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Do Green Hospitals EARN More? A Study on ESG Scores and Profitability

Aishwarya Rao Lalige[1] and T. K. Venkatesh[2]

[1]Research Scholar, Department of Commerce, Bangalore City University, Bengaluru - 560001, Karnataka, India; aishwarya.rao8@gmail.com

[2]Associate Professor, M.P. Birla institute of Management, Bengaluru - 560001, Karnataka, India; venkateshatk1983@gmail.com

Abstract

The incorporation of Environmental, Social, and Governance (ESG) principles into the healthcare industry has become a vital strategy for promoting sustainable and ethical healthcare services. Complying with ESG standards in healthcare organisations enhances operational transparency and accountability while also leading to improved patient outcomes, better alignment with regulations, and stronger long-term financial performance. Despite the healthcare sector's integral role in public health, adherence to ESG practices is often inconsistent, frequently confined to voluntary reporting rather than systematic implementation. This research examines the current state of ESG compliance in the healthcare sector, with a particular focus on healthcare institutions in India. By examining ESG reports, regulatory policies, and sustainability metrics, the study uncovers the main drivers and obstacles to complying with ESG standards. An analytical method, correlation analysis, was applied to evaluate compliance levels among public and private hospitals. The results demonstrate that while governance-related elements, including board diversity and ethical conduct, are being embraced more widely, environmental aspects such as waste management and energy use remain underdeveloped. Social dimensions, such as patient equity and staff welfare, exhibit moderate compliance rates. The research concludes that the absence of standardised ESG frameworks, limited awareness, and weak regulatory enforcement impede consistent ESG compliance in healthcare. Enhancing ESG policies and instituting healthcare-specific ESG benchmarks could promote faster adoption and contribute to more resilient and sustainable healthcare systems.

Keywords: ESG, ESG Policies, Health Care Sectors, Standardised ESG Framework

JEL Classification Code: M14, I12, Q56, G32, L30

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'Aarogyam Paramam Bhagyam, Swasthyam sarvarthasadhanam'
Health is the greatest wealth, and well-being is the means to achieve everything

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1. Introduction

In recent years, the concept of Environmental, Social, and Governance (ESG) has evolved from a voluntary corporate initiative into a critical framework for assessing sustainability, ethical responsibility, and long-term business resilience. The post–COVID-19 era has highlighted the interdependence between public health, environmental stability, and corporate governance. As a result, many pharmaceutical companies, hospitals, and diagnostic laboratories have voluntarily adopted ESG frameworks to enhance their credibility, stakeholder trust, and operational efficiency.

In India, following the Securities and Exchange Board of India (SEBI) mandate in 2023, the top 1,000 listed companies are now required to disclose their sustainability practices through the Business Responsibility and Sustainability Report (BRSR). While this move has significantly improved transparency and accountability in large corporations, the healthcare industry, comprising over 80% Small and Medium-sized Enterprises (SMEs), is still at a nascent stage of ESG adoption. Nevertheless, many medium-sized hospitals and private clinics are proactively aligning with ESG principles, anticipating mandatory compliance in the near future.

Adopting and integrating ESG practices is not just a matter of compliance, but also a symbol of status, standard, and reputation among stakeholders, including investors, regulators, and patients. Although there is no standardised reporting format specifically for the healthcare sector, several hospitals have begun following the NSE–BRSR guidelines and preparing internal sustainability reports. This shift reflects a broader global trend of integrating social responsibility with economic growth and environmental stewardship.

ESG information is increasingly being required by organisations to:

- Ensure long-term financial performance and institutional resilience
- Strengthen risk management and crisis preparedness
- Promote ethical and transparent corporate behaviour
- Meet the growing investor demand for sustainable assets
- Comply with regulatory frameworks and global reporting standards
- Align with personal and societal values that prioritise people and the planet

For the healthcare sector, ESG principles serve as a vital foundation for how institutions address climate change, promote social equity, maintain data security, and uphold corporate governance standards. Hospitals are major consumers of energy and generators of biomedical waste, making environmental responsibility crucial. Similarly, the social dimension, including patient care quality, workforce diversity, and accessibility, directly influences a hospital's reputation and service sustainability. The governance aspect ensures accountability, transparency, and adherence to ethical medical practices.

Globally, ESG-driven healthcare transformation is being accelerated through initiatives such as

the United Nations Sustainable Development Goals (SDGs), the World Health Organisation's (WHO) Green Hospitals Initiative, and the Global Reporting Initiative (GRI) healthcare standards. The ultimate goal is to achieve sustainable healthcare delivery systems by 2030, systems that balance patient well-being, operational efficiency, and environmental protection.

