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# From Factory Floor to Future Goals: ESG in Motion

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**Abstract: ESG (environmental, social, and governance) compliance has become a crucial criterion for evaluating the ethical responsibility and sustainability of companies in all sectors. ESG integration is not only a strategic necessity but also a potential source of long-term efficiency and competitiveness in the manufacturing industry. The relationship between ESG scores and firm value is the main emphasis of this paper's empirical examination of ESG compliance in the manufacturing industry. The study uses ESG ratings from CRISIL other standardized rating platforms to analyse secondary data gathered from publicly traded manufacturing companies during a period 2024. The impact of ESG practices on financial and operational outcomes is evaluated using correlation analysis. The results point to a favourable correlation between increased manufacturing efficiency (overall value of firm) and higher ESG scores, especially for companies with robust environmental and governance policies.**

***Keywords:*** *ESG, ESG Integration, ESG Scores, ESG Practices, Manufacturing Industry.*

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## I. INTRODUCTION

The most environmentally friendly product is the one you didn't buy- Joshua Becker Although the manufacturing sector is essential to economic expansion, it also plays a major role in social injustice, environmental deterioration, and governance issues. Manufacturers are facing growing pressure to implement ESG-compliant procedures in order to be competitive and sustainable, as ESG measures become more widely used in investment choices (Friede et al., 2015). This study examines how ESG compliance in manufacturing is changing, with a particular emphasis on stakeholder expectations, strategic integration, and legal requirements.

During the green revolution, the manufacturing industry is under significant pressure to embrace environmentally friendly production methods, which can be achieved by establishing an ESG (environmental, social, governance) framework. Implementing ESG can improve company performance while playing a crucial role in advancing sustainable development practices

Environmental, Social, and Governance (ESG) criteria have become central to strategic business management. In manufacturing—traditionally viewed as resource-intensive—the integration of ESG is gaining ground as a critical level for financial and operational performance. Empirical studies increasingly confirm that ESG is not just about compliance but can be a strategic asset that improves long-term outcomes in manufacturing firms.

## II. REVIEW OF LITERATURE

Environmental Compliance: Research indicates that reputation management and regulatory pressure both influence environmental compliance (Delmas & Toffel, 2008). Manufacturing companies are embracing the concepts of the circular economy, resource efficiency, and greener technologies.

- Social Factors: According to Kotsantonis et al. (2016), social aspects such as labor standards, community involvement, and employee welfare are becoming more widely recognized. Businesses with higher social scores retain greater brand loyalty and draw in more diverse personnel.
- Governance Practices: Strong governance structures mitigate operational and ethical risks. Diversity on the board, anti-corruption initiatives, and openness in reporting are essential (Eccles & Krzus, 2018).
- Indian context: Reports like SEBI's BRSR framework (2021) and CRISIL (2022) highlight ESG reporting patterns and standards among Indian manufacturers, pointing out differing readiness levels.

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Several empirical studies have explored the link between ESG and firm performance in manufacturing:

- In Japan's machinery manufacturing, a novel "ROESG" model (integrating ESG efforts with return on equity and price-to-book ratio) demonstrates that quality non-financial disclosures significantly enhance enterprise value. J-STAGE
- In China, an empirical study on A-share listed manufacturing firms (2009–2022) confirms positive ESG effects on financial performance across OLS, fixed-effects, and IV models. Atlantis Press
- Another China-based study shows that manufacturing firms' ESG performance significantly and positively impacts overall corporate performance (1% significance level), while non-manufacturing sectors show weaker or no impact. ResearchGate
- In South Africa, however, ESG disclosures have a negative or insignificant short-term effect on ROA, ROE, and Tobin's Q for manufacturing firms—highlighting potential cost burdens of ESG implementation. MDPI
- A bibliometric review finds that ESG is widely recognized as a framework that can transform manufacturing through eco-friendly practices, stakeholder engagement, and sustainable innovations, although empirical integration across all ESG dimensions remains limited. SpringerLink
- In Malaysia, ESG mediates the relationship between digital organizational culture and financial performance in manufacturing SMEs—especially where supportive government policy exists. Emerald
- Using DuPont analysis, another study reveals that higher ESG improves profitability (ROE), particularly via product margins, but may inversely affect asset turnover. Emerald
- A broader sample of Chinese listed firms (Shanghai & Shenzhen, 2012–2023) confirms that overall ESG—and specifically environmental, social, and governance components—have positive influences on ROA, with stronger effects in regions with more intense market competition.

