

ESG REPORTING IN NIFTY 50 COMPANIES: NAVIGATING SUSTAINABILITY CHALLENGE

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Abstract: *This research paper aims to investigate the status of environmental, social, and governance (ESG) reporting practices among companies listed on the Nifty 50 index. As ESG considerations gain prominence globally, understanding how leading Indian companies address sustainability issues becomes imperative. The increasing global focus on Environmental, Social, and Governance (ESG) factors has spurred a paradigm shift in corporate reporting, with Indian companies actively participating in this transformative journey. This paper aims to comprehensively analyze the status of ESG reporting in Indian companies, shedding light on the current landscape, challenges faced, and the implications for sustainable business practices.*

This paper delves into the contemporary status of Environmental, Social, and Governance (ESG) reporting within the Nifty 50 companies, offering a comprehensive assessment of their sustainability disclosure practices. With the global surge in ESG awareness and regulatory emphasis on responsible business conduct, understanding the current state of ESG reporting among the premier companies listed on the Nifty 50 becomes pivotal. The study examines the extent of ESG integration, adherence to global reporting standards, prevalent challenges, and the impact of ESG reporting on corporate behavior.

KEYWORDS: ESG, Environment, Social, Governance, etc.

JEL Code: G10, G11

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INTRODUCTION

Environmental, Social, and Governance (ESG) reporting shapes corporate behavior in modern business scenery. As worldwide worries about climate change, social fairness & responsible governance strengthen, companies recognize the profound influence of ESG reporting on their operations, reputation, and long-term sustainability. ESG reporting serves as a powerful catalyst for enhancing corporate transparency. By mandating the disclosure of environmental impacts, social initiatives, and governance structures, companies are compelled to operate in a more open and accountable manner. This transparency builds trust among stakeholders, fostering a culture of honesty and responsibility.

The financial community is increasingly prioritizing responsible investment. Companies with robust ESG profiles often attract investments from funds and individuals seeking to align their portfolios with sustainable and ethical practices. This influx of responsible capital provides companies with a solid financial foundation. ESG reporting offers companies a unique avenue for competitive advantage. Those committed to sustainable practices and social responsibility often

differentiate themselves in the market, attracting environmentally and socially conscious consumers. This positive brand perception can translate into increased market share and customer loyalty. Industries across the world are transitioning from a focus on immediate profit maximization to embracing longstanding sustainability goals that encompass ESG objectives. The shift is motivated by the realization that ESG issues present substantial risks to establishments and can impact their achievement.

India's rapidly growing economy faces environmental and social challenges that could impede economic progress and stability. To secure financing, Indian businesses are expanding globally. ESG performance and transparency have become crucial factors for global consumers and investors. For Indian enterprises to attract international investors, there is a need to enhance ESG risk management practices. This emphasizes the critical role of ESG considerations in the decision-making processes of companies operating within the Indian economic landscape.

As governments worldwide emphasize sustainability, ESG reporting ensures

regulatory compliance. Companies that align with evolving environmental and social standards not only avoid legal ramifications but also future-proof themselves against changing regulatory landscapes.

ESG reporting is intrinsically linked to the creation of long-term value. Companies that integrate environmental and social considerations into their strategies and operations often demonstrate resilience in the face of economic and societal challenges. This long-term focus contributes to sustained value creation for shareholders. Regular ESG reporting necessitates active engagement with a broad spectrum of stakeholders. By communicating openly about ESG practices, companies build relationships with investors, customers, communities, and employees. This engagement fosters trust and helps address concerns that may arise.

Regulatory Framework for Sustainability Reporting in India

Over time, India has confronted various environmental challenges stemming from the green revolution and the expansion of urban areas during the 1960s and 1970s. These challenges encompass issues such as diminishing soil quality, the depletion of

natural resources, and a reduction in forest coverage. To address these concerns, the Ministry of Environment and Forests was established in 1980. In 1981, the Air (Prevention and Control of Pollution) Act was enacted to regulate and prevent emissions within India. Furthermore, the Environment Protection Act of 1986 was formulated to implement policies derived from the UN Human Environment Conference of 1972.

In response to the environmental landscape, the Ministry of Corporate Affairs issued voluntary CSR recommendations in 2009. These recommendations outlined the essential components for formulating CSR policies for businesses. Subsequently, in 2011, stakeholder-driven national corporate responsibilities were proposed, emphasizing the obligations of companies to the economy, society, and the environment. The Companies Act of 2013 was amended to mandate corporate CSR, requiring boards to allocate at least 2% of their average profits to such activities, with a threshold investment of Rs. 5 billion.