While regions such as Europe, the United States, and the United Kingdom have made significant strides in establishing measurable ESG benchmarks and sustainability-linked financing mechanisms, countries like India and China are still in the early stages of consistent implementation. However, growing investor interest, patient awareness, and regulatory evolution are driving Indian healthcare institutions to embrace ESG as not only a compliance requirement but a strategic necessity for long-term success.

In recent years, Environmental, Social, and Governance (ESG) principles have gained significant importance as a framework for evaluating corporate sustainability, ethical responsibility, and long-term financial performance. Organisations across various industries are increasingly adopting ESG practices to enhance transparency, improve stakeholder trust, and ensure sustainable growth. The healthcare sector, which plays a critical role in public welfare, is expected to demonstrate high standards of social responsibility, environmental protection, and ethical governance. However, healthcare institutions are also among the most resource-intensive organisations due to continuous operations, high energy consumption, biomedical waste generation, and dependence on complex technologies. This creates a need for effective ESG adoption to balance operational efficiency with environmental and social responsibility. Despite the growing importance of ESG, the level of adoption in the healthcare sector remains uneven, particularly in developing countries like India. While large private hospitals and pharmaceutical companies have started disclosing ESG information to comply with regulatory requirements and attract investors, many healthcare institutions still lack standardised sustainability reporting practices. Public healthcare organisations, in particular, show limited ESG disclosure due to the absence of mandatory frameworks, lack of awareness, and resource constraints. As a result, it becomes difficult to evaluate the actual level of sustainability performance across the healthcare sector. Another important issue is the lack of empirical evidence regarding whether ESG adoption actually improves financial performance in healthcare organisations. Although several studies in other industries suggest that higher ESG performance is associated with better profitability, lower risk, and stronger investor confidence, limited research has been conducted specifically in the healthcare sector, especially in the Indian context. Healthcare organisations operate with both social and financial objectives, and therefore, the relationship between ESG practices and profitability may differ from other industries. Furthermore, most existing studies focus on ESG disclosure rather than analysing the statistical relationship between ESG scores and financial outcomes. The absence of sector-specific ESG benchmarks for healthcare institutions also makes it difficult to measure and compare sustainability performance accurately. Therefore, there is a need to examine

whether healthcare organisations that adopt higher ESG standards actually perform better financially and whether ESG integration contributes to long-term organisational sustainability. In this context, the present study attempts to address this problem by analysing the level of ESG adoption among selected Indian healthcare companies and examining the relationship between ESG scores and profitability using statistical tools. The study aims to provide empirical evidence on whether adopting green and responsible practices leads to better financial performance in the healthcare sector.

A comparative study of how public and private sector hospitals adapt ESG practices and what are the challenges in the ESG framework:

Literature Review

Healthcare organisations play a pivotal role in promoting public health and social welfare; however, they also contribute significantly to environmental degradation through high energy consumption, biomedical waste generation, water usage, and reliance on resource-intensive technologies. According to Health Care Without Harm (2023), hospitals operate continuously and require large amounts of electricity, medical plastics, pharmaceuticals, and sterilisation equipment, making the healthcare sector one of the most resource-intensive service industries. This dual responsibility as both protectors of health and contributors to environmental pollution highlights the urgent need for sustainability-

Aspect	Public Sector Hospitals	Private Sector Hospitals
Environmental	Limited ESG frameworks - Basic biomedical waste handling - Low energy efficiency adoption	Green building certifications (*e.g.*, Apollo, Fortis) - Solar, water reuse projects - Energy-efficient infrastructure
Social	Universal care mandate - Free/ subsidised treatment- Overcrowding issues	Better patient experience - Employee well-being programs- Health equity through CSR
Governance	Bureaucratic structure - Weak disclosure standards- Low board independence	Stronger internal controls - ESG disclosures in annual reports - Formal ethics committees
Reporting	Minimal ESG disclosures - No independent ESG ratings	Sustainalytics, CRISIL, SES ESG scores- Independent assurance for ESG reports
Regulatory Push	Compliance-focused (Pollution Control Board, NMC)	Proactive ESG policy alignment with SEBI mandates
Technology Use	Limited digital infrastructure - Less energy monitoring	Smart hospitals (Apollo, Aster) - Digital waste tracking

driven reforms within healthcare systems (Karliner & Slotterback, 2019). In recent years, Environmental, Social, and Governance (ESG) frameworks have emerged as a comprehensive approach to evaluate how organisations manage sustainability risks, ethical responsibilities, and long-term performance (Friede *et al.*, 2015).