➢ *ESG Compliance Framework for Manufacturing:*

- Environmental Pillar: Sustainable sourcing and logistics; waste and water management; energy efficiency and emissions reduction.
- Social Pillar: Community development initiatives; worker rights and diversity inclusion; occupational health and safety.
- Governance Pillar: Transparent ESG reporting and audits; Board independence and accountability; Anti-corruption and ethical supply chain.

➢ *Case Examples (Brief Overview):*

- Tata Steel: Integrated ESG into long-term strategy, focusing on decarbonization and community welfare.
- Godrej Industries: Adopted internal ESG metrics, receiving recognition in sustainability indices.
- Siemens AG (global): Targets carbon neutrality and ranks high on corporate governance indices.

➢ *Objectives of the Study:*

- To develop frameworks for ESG compliance that are appropriate for the manufacturing industry.
- To evaluate the factors that motivate and hinder the incorporation of ESG into production.
- To Check the correlation of firm's value based on the ESG performance and adaptation and acceptability.
- To make managerial and policy suggestions for improving ESG performance.

## III. RESEARCH METHODOLOGY

This is the core of your research design, detailing *how* you will conduct the study.

➢ *Data Collection and Variables:*

- Data Sources: You will need archival data from reliable financial databases.
- ESG Data: Bloomberg ESG Data, Refinitiv (formerly Thomson Reuters Eikon), or MSCI ESG Ratings.

Firm value is taken form fortune 500 company list and website.

Here is the secondary data of 50 manufacturing firms with their ESG ratings and firm value.

➢ *Analysis and Interpretation:*

There is a positive correlation between ESG scores and firm value from our research which clearly shows that the company who is contributing and adopting ESG in its performance certainly earning more and has got competitive position in the society.

Notably, the environmental component—which includes resource utilization, energy management, and emissions control—shows the most influence on performance, with governance coming in second.

The study suggests industry-specific ESG frameworks, targeted governmental actions, and increased transparency in ESG reporting in light of the findings.

Table 1 Analysis and Interpretation

| Sl. No. | Name of the Manufacturing firm | ESG Ratings* | Firm Value ( INR Crores) |
|---|---|---|---|
| 1 | Aarti Drugs Ltd | 52 | 1282 |
| 2 | Abbott India Ltd | 64 | 3699 |
| 3 | BSF India Ltd | 54 | 3224 |
| 4 | Bharat Forge Ltd | 58 | 7170 |