In 2015, SEBI introduced disclosure requirements and listing norms for listed companies. These standards included disclosure norms and regulations aligning

with corporate governance guidelines, ensuring timely financial information for investors. The SEBI also made it mandatory for the top 500 listed companies to practice integrated corporate governance (CG). Consequently, due to these stringent reporting requirements, India has emerged as a global leader in CSR reporting.

ESG Reporting Standards by SEBI

The SEBI has introduced ESG disclosure standards, as per recent consultation reports. These reports propose the establishment of the Business Responsibility and Sustainability Reporting "BRSR core," aligning with the World Economic Forum (WEF) and sharing significant similarities with its core metrics. The key performance indicators (KPIs) for environmental, social, and governance factors have been specifically tailored for India. The environmental metrics include changes in the greenhouse gas footprint, water footprint, and research and development expenses for reducing environmental impact. Social indicators encompass aspects like employee well-being, safety, gender diversity, and inclusive development. Governance factors focus on fairness in engaging with stakeholders. SEBI emphasizes the use of economic value adjusted (EVA for

purchasing power parity (PPP) to compare revenue and volume impact intensity ratios across different jurisdictions. The country-level PPP is initially suggested as a proxy, with subsequent calculation and integration of sectoral EVAs.

To indigenize calculations, SEBI recommends adopting simplified Economic Research Papers (ERPs) outlined in the Economic Survey of 2023. Corporate Responsibility and Sustainability Reporting (BRSR) framework, based on the BRSR core KPIs, is in its early stages. Starting from the fiscal year 2023-24, the top 250 companies will be required to ensure compliance with the BRSR core, followed by the top 500 listed companies in 2024-25 and the top 1,000 listed companies by 2025-26. To combat greenwashing, SEBI suggests that ESG-linked funds invest a minimum of 65% of Assets under Management (AuM) in companies reporting comprehensive BRSR and assuring BRSR core disclosures. Enterprises reporting under BRSR are expected to receive the remaining program funding.

LITERATURE REVIEW

Hamdi et al. (2022) contend that various factors operate from distinct perspectives. The environmental aspect primarily

revolves around safeguarding the environment, aiming to reduce global warming through measures like minimizing gas emissions. Implementing sustainable development practices, such as transitioning operations endorsing sustainable actions like renewable energy, can elevate a firm's overall ESG score, particularly in the environmental dimension.

The governance aspect focuses on fortifying governance practices, meeting stakeholders' needs, safeguarding minority shareholders' rights, complying with laws, managing risks, establishing sound practices, and ensuring the independence of the board of directors. Heightened ESG awareness within a firm contributes to strengthening brand value, reputation, and trust among stakeholders. Embracing the ESG approach not only improves financial performance but also reduces risks and enhances market value (Hamdi et al., 2022).

The purpose of CSR and ESG is to communicate the business's objectives and values, serving as an internal framework (O'Neill, 2022). While both CSR and ESG assess sustainability, distinctions exist between them. CSR is viewed as a qualitative evaluation of a business's

adherence to social commitments, whereas ESG provides a quantitative measure of those efforts. Another contrast is that CSR was initially seen as a philanthropic tool, focusing on social benefits without a clear financial value. In contrast, contemporary ESG programs are considered integral to a business's value creation and risk management strategy (McKinsey & Company, 2023).

Extensive research has been conducted on CSR and the environment globally, but there is a relative scarcity of research on the ESG performance of Indian corporations, despite their high global competitiveness, there is a call for additional research to support sustainable development initiatives, particularly with a focus on ESG, among listed firms as advocated by the Indian government (Sharma et al., 2020).

Verheyden et al. (2016) posit that ESG reports offer additional insights into a company's future performance, influencing investors' decision-making in selecting investment companies. The trend of sustainable investing can impact investors' choices as they consider companies' ESG performance. Increasing regulatory and social pressures, stemming from ongoing

climate concerns, compel companies to address issues such as carbon emissions.

Chang et al. (2022) highlight the various advantages associated with higher ESG, including brand strength, productivity, higher growth, lower risk and tax, and improved relationships with customers and suppliers. The authors emphasize a positive relationship between positive ESG and stock prices, benefiting both companies and investors.