The environmental dimension of ESG in healthcare focuses on reducing carbon emissions, improving energy efficiency, managing biomedical waste, and adopting renewable energy sources. Studies show that the global healthcare sector is responsible for nearly 4.4% of total greenhouse gas emissions, which is comparable to the emissions of large industrialised nations (Karliner & Slotterback, 2019). Hospitals generate significant amounts of hazardous and non-hazardous waste, and improper disposal can lead to severe environmental and health hazards (WHO, 2021). Adoption of green building standards, energy-efficient infrastructure, and sustainable procurement practices has been identified as an effective strategy to reduce the environmental footprint of healthcare institutions (UN Global Compact Network Programme, 2022). Sustainable healthcare initiatives such as the WHO Green Hospitals programme emphasise the integration of environmental responsibility into hospital management systems to ensure long-term ecological balance.

The social component of ESG in healthcare is equally important, as the sector directly affects human well-being, equity, and quality of life. Social responsibility in healthcare includes providing accessible and affordable medical services, ensuring patient safety, promoting workforce diversity, and maintaining employee welfare (Porter & Kramer, 2011). Healthcare organisations must address issues such as unequal access to treatment, staff shortages, occupational stress, and ethical use of patient data in the digital era (World Health Organization, 2021). Research indicates that hospitals with strong social responsibility practices often experience higher patient satisfaction, improved employee retention, and stronger public trust, which in turn contribute to better organisational performance (Eccles *et al.*, 2014).

Governance, the third pillar of ESG, plays a critical role in ensuring transparency, accountability, and ethical conduct in healthcare organisations. Effective governance includes strong leadership, independent board oversight, compliance with regulatory standards, and proper disclosure of financial and sustainability information (Bhatia & Jain, 2022). In the healthcare sector, governance also involves maintaining patient confidentiality, ensuring ethical clinical practices, and preventing corruption or misuse of funds. Studies suggest that organisations with strong governance structures tend to demonstrate better risk management, improved operational efficiency, and higher investor confidence (OECD, 2020). Regulatory bodies such as the Securities and Exchange Board of India (SEBI) have strengthened sustainability disclosure requirements through the Business Responsibility and Sustainability Report (BRSR), encouraging listed companies to report ESG performance in a standardised format.

Despite the growing importance of ESG, the level of adoption varies widely across countries and healthcare institutions. Developed regions such as the United States, the United Kingdom, and the European Union have established structured ESG reporting frameworks and

sustainability benchmarks, whereas developing countries, including India, are still in the early stages of consistent implementation (PwC, 2023). Large private hospitals and multinational pharmaceutical companies often adopt ESG practices to attract investors and maintain global competitiveness, while public hospitals and small healthcare providers face challenges such as limited funding, lack of awareness, and absence of standardised guidelines (GRI, 2023).

Empirical research also suggests that ESG adoption may positively influence financial performance. Firms with higher ESG scores often experience lower risk, better operational efficiency, and stronger stakeholder trust, which can lead to improved profitability (Friede *et al.*, 2015). In the healthcare sector, sustainable practices such as energy conservation, digitalisation, and efficient waste management can reduce operational costs while enhancing institutional reputation. Investors increasingly prefer organisations that demonstrate responsible business practices, making ESG compliance a strategic tool for long-term growth rather than merely a regulatory obligation (Eccles *et al.*, 2014).

Overall, existing literature indicates that ESG integration is essential for building resilient, ethical, and sustainable healthcare systems. However, the absence of sector-specific ESG standards, inconsistent reporting practices, and limited empirical studies in emerging economies highlight the need for further research. Understanding the relationship between ESG performance and financial outcomes in the healthcare sector is particularly important for policymakers, investors, and hospital administrators seeking to promote sustainable healthcare delivery aligned with the United Nations Sustainable Development Goals (GRI, 2023; WHO, 2021).

2.1 Research Gap

Although the concept of Environmental, Social, and Governance (ESG) has gained considerable attention in recent years, existing literature reveals several gaps in the context of the healthcare sector, particularly in emerging economies such as India. Most prior studies on ESG have primarily focused on manufacturing, banking, and large corporate sectors, while empirical research examining ESG adoption in healthcare organisations remains limited (Friede *et al.*, 2015). Healthcare institutions differ from other industries because they operate with dual objectives of financial sustainability and public welfare, making the impact of ESG practices more complex and less explored.