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| | | | |
|---|---|---|---|
| 5 | Caplin point Lab Ltd | 51 | 2099 |
| 6 | Ceat Ltd | 60 | 4043 |
| 7 | Dabur India Ltd | 58 | 9866 |
| 8 | Dalmia India Ltd | 57 | 16397 |
| 9 | Eicher Motors Ltd | 58 | 18046 |
| 10 | EID- party (India) Ltd | 57 | 7058 |
| 11 | FDC Ltd | 58 | 2097 |
| 12 | FIEM industries ltd | 54 | 887 |
| 13 | Gail India ltd | 54 | 76997 |
| 14 | Galaxy India Ltd | 58 | 2179 |
| 15 | Havells India Ltd | 64 | 7447 |
| 16 | Hawkins cookers Ltd | 56 | 333 |
| 17 | IFB industries Ltd | 57 | 718 |
| 18 | India pesticides ltd | 51 | 825 |
| 19 | Jain irrigation systems Ltd | 52 | 5442 |
| 20 | Jamnagar utilities and Power pvt Ltd | 36 | 28520 |
| 21 | KPR Mill Ltd | 47 | 4358 |
| 22 | kalyan jewellers India Ltd | 53 | 4189 |
| 23 | LG Balakrishnan and Bros Ltd | 56 | 1641 |
| 24 | Land Mark Cars Ltd | 46 | 539 |
| 25 | Manali petrochemicals Ltd | 47 | 1062 |
| 26 | Mayur Uniquaters Ltd | 56 | 867 |
| 27 | Nahar spinning Mills Ltd | 52 | 1481 |
| 28 | Nava Ltd | 44 | 6909 |
| 29 | Ongc petro additions Ltd | 35 | -2698 |
| 30 | Oracle financial Services software Ltd | 65 | 7859 |
| 31 | petronet LNG Ltd | 55 | 17410 |
| 32 | Pfizer Ltd | 61 | 3596 |
| 33 | Quess Corp Ltd | 61 | 2799 |
| 34 | Radico Khaitan Ltd | 51 | 2440 |
| 35 | Rajesh Exports Ltd | 41 | 15247 |
| 36 | Sagar Cemets Ltd | 53 | 1941 |
| 37 | Sanofi India Ltd | 62 | 1015 |
| 38 | Sasken technologies Ltd | 61 | 769 |
| 39 | Tamil Nadu newsprint and papers Ltd | 53 | 2090 |
| 40 | Tata Steel Ltd | 55 | 90426 |
| 41 | TCI express Ltd | 57 | 704 |
| 42 | Uflex Ltd | 45 | 7225 |
| 43 | Uniparts India Ltd | 48 | 868 |
| 44 | Valiant organics Ltd | 46 | 729 |
| 45 | Vardhman Special steel ltd | 53 | 719 |
| 46 | West coast papermills Ltd | 53 | 3242 |
| 47 | whirlpool of India Ltd | 62 | 3689 |
| 48 | Zee Entertainment Enterprises Ltd | 57 | 10873 |
| 49 | Zensar technologies Ltd | 71 | 3562 |
| 50 | Zydus lifesciences Ltd | 59 | 19830 |

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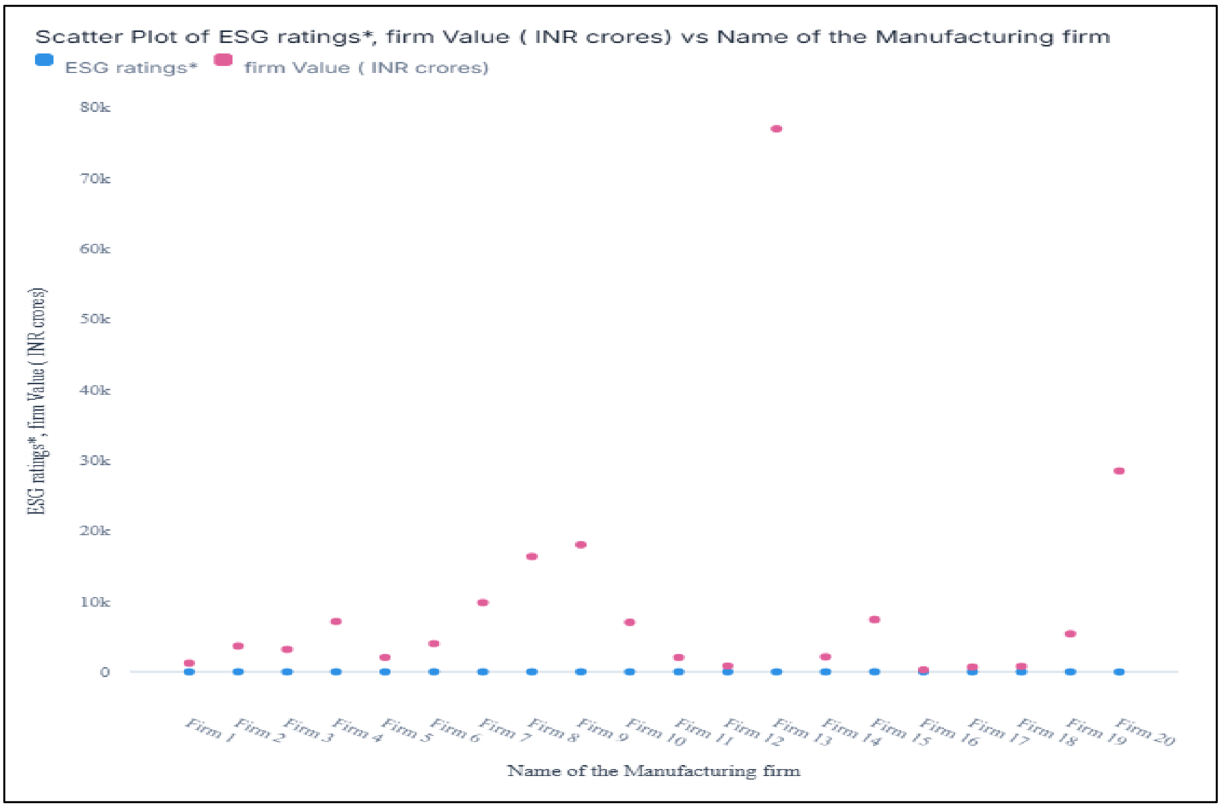


