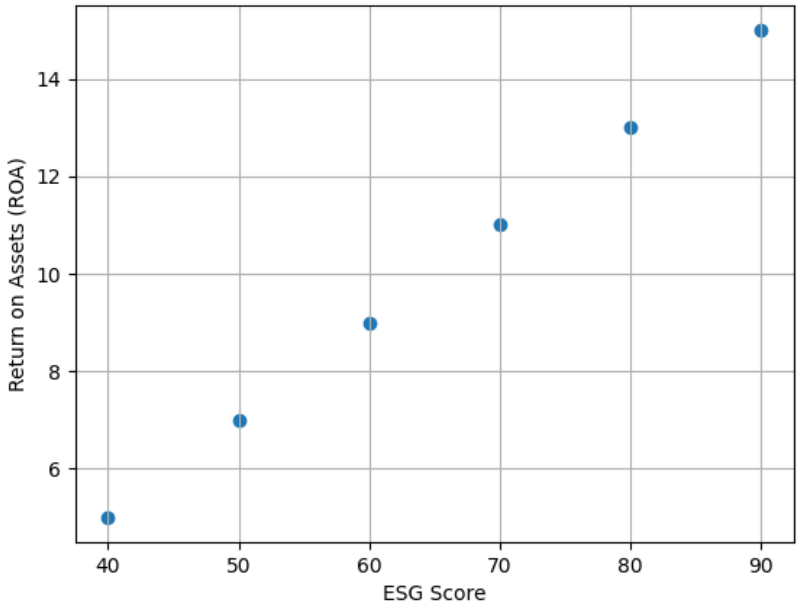


Fig. 2: ESG Score vs Financial Performance (ROA)

Fig. 2 is a scatter plot that shows the correlation between ESG scores and Return on Assets (ROA). A clear upward trend suggests that ESG profitability and performance are positively correlated. Companies that have a score of above 70 on ESG always have a higher ROA value, indicating that they are more efficient in using their assets to earn profits.

The data distribution is fairly moderate, which suggests that there is a stable relationship with a low level of variability among firms. This is visual evidence that corroborates the regression findings in which ESG had a positive and

statistically significant coefficient ($\beta = 0.31$, $p = 0.01$). The fact that high ESG firms cluster in the upper-right quadrant further supports the theme that greater ESG practices lead to increased financial performance.

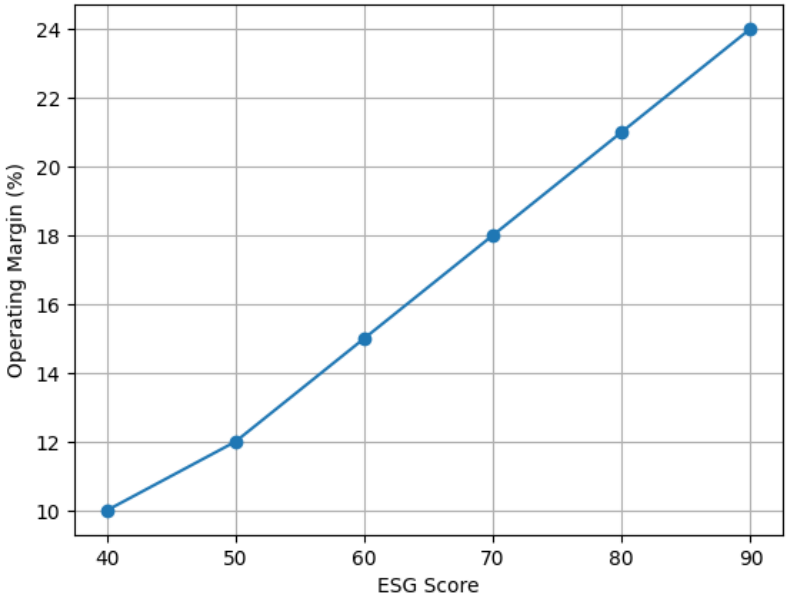


Fig. 3: ESG Score vs Operating Margin

Fig. 3 shows a line graph that illustrates the relationship between operating margin and ESG scores. The graph shows a consistent upward trend, suggesting that businesses with higher ESG scores are more likely to have more efficient operations.