Further, many existing studies emphasise ESG disclosure practices rather than actual ESG performance, and very few have attempted to analyse the relationship between ESG scores and financial outcomes such as profitability in the healthcare industry (Bhatia & Jain, 2022). In the Indian context, ESG reporting has only recently gained importance after the introduction of the Business Responsibility and Sustainability Report (BRSR) framework by SEBI, and therefore, empirical evidence on how ESG compliance influences organisational performance in healthcare institutions is still insufficient (PwC, 2023). Moreover, previous research often concentrates on large multinational corporations, whereas small and medium-sized healthcare providers, which constitute a major portion of the Indian healthcare system, are rarely included in empirical analysis.

Another important gap is the lack of sector-specific ESG evaluation frameworks for healthcare organisations. Most ESG rating models are designed for general corporate assessment and do not adequately capture healthcare-specific factors such as patient safety, biomedical waste management, clinical ethics, and accessibility of medical services (GRI, 2023). In addition, earlier studies have largely examined ESG components separately, and limited research has investigated the combined effect of Environmental, Social, and Governance factors on financial performance using statistical tools such as correlation or regression analysis. Therefore, the present study attempts to fill these gaps by examining the level of ESG adoption in Indian healthcare companies and analysing the relationship between ESG scores and profitability using empirical data. By focusing specifically on healthcare institutions and applying statistical analysis to recent financial data, the study contributes to the growing body of literature on sustainable healthcare management and provides evidence on whether higher ESG performance is associated with better financial outcomes. Based on the above literature review, the researchers have raised the following research questions to be addressed in the current study:

RQ1: What is the extent of Environmental, Social, and Governance (ESG) adoption among selected healthcare organisations in India?

RQ2: Is there a significant relationship between ESG performance and profitability in the healthcare sector?

RQ3: Does a higher ESG score lead to better financial performance among healthcare companies?

3. Research Methodology

3.1 Objectives of the Study

- To assess the level of Environmental, Social, and Governance (ESG) adoption among selected healthcare organisations.

- To investigate the association between ESG practices and organisational performance in the healthcare sector.

- To examine the effect of ESG performance on firm profitability by applying statistical analysis using ESG scores and net profit of the preceding financial year.

3.2 Data Collection

The present study is based on secondary data collected from publicly available sources. ESG scores and financial information of healthcare organisations were obtained from sustainability reports, annual reports, ESG disclosure statements, stock exchange filings, and financial databases of listed healthcare and pharmaceutical companies in India. The data corresponds to the financial year 2023–2024 and includes information related to ESG performance indicators and net profit figures.

A total sample of 50 healthcare organisations was selected for the analysis. The sample consists primarily of listed private sector healthcare and pharmaceutical companies, as these firms are more likely to disclose ESG-related information in compliance with regulatory requirements such as the Business Responsibility and Sustainability Report (BRSR) framework introduced by SEBI. In contrast, ESG disclosure in the public healthcare sector remains limited, as many government hospitals and public

health institutions do not publish standardised sustainability or ESG reports. Due to the lack of consistent and reliable ESG data for public sector hospitals, the study mainly focuses on organisations for which verifiable ESG scores and financial information are available (Sathyanarayana *et al.*, 2024).

Private healthcare organisations tend to demonstrate relatively higher ESG compliance, largely because of investor expectations, regulatory pressure, and the need to maintain corporate reputation and stakeholder confidence. These institutions often adopt ESG reporting practices to enhance transparency, attract investment, and align with global sustainability standards. Therefore, the selected sample provides a suitable basis for examining the relationship between ESG performance and financial outcomes in the Indian healthcare sector.

3.3 Statistical Tools Used

To examine the relationship between ESG performance and profitability, correlation analysis was employed as the primary statistical tool. The Pearson correlation coefficient was calculated to measure the degree of association between ESG scores (independent variable) and Net Profit (dependent variable) of the selected healthcare organisations. Correlation analysis helps in identifying whether higher ESG scores are associated with higher profitability and whether the relationship between the two variables is positive, negative, or negligible (Sathyanarayana & Mohanasundaram, 2025). This method is appropriate for the present study as it allows the researcher to evaluate the strength and direction of the linear relationship between sustainability performance and financial outcomes. The analysis was carried out using standard statistical formulas, and the obtained correlation value was used to interpret the extent to which ESG adoption influences the financial performance of healthcare companies.