Fig 1 Name of the Manufacturing Firm

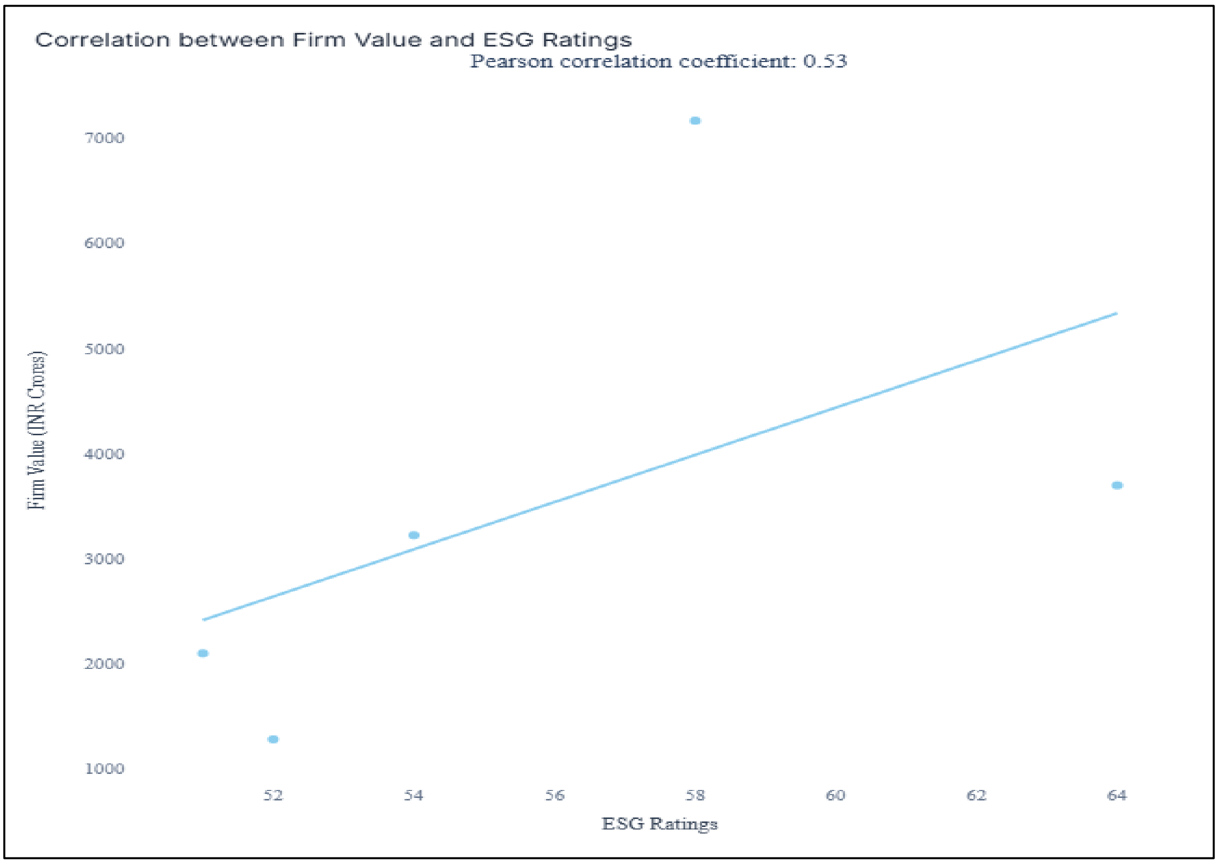


Fig 2 ESG Ratings