Research by Deng X (2019) indicates that companies with robust ESG performance may experience increased stock performance, contributing to business development and social value. Engelhardt et al. (2021) assert that European firms engaging in social responsibility perform equally or even better financially compared to those that do not. The authors find evidence that stock performance increased good-quality CSR, particularly during market uncertainty, with these firms demonstrating resilience. Conversely.

Zhou D and Zhou R. (2021) emphasize the close relationship between risk and ESG, with a company's risk exposure aligning

with its ESG score. Companies with higher ESG scores experience lower systematic and non-systematic risks, resulting in higher valuations. Overall risk reduction is achievable as companies increase their ESG scores. The authors suggest that the relationship between lower risk and higher ESG manifests in different ways leading to lower systematic risk and increased environmental responsibility.

RESEARCH METHODOLOGY

The current study utilizes secondary data, featuring a sample of 50 Indian firms. The evaluation of ESG performance for these companies relies on the ESG score provided by Credit Rating Information Services of India Limited (CRISIL), while financial data is sourced from the ACE Equity database. Secondary data is collected from the official website of the BSE and ESG scores of Nifty 50 companies are taken from the Credit Rating Information Services of India Limited CRISIL website.

DATA ANALYSIS & INTERPRETATION

Table 1: ESG score of Nifty 50 companies

S. N o	Company		Environ ment	Social	Governan ce	ESG Score
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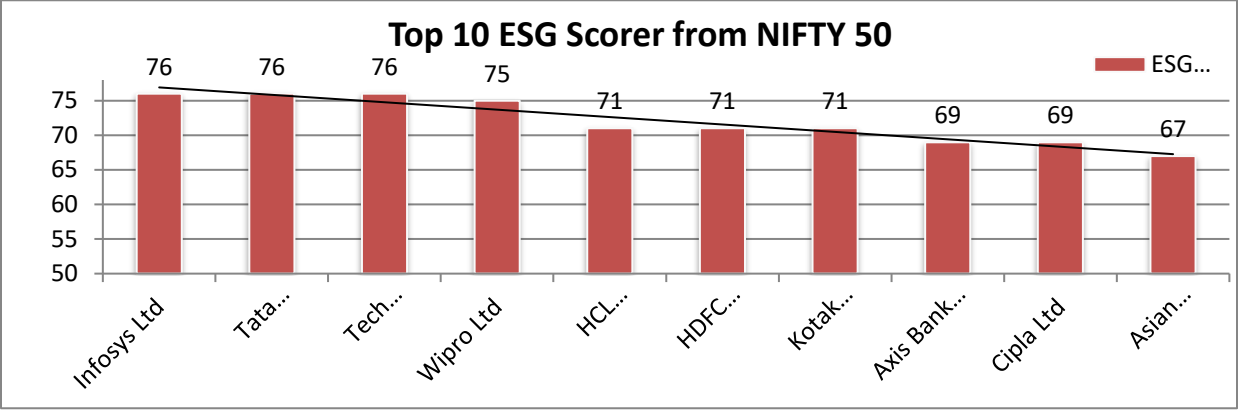
1	Infosys Ltd	IT	77	69	81	76
2	Tata Consultancy Services Ltd	IT	78	72	78	76
3	Tech Mahindra Ltd	IT	79	72	77	76
4	Wipro Ltd	IT	77	67	77	75
5	HDFC Bank Ltd	Banks & Finance	59	64	84	71
6	Kotak Mahindra Bank Ltd	Banks & Finance	69	59	80	71
7	HCL Technologies Ltd	IT	69	65	77	71
8	Axis Bank Ltd	Banks & Finance	65	58	79	69
9	Cipla Ltd	Pharmaceuticals	59	68	78	69
10	Asian Paints Ltd	consumer durables	58	62	76	67
11	Dr Reddys Laboratories Ltd	Pharmaceuticals	56	67	73	66
12	LTIMindtree Ltd	IT	61	62	72	66
13	Bajaj Finance Ltd	Banks & Finance	64	60	71	66
14	IndusInd Bank Ltd	Banks & Finance	63	56	72	65
15	ICICI Bank Ltd	Banks & Finance	59	50	76	64
16	Hindustan Unilever Ltd	FMCG	53	61	76	64
17	Bharti Airtel Ltd	Telecom	60	61	70	64
18	Tata Consumer Products Ltd	FMCG	49	62	77	63
19	State Bank of India	Banks & Finance	60	56	71	63
20	Larsen & Toubro Ltd	Construction	56	65	68	63