4. Results and Interpretation

Table 1. ESG scores and net profits of selected Indian healthcare companies (FY 2023–24)

S. No.	Name of the health care sector	ESG score	Results	Net profit in crores
1	Apollo Hospitals	43.04	High	3446
2	Aurobindo Pharma	59.44	High	3484
3	Cipla Limited	60	Very High	3719
4	Max Health Institute Limited	57.26	High	1075.88
5	Fortis Healthcare Limited	40	High	797.86
6	Divis Laboratories	61.51	Medium	3191
7	Alkem Laboratories	61.05	High	3215

8	Glenmark Pharmaceuticals	47.81	Medium	2047.09
9	torrent Pharmaceuticals	56	Medium	2560
10	Mankind Pharmaceuticals	40	Medium	2011
11	Zydus Lifescience	66.16	Very High	4673
12	Lupin Limited	57.48	Very High	3973
13	Piramal Pharma	58.22	High	2379
14	Sun Pharmaceuticals	42.08	Very High	2153.9
15	Dr. Lal Path Labs Limited	50	High	2254
16	Glaxo Smith Kline Pharmaceuticals Ltd	62	High	3245
17	Pfizer Ltd	58	High	3004
18	Rainbow Children's Medicare Ltd	60	High	2998
19	Sanofi India Ltd	59.97	High	2991
20	Poly Medicure Ltd	53.52	High	2544
21	Aster DM Health Care Ltd	57.26	High	2745
22	Vijaya Diagnostic Centre Ltd	46.25	High	2525
23	Narayana Hrudayalaya	47.75	High	2200
24	Metropolis Health Care Ltd	42.83	High	2158
25	Krishna Institute of Medical SCIENCES Ltd	48.28	High	2010
26	Global Health Ltd	51.54	High	2224
27	Krsnaa Diagnostics Ltd	38.68	Medium	1998
28	Tarsons Products Ltd	49.84	High	2100
29	Gland Pharma Ltd	46.2	High	1998
30	Gufic Bio Sciences Ltd	60.39	High	3245
31	FDC Ltd	56.92	High	2998
32	Gloxosmith Kline Pharmaceuticals	56.34	High	3004
33	Laurus Labs Ltd	56.31	High	3221
34	Astrazeneca Pharma India Ltd	52.89	High	2784
35	IPCA Laboratories Ltd	53.63	High	2564
36	Strides Pharma Science Ltd	53.34	High	2234
37	Suven Pharmaceuticals Ltd	53.9	High	2300

38	Eris Life Science Ltd	58.78	High	2561
39	Alembic Pharmaceuticals	60	High	3200
40	Ajanta Pharma Ltd	67.27	Very High	3565
41	P and G Health Ltd	57.32	High	2567
42	Natco Pharma Ltd	47.93	High	2667
43	Biocon Ltd	59.86	High	3112
44	Dr. Reddy's Laboratories Ltd	70.39	Very High	4112
45	Caplin pomt Laboratories Ltd	47.8	High	2477
46	Wockhardt Ltd	55.77	High	2868
47	Abbott India Ltd	53.99	High	2745
48	Jubilant Pharma Ltd	66.24	High	3112
49	Granules India Ltd	63.88	High	2789
50	Neuland Laboratories Ltd	69.59	High	3112

Source: CMIE Prowess Database

5. Data Analysis and Interpretation

The data presented in the table shows the ESG scores and net profits of 50 selected Indian healthcare and pharmaceutical companies for the financial year 2023–24. The ESG scores range from 38.68 to 70.39, indicating a moderate variation in the level of environmental, social, and governance compliance among the selected organisations. The highest ESG score is recorded by Dr. Reddy's Laboratories Ltd (70.39), followed by Neuland Laboratories Ltd (69.59) and Ajanta Pharma Ltd (67.27), which reflects a strong adoption of sustainability practices. On the other hand, Krsnaa Diagnostics Ltd (38.68) has the lowest ESG score, indicating comparatively weaker ESG disclosure and implementation. A majority of the companies fall within the range of 50 to 65, suggesting that most healthcare firms demonstrate moderate to high ESG compliance, although very few firms have reached the highest level of sustainability performance.

The profitability of the selected companies also shows considerable variation, with net profits ranging from approximately ₹797 crores to more than ₹4,600 crores. Large pharmaceutical and healthcare companies such as Zydus Lifesciences, Cipla Ltd, Dr. Reddy's Laboratories, and Aurobindo Pharma report both high ESG scores and high net profits, indicating strong financial and sustainability performance. In contrast, firms with relatively lower ESG scores, such as Krsnaa Diagnostics Ltd, Fortis Healthcare Ltd, and Mankind Pharmaceuticals, show comparatively lower

profit levels, although the relationship is not perfectly uniform due to differences in firm size and operational scale. Larger organisations generally have greater financial capacity to invest in sustainability initiatives, advanced technology, and governance systems, which may contribute to both higher ESG scores and improved profitability.