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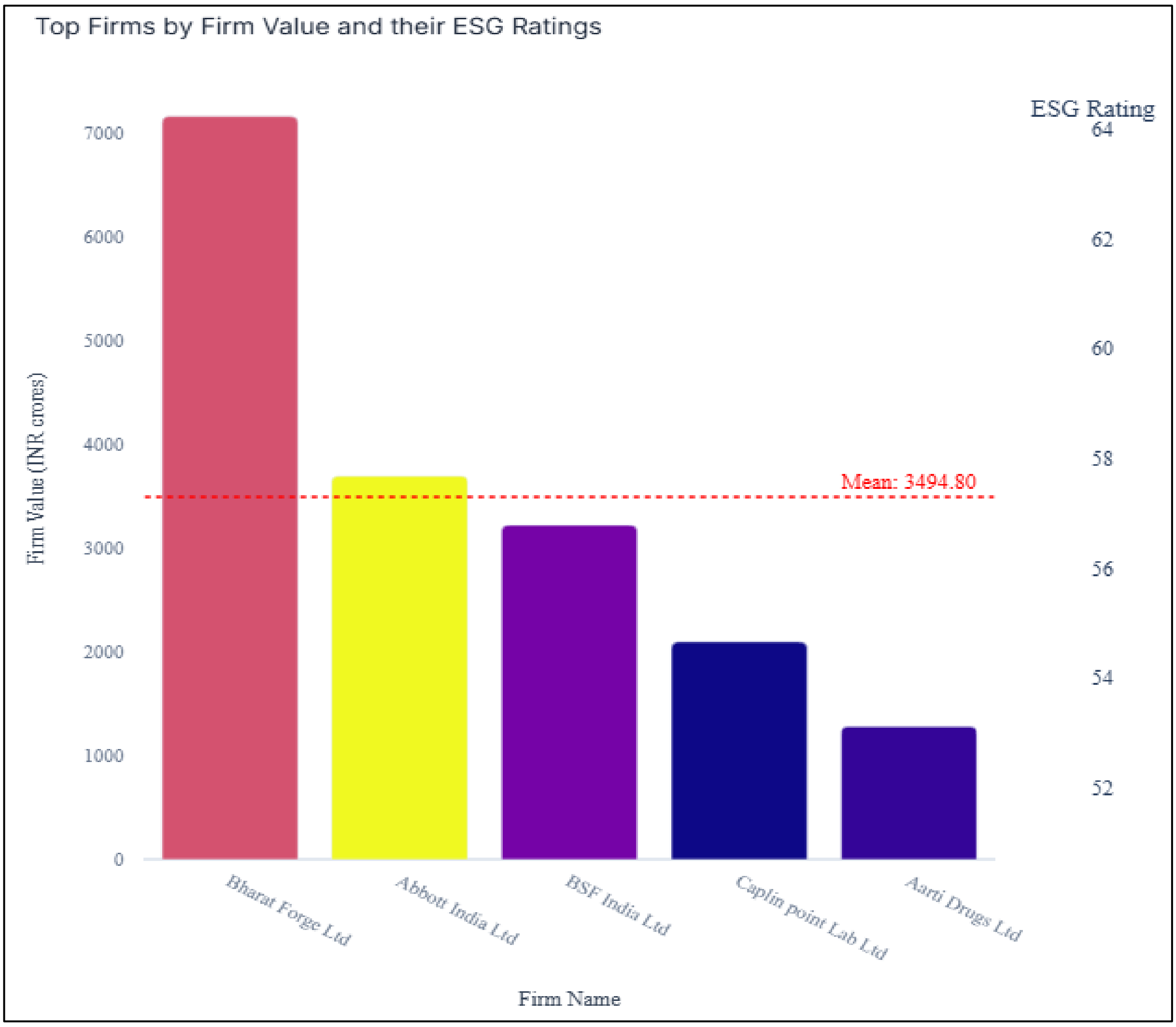