2 1	Mahindra & Mahindra Ltd	Auto OEM	59	48	70	61
2 2	ITC Ltd	FMCG	57	55	68	61
2 3	Britannia Industries Ltd	FMCG	49	55	73	60
2 4	Sun Pharmaceuticals Industries Ltd	Pharmaceuticals	57	66	60	60
2 5	UltraTech Cement Ltd	Construction	45	58	73	59
2 6	Bajaj Finserv Ltd	Banks & Finance	55	52	65	58
2 7	Titan Company Ltd	Consumer durables	41	54	72	57
2 8	Grasim Industries Ltd	construction	46	50	71	57
2 9	Apollo Hospitals Enterprise Ltd	Healthcare	41	57	71	57
3 0	Nestle India Ltd	FMCG	38	47	77	56
3 1	HDFC Life Insurance Company Ltd	Insurance	43	52	71	56
3 2	Tata Motors Ltd	Auto OEM	46	50	68	56
3 3	Hero MotoCorp Ltd	Auto OEM	47	60	60	56
3 4	Tata Steel Ltd	Metal & Mining	39	49	72	55
3 5	JSW Steel Ltd	Metal & Mining	41	51	69	55
3 6	Eicher Motors Ltd	Auto OEM	42	58	65	55
3 7	NTPC Ltd	Power	45	59	62	55

3 8	Adani Ports & Special Economic Zone Ltd	Services	46	61	59	55
3 9	Hindalco Industries Ltd	Metal & Mining	31	53	75	54
4 0	SBI Life Insurance Company Ltd	Insurance	37	50	68	53
4 1	Reliance Industries Ltd	Oil & Gas - Refining & Marketing	41	46	68	53
4 2	Bharat Petroleum Corporation Ltd	Oil & Gas - Refining & Marketing	40	54	64	53
4 3	UPL Ltd	Chemicals - Speciality Chemicals	35	42	71	51
4 4	Divis Laboratories Ltd	Pharmaceuticals	31	50	68	51
4 5	Maruti Suzuki India Ltd	Auto OEM	38	46	63	50
4 6	Power Grid Corporation of India Ltd	Power	37	48	58	48
4 7	Adani Enterprises Ltd	Metal & Mining	30	58	57	48
4 8	Bajaj Auto Ltd	Auto OEM	27	41	65	46
4 9	Coal India Ltd	Oil & Gas - Refining & Marketing	30	54	56	46
5 0	Oil & Natural Gas Corp Ltd	Chemicals - Bulk & Polymers	29	34	59	42

Source: NSE database

Figure 1 Top 10 ESG Scorer List



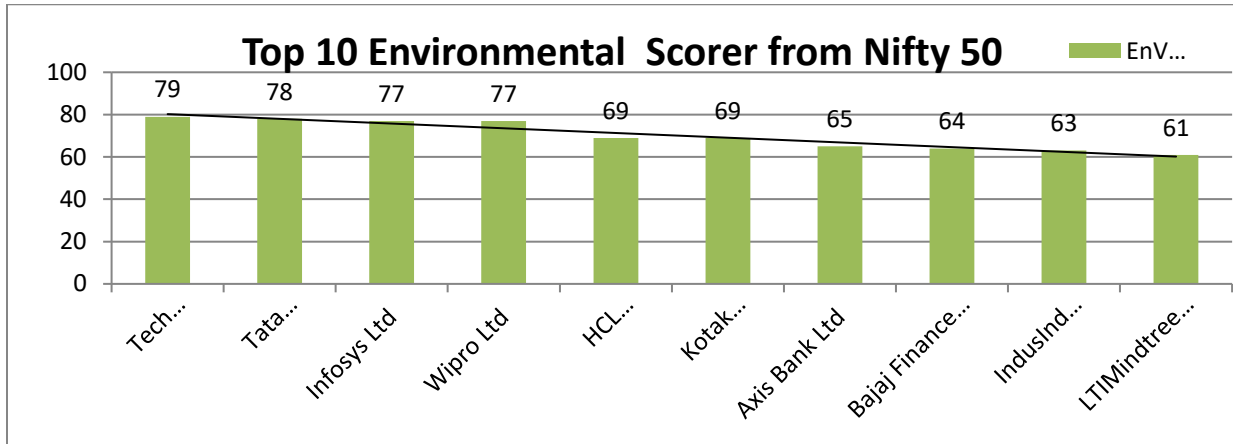
Source: compiled from NSE database

The provided chart illustrates the highest Composite ESG scores among the NIFTY fifty companies along with the trendline, indicating that the Information Technology (IT) sector leads in ESG practices. Notably, five out of the top 10 performers belong to the IT industry, constituting 50% of the top performers. The IT companies emerge as frontrunners in sustainable practices across the Nifty 50 companies. Banking companies secure the second position, constituting 30% of the top 10 performers within the Nifty 50 companies. The pharmaceutical industry takes the third