A comparison of ESG scores and net profit values suggests the presence of a positive relationship between sustainability performance and financial outcomes. This observation is supported by the Pearson correlation coefficient calculated in the study (r = 0.682), which indicates a moderately strong positive correlation between ESG scores and net profits. The result implies that companies with higher ESG performance tend to generate higher profits, possibly due to better risk management, improved operational efficiency, stronger investor confidence, and enhanced corporate reputation. It is also observed that most firms with higher ESG scores belong to the private sector and listed companies, where disclosure requirements and investor expectations are stronger, whereas public healthcare institutions show limited ESG reporting. Overall, the analysis indicates that ESG adoption in the Indian healthcare sector is increasing, particularly among large private healthcare and pharmaceutical companies. The findings suggest that integrating environmental responsibility, social commitment, and strong governance practices may contribute positively to financial performance, supporting the argument that sustainable healthcare organisations are more likely to achieve long-term profitability and stakeholder trust.

5.1 Statistical Test Applied

Tool used: Pearson's Correlation Coefficient

Formula:

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

Result: $r = 0.682$

The correlation analysis produced a Pearson correlation coefficient of r=0.682, which indicates a moderately strong positive relationship between ESG scores and profitability among the selected healthcare companies. A positive value of the correlation coefficient signifies that as the ESG score of a company increases, its net profit also tends to increase. This suggests that organisations with better environmental, social, and governance practices are more likely to achieve higher financial performance compared to those with lower ESG compliance. Although the correlation is not perfect ($r \neq 1$), the value of 0.682 is sufficiently high to indicate a meaningful linear association between the two variables.

The result implies that ESG adoption may contribute to improved operational efficiency, better risk management, enhanced corporate reputation, and increased investor confidence, all of which can positively influence profitability. Companies that maintain strong governance structures, adopt environmentally sustainable practices, and ensure social responsibility are often perceived as more reliable and transparent, thereby attracting more investments and stakeholder support. This may explain why firms with higher ESG scores in the sample also tend to report higher net profits.

However, the correlation value being less than 1 also indicates that profitability is not determined by ESG performance alone. Other factors such as company size, market share, technological capability, managerial efficiency, and global presence may also influence financial outcomes. Therefore, while the result confirms the existence of a positive association between ESG performance and profitability in the healthcare sector, it does not establish a perfect or causal relationship. Overall, the finding supports the argument that ESG integration is not only a sustainability requirement but also a strategic factor that can contribute to better financial performance in healthcare organisations.

A simple linear regression analysis was conducted to examine the impact of ESG score (independent variable) on the profitability (dependent variable) of selected healthcare companies. The regression results indicate a multiple correlation coefficient (R = 0.682), suggesting a moderately strong positive relationship between ESG performance and profitability. The coefficient of determination (R^2 = 0.466) shows that approximately 46.6% of the variation in profitability can be explained by changes in ESG scores. The adjusted R^2 value (0.455), which corrects for sample size, also confirms that ESG performance explains a substantial proportion of the variance in profitability, indicating that the model has good explanatory power. The overall regression model was found to be statistically significant, as indicated by the ANOVA results, $F(1, 48) = 41.84$, $p < 0.001$. The significance value (p = 4.803

Table 2. Regression model (outcome variable: Profitability)

Regression Statistics	
Multiple R	0.682453
R Square	0.465743
Adjusted R-Square	0.454612
Standard Error	515.9912
Observations	50

	df	SS	MS	F	Significance F
Regression	1	11140920	11140920	41.84432	4.8E-08
Residual	48	12779851	266246.9		
Total	49	23920771			

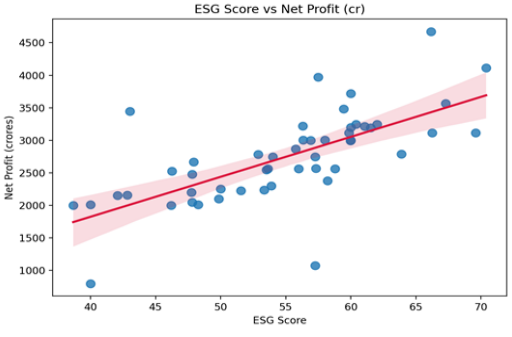
	Coefficients	Standard error	t-stat	pvalue
Intercept	-634.053	526.5426	-1.20418	0.234424
ESG score	61.4489	9.499392	6.468719	4.8E-08

$\times 10^{-8}$) is much lower than the standard alpha level of 0.05, confirming that the regression model is valid and that ESG score significantly predicts profitability. This result suggests that the independent variable (ESG score) has a meaningful influence on the dependent variable (profitability) among the selected healthcare companies.