Fig 3 Firm Name

## IV. FINDINGS

➢ *Environmental Performance*

- Manufacturing firms with strong ESG practices reduce carbon emissions, improve energy efficiency, and adopt cleaner technologies.
- Circular economy initiatives (waste recycling, water reuse, renewable energy) are increasingly tied to ESG disclosures.
- Regulatory pressures and supply chain demands push manufacturers toward greener practices.

➢ *Social Impact*

- Worker safety, labor rights, and community engagement are critical ESG factors in manufacturing.
- Companies with better social policies (safe working conditions, skill development, diversity) often see higher employee retention and productivity.
- Consumer preference for "sustainable products" is influencing manufacturers to improve social reporting.

➢ *Governance Practices*

- Transparent governance, board diversity, and anti-corruption measures strengthen investor confidence.
- Firms with high governance standards have lower risks of fraud, regulatory penalties, and reputational damage.
- ESG-aligned governance frameworks are linked to better supply chain accountability.

➢ *Financial Performance*

- Studies show a positive correlation between ESG adaptation and financial value in manufacturing firms.
- Non-compliance or ESG controversies (pollution, labor exploitation) lead to reputational losses and higher audit/financing costs.

➢ *Investor and Market Perception*

- Investors increasingly use ESG scores as a screening tool for manufacturing firms.
- Firms with higher ESG ratings enjoy stronger valuation multiples and long-term stability.

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- Institutional investors pressure manufacturing companies to publish standardized ESG reports (GRI, SASB, TCFD)

## V. POLICY AND STRATEGIC IMPLICATIONS

- Promote the inclusion of SMEs in manufacturing in ESG rating systems.
- Use tax breaks to encourage R&D that is in line with ESG.
- Use blockchain technology and digital tracking to improve supply chain due diligence.
- Demand that board members and industry executives receive ESG training.

➢ *Limitation in ESG Compliance:*

- Transition cost: Expensive capital outlay for technological upgrades or retrofits.
- Data limitations: Inadequate ESG data for disclosure and decision-making.
- Supply chain complexity: Challenges in keeping an eye on suppliers' ESG policies.
- Variability as a regulatory discrepancy in standards across countries and sectors

## VI. CONCLUSION

As ESG compliance transitions from voluntary to mandatory in many jurisdictions, manufacturing firms must embed ESG into their DNA—not merely for compliance but for resilience and relevance. A well-structured ESG framework can lead to innovation, stakeholder trust, and long-term competitiveness.

Most of the Manufacturing firms are practising ESG adaptation and acceptability in their functioning and also adopting sustainability reporting practices for the firm’s overall performance leading to value creation.

Those who are practising ESG practices over time have certainly increased their firm value.

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