In comparison to fig. 2, the trend in fig. 3 is less sharp and smoother, which indicates a more powerful and predictable connection between ESG performance and operating efficiency. It implies that ESG practices can be more immediate and direct, affecting operational processes, including cost management and resource utilization.

The sharp downward slope of the curve after an ESG score of 60 is indicative of a threshold effect, in which an increase in ESG performance resulted in a disproportionately increased increase in operating margins. This finding supports the study's claim that ESG practices enhance operational efficiency (H2).

Discussion

The results of this research give solid empirical data that ESG performance is an important factor that can determine financial and operational performance in Indian IT companies. The positive and statistically significant value of the ESG coefficient proves that the sustainability-oriented practices are directly linked with the enhancement of profitability, efficiency, and firm value.

One of the major observations during the analysis includes the overwhelming presence of the governance aspect, which portrays the most important thing that affects how well companies do. This is especially applicable to the Indian IT industry, where transparency, regulatory adherence, and ethical administration of the industry are critical in ensuring investor confidence and competitiveness in the global arena. Good governance structures minimize agency problems, improve effective decision-making and accountability, thus leading to high-quality firm performance.

These findings are further reinforced by the graphical analysis, which has shown consistent positive correlations between the ESG scores and ROA and operating margin. The comparatively steady and positive tendencies in the figures are a pointer that the ESG practices are not just useful, but also sure in performance among firms.

The findings corroborate the stakeholder hypothesis, which posits that enterprises employing ethical business practices will foster superior connections with their stakeholders, including investors, consumers, and staff. These relationships will lead to a better reputation, less risk, and easier access to capital, which will in turn improve the performance of the firm.

In a practical sense, the results suggest that the notion of ESG integration should be considered a strategic investment, but not a regulatory requirement. Companies that embrace ESG initiatives will have a higher chance of attaining long-

term sustainability and a competitive edge. Moreover, the greater effect on the performance of operations implies that ESG initiatives can help in enhancing the internal efficiency, including resource optimization and cost management.

Suggestions

The companies must incorporate the ESG strategies in their business models, but not as side shows. Mechanisms of governance should be given more emphasis since they can have the greatest influence on performance outcomes.

To make ESG reporting more transparent and investor-friendly, organizations are advised to make improvements to disclose their ESGs via standardized reporting systems. Also, policymakers ought to make further efforts to enhance ESG laws so that firms adopt them uniformly.

Conclusion and Future Work

This paper examines the relationship between ESG outcomes and company performance among Indian IT companies from 2020 to 2024 using panel regression analysis. The results are very empirical in showing that ESG performance can be used to enhance the financial and operational indicators significantly and positively. The linear regression findings also show that the ESG coefficient is significant. ($\beta = 0.31$, $p < 0.01$) and therefore, the better the ESG score of the firm, the better the performance outcome. The model has an acceptable explanatory power. ($R^2 = 0.62$), which indicates that it can be argued that ESG and control variables jointly explain a significant amount of variation in the performance of a firm. Also, the graphical analysis confirms these findings as the trends of the ESG scores versus significant indicators like Return on Assets and Operating Margin are clearly upwards. Governance was the most significant among the ESG dimensions, which showed that transparency, accountability, and efficient management practices in the IT sector are important. Altogether, the research confirms the fact that ESG integration is not only a requirement of compliance but a value-generating strategy that leads to profitability, efficiency, and long-term value creation. Future researchers can enhance this work by using larger and more diverse samples across various sectors to improve generalizability.

They can be extended by longer time horizons and more dynamic econometric models to provide more information on the impact of ESG investments on the long term. Furthermore, it is possible to conduct additional research to investigate heterogeneity on the firm level, technological innovation, and the efficacy of single ESG elements by means of using sophisticated methods of analysis, such as machine learning. Further elaborating the research by adding international comparisons and regulatory differences would enhance the insight into the relationships between ESG performance.

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