The regression coefficient for ESG score was found to be $\beta = 61.45$, $t = 6.47$, $p < 0.001$, indicating a positive and statistically significant effect of ESG performance on profitability. This means that for every one-unit increase in ESG score, profitability increases by approximately ₹61.45 crores, holding other factors constant. The confidence interval for the coefficient (95% CI [42.35, 80.55]) does not include zero, further confirming that the effect of ESG score on profitability is significant. The intercept value was not statistically significant ($p = 0.234$), which indicates that profitability cannot be meaningfully predicted when the ESG score is zero, but this does not affect the interpretation of the overall model.

These findings suggest that healthcare companies with higher ESG scores tend to achieve higher profitability, supporting the argument that sustainability practices contribute to improved financial performance. The results are consistent with previous studies, which state that strong ESG performance enhances operational efficiency, reduces risk, improves stakeholder confidence, and attracts more investment, thereby leading to better financial outcomes (Friede *et al.*, 2015; Eccles *et al.*, 2014). In the context of the healthcare sector, organisations that adopt better governance practices, environmental management, and social responsibility initiatives may gain competitive advantages that positively influence their profitability. Overall, the regression results confirm that ESG performance is a significant predictor of profitability, and the positive coefficient indicates that adopting sustainable and responsible business practices can contribute to higher financial performance in the healthcare sector. However, since R^2 is less than 1, the results also imply that profitability is influenced by other factors such as firm size, market conditions, and operational efficiency, which were not included in the present model.

Graphical Representation



A scatter plot of ESG scores against Net Profits would display an upward trend, reinforcing the positive correlation between sustainability practices and financial performance. The clustering of high-ESG firms at higher profit margins indicates that ESG adoption aligns closely with business success in the Indian healthcare industry.

5.2 Key Inference

The findings affirm that ESG integration contributes positively to corporate reputation,

investor attraction, and operational efficiency. Healthcare organisations with comprehensive ESG frameworks exhibit stronger stakeholder trust, improved regulatory compliance, and better long-term growth prospects. These results are consistent with existing literature that identifies ESG as a strategic performance driver in both emerging and developed markets (Bhatia & Jain, 2022; PwC, 2023).

Correlation =0.682453314

There is a positive correlation that tells us that the higher the ESG scores, the higher the practices, the more investments attracted, and the higher the profits.

6. Discussion and Conclusion

The present study examined the relationship between ESG performance and profitability in the Indian healthcare sector using ESG scores and net profit data of selected healthcare and pharmaceutical companies. The findings reveal a moderately strong positive correlation (r = 0.682) between ESG scores and profitability, indicating that organisations with higher ESG compliance tend to achieve better financial performance. This result supports the growing body of literature which argues that sustainability practices are not only ethical obligations but also strategic tools for long-term organisational success (Friede *et al.*, 2015). Companies that effectively integrate environmental responsibility, social commitment, and strong governance structures are more likely to gain investor confidence, reduce operational risks, and enhance their corporate reputation, ultimately contributing to improved financial outcomes (Eccles *et al.*, 2014).

From the environmental perspective, healthcare institutions are among the most resource-intensive organisations due to continuous operations, high energy consumption, and biomedical waste generation. The findings of the study indicate that companies with higher ESG scores often demonstrate better environmental management practices such as energy efficiency, waste reduction, and adoption of green technologies. These practices not only reduce environmental impact but also help in lowering operational costs over time. Previous studies have also shown that the healthcare sector contributes significantly to global carbon emissions, and the adoption of sustainable practices can improve both environmental and financial performance (Karliner & Slotterback, 2019). Therefore, environmental responsibility should be considered an essential component of long-term healthcare management rather than merely a regulatory requirement.

The social dimension of ESG is particularly important in the healthcare sector, as organisations directly influence public health, patient safety, and employee well-being. The results suggest that firms with higher ESG scores tend to maintain better stakeholder relationships, including improved patient trust, employee satisfaction, and community engagement. Social responsibility initiatives such as equitable access to healthcare, workforce diversity, and ethical treatment practices enhance the reputation of healthcare institutions, which can indirectly influence financial performance by attracting more patients and investors (Porter & Kramer, 2011). In addition, hospitals and pharmaceutical companies that maintain strong social standards are more likely to comply with

regulatory requirements and avoid legal or ethical controversies.