position, with Cipla holding the 9th position among the top 10 performers, while Asian Paints secures the 10th position.

The average ESG score for all Nifty 50 companies is 59.7. Interestingly, 25 companies scored above the average, and 25 fell below the average. Companies surpassing the average score have an average score of 66.64, indicating a strong rating by CRISIL. On the other hand, companies scoring below the average have an average score of 53.15, also classified as strong by CRISIL.

Figure 2 Top 10 Environment Scorer List



Source: compiled from NSE database

The environmental performance analysis of NIFTY 50 companies reveals significant sectoral disparities, with the Information Technology (IT) sector demonstrating clear leadership in ESG practices. As illustrated in Figure 1, IT firms dominate the top environmental performers, representing 60% (n=6) of the top 10 companies (CRISIL, 2023). The banking sector follows as the second strongest performer, comprising 40% (n=4) of the top decile (SEBI, 2023). No other industrial sectors are represented among the top environmental performers.

The aggregate environmental score across all NIFTY 50 companies stands at 50.28, with a bimodal distribution emerging:

Above-average performers (n=23) average 63.04 (classified as "Strong" by CRISIL metrics)

Below-average performers (n=27) average 39.40 (classified as "Below Average") (CRISIL ESG Ratings, 2023)

This polarization suggests significant environmental practice disparities within India's leading corporations. The IT sector's dominance aligns with global trends showing technology companies as sustainability leaders due to their:

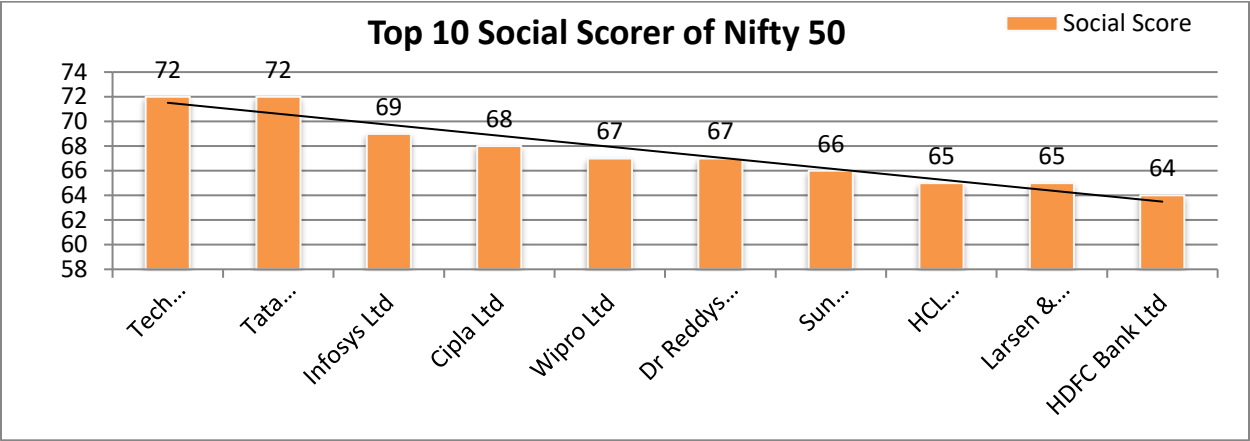
- Lower direct environmental footprints.
- Early adoption of renewable energy.
- Robust environmental management systems.

The banking sector's strong showing reflects growing sustainable finance initiatives and green lending practices (RBI, 2023). However, the complete absence of manufacturing, energy, and materials sectors from the top performers highlights ongoing challenges in:

- Decarbonization of industrial processes.

- Circular economy implementation.
- ESG integration in traditional industries.