Governance was found to be the most consistently adopted ESG component among the selected companies. Strong governance mechanisms, including transparent reporting, independent board oversight, and compliance with regulatory standards, help organisations maintain accountability and reduce financial and operational risks. The introduction of the Business Responsibility and Sustainability Report (BRSR) framework by the Securities and Exchange Board of India (SEBI) has encouraged listed companies to improve ESG disclosure, which may explain the higher ESG compliance observed among private healthcare organisations. Previous research also suggests that firms with strong governance structures tend to perform better financially because they are more efficient in decision-making and risk management (Bhatia & Jain, 2022).

Another important observation from the study is that ESG adoption is more prominent among large private healthcare and pharmaceutical companies, whereas public healthcare institutions show limited disclosure of sustainability practices. This difference may be due to the absence of standardised ESG reporting frameworks for public sector hospitals and the limited financial resources available for sustainability initiatives. Similar findings have been reported in earlier studies, which indicate that ESG implementation in developing countries is still at an early stage and requires stronger regulatory support and awareness (PwC, 2023). The lack of sector-specific ESG benchmarks for healthcare also makes it difficult to measure sustainability performance uniformly across institutions.

Overall, the results of the study confirm that ESG integration contributes positively to financial performance, operational efficiency, and stakeholder trust in the healthcare sector. The positive correlation between ESG scores and profitability suggests that sustainability practices can create long-term value for organisations while also supporting environmental protection and social welfare. However, the relationship is not perfect, indicating that other factors such as firm size, market position, and technological capability also influence profitability. Therefore, ESG should be viewed as an important but not the only determinant of financial success.

In conclusion, the study highlights the growing importance of ESG principles in the healthcare industry and emphasises the need for standardised ESG frameworks, stronger regulatory enforcement, and greater awareness among healthcare institutions. Encouraging the adoption of sustainable practices can help build resilient healthcare systems that balance economic performance with social responsibility and environmental protection. Future research may further explore the long-term impact of ESG adoption using advanced statistical models and larger datasets to provide deeper insights into sustainable healthcare management. Green energy options that will lower carbon emissions, improve the environment, and enable sustainable mobility include solar, wind, and electric vehicles. The statistical findings reinforce the argument that ESG integration is not just a moral imperative but also a strategic necessity. Governance was found to be the most adopted component, perhaps due to regulatory pressure. However, environmental concerns still lag, particularly in smaller institutions. The results also indicate that proactive ESG

strategies contribute positively to operational performance and stakeholder trust.

The adaptability of ESG principles in the healthcare sector is gradually increasing, especially among larger private institutions. However, widespread adoption requires awareness, regulatory enforcement, and robust ESG frameworks. Statistical analysis confirms the tangible benefits of ESG alignment in healthcare outcomes, operational efficiency, and brand equity.

7. Research Limitations and Directions for Future Research

Despite providing meaningful insights into the relationship between ESG performance and profitability in the healthcare sector, the present study has certain limitations that should be acknowledged. First, the study relies on secondary data collected from ESG disclosures, sustainability reports, and publicly available financial statements, which may vary in accuracy, completeness, and reporting standards across organisations. Since ESG reporting in India is still evolving and largely voluntary for many healthcare institutions, the lack of uniform disclosure frameworks may have influenced the reliability and comparability of ESG scores (PwC, 2023). Second, the sample consists of 50 listed healthcare and pharmaceutical companies, which may not fully represent the entire healthcare ecosystem in India, particularly small and medium hospitals, diagnostic centres, and public healthcare institutions that often do not publish ESG reports. This limits the generalizability of the findings. Third, the study employs correlation analysis, which identifies association but does not establish causality between ESG performance and profitability. Other factors such as firm size, market share, technology adoption, and managerial efficiency may also influence financial performance, but were not included in the present model (Bhatia & Jain, 2022).

Future research may overcome these limitations by using larger and more diverse samples, including unlisted hospitals, government healthcare institutions, and international healthcare organisations to improve external validity. Researchers may also apply advanced statistical techniques such as regression analysis, panel data models, or structural equation modelling to examine causal relationships between ESG dimensions and financial performance. In addition, future studies can analyse the separate effects of Environmental, Social, and Governance components individually, rather than using a combined ESG score, to identify which dimension contributes most to profitability. Longitudinal studies covering multiple years would provide deeper insights into the long-term impact of sustainability practices on healthcare performance. Furthermore, qualitative approaches such as interviews with hospital administrators and policymakers may help understand the practical challenges in ESG implementation. Strengthening research in this area will support the development of standardised ESG frameworks for the healthcare sector, which is essential for achieving sustainable and resilient healthcare systems aligned with global sustainability goals (GRI, 2023; World Health Organization, 2021).

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