Figure 3 Top 10 Social Scorer List



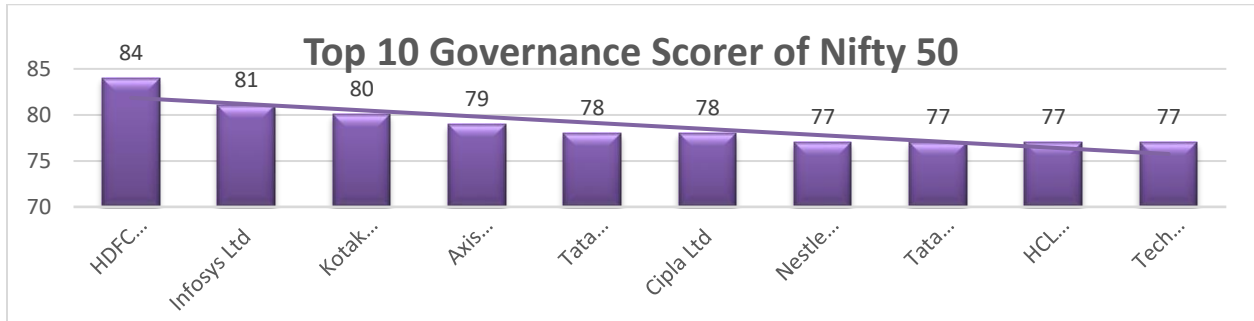
Source: compiled from NSE database

The provided chart illustrates the top 10 Social scores among the NIFTY fifty companies along with the trendline, indicating that the Information Technology (IT) sector leads in ESG practices. Notably, six out of the top 10 performers belong to the IT industry, constituting 50% of the top performers. The IT companies emerge as frontrunners in sustainable practices across the Nifty 50 companies. Pharma companies secure the second position, constituting 30% of the top 10 performers within the Nifty 50 companies.

From the banking sector HDFC Bank and diversified sector L&T are in the top 10 performers in social score.

The average social score for all Nifty 50 companies is 56.28. Interestingly, 25 companies scored above the average, and 25 fell below the average. Companies surpassing the average score have an average score of 62.84, indicating a strong rating by CRISIL. On the other hand, companies scoring below the average have an average score of 49.72 and are classified as Adequate by CRISIL.

Figure 4 Top 10 Governance Scorer List



An examination of governance scores across NIFTY 50 constituents reveal distinct sectoral patterns in corporate governance quality. As depicted in Figure 1, the Information Technology (IT) sector demonstrates superior governance practices, accounting for 40% (n=4) of the top decile performers (CRISIL, 2023). The banking sector follows closely, representing 30% (n=3) of top performers, while notable representation also comes from the FMCG (Nestlé, Tata Consumer) and pharmaceutical (Cipla) sectors.

The aggregate governance performance across the NIFTY 50 yields a mean score of 70.22, with the distribution showing:

- Above-average performers (n=30) averaging 74.7 (classified as "Leadership" tier by CRISIL metrics)
- Below-average performers (n=20) averaging 63.5 (classified as "Strong") (CRISIL Governance Ratings, 2023)

The IT sector's governance leadership aligns with established literature identifying technology firms as governance pioneers due to their:

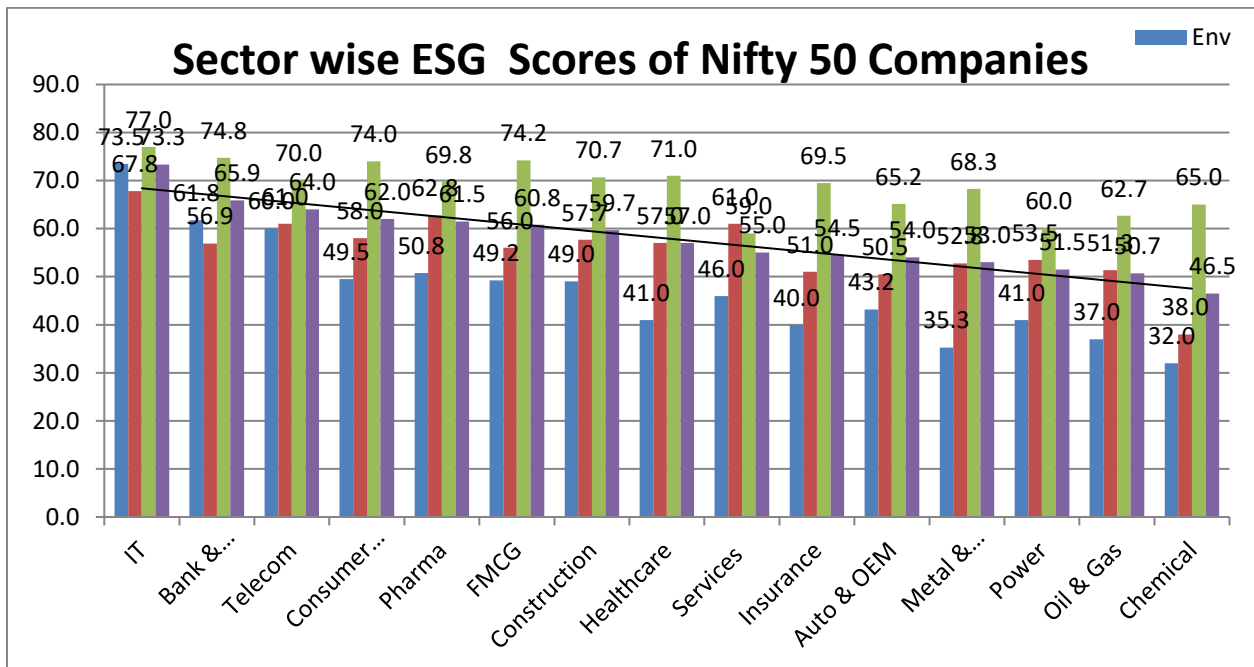
- Independent board structures.
- Advanced risk management frameworks.
- Transparent disclosure practices.

The banking sector's strong performance reflects regulatory-driven governance enhancements, particularly in:

- Board composition requirements.
- Risk governance standards.
- Stakeholder accountability mechanisms.

The presence of select FMCG and pharmaceutical companies suggests that consumer-facing industries with global operations tend to adopt higher governance standards (KPMG, 2023). However, the concentration of leadership in specific sectors indicates potential governance gaps in:

- Traditional manufacturing industries
- Family-controlled enterprises (Credit Suisse, 2022)
- Commodity-driven sectors

Figure 5 Sector-wise Score of Nifty 50 Companies

Source: compiled from NSE database

Our analysis reveals a notable disparity in companies' emphasis on different aspects of ESG, suggesting a lack of a comprehensive approach to achieving ESG compliance with their trendline. Notably, the IT sector exhibited the highest average score in the Environmental pillar, and the Chemical Industry had the lowest Environmental Score. It indicates that while the Chemical industry sector has a relatively strong emphasis on governance practices; it has a significantly lower score in the environmental category. The environmental score of 32.0 suggests that,

according to the criteria or metrics used for evaluation, the Chemical industry may be facing challenges or weaknesses in its environmental performance.

The IT industry has also the highest social score compared to other industry sectors. This indicates that, according to the criteria or metrics used for evaluation, the IT industry has a strong emphasis on social factors. The social score of 67.8 suggests that the companies within the IT sector are performing well in areas related to social responsibility, community engagement, employee well-being, diversity and

inclusion, and other social impact considerations.

The analysis also reveals that the IT Industry has the highest governance score. This indicates that, according to the criteria or metrics used for evaluation, the IT industry places a strong emphasis on governance factors. The governance score of 77.0 suggests that companies within the IT sector are performing well in areas related to corporate governance, transparency, accountability, and adherence to ethical business practices.

Here are some notable case studies of successful ESG strategies implemented by organizations across various industries. These demonstrate how effective ESG initiatives can drive sustainability, improve stakeholder relationships, and enhance financial performance:

- **Unilever** launched its **Sustainable Living Plan**, focusing on reducing environmental impact, improving health and well-being, and enhancing livelihoods. The company aims to share the environmental footprint of its products, source 100% of its agricultural raw materials sustainably, and improve the health of over a billion people. Over 60% of Unilever's agricultural raw materials are now sustainably sourced.

The company achieved a 32% reduction in carbon emissions per consumer unit between 2010 and 2020.

- **Tesla** focuses on accelerating the transition to sustainable energy through electric vehicles (EVs), solar power, and energy storage solutions. The company incorporates recycling systems to recover valuable materials from old batteries. Tesla became the largest EV manufacturer globally, significantly reducing emissions compared to traditional vehicles. Its Gigafactories are powered by renewable energy, reducing operational emissions.
- **Microsoft** committed to becoming carbon-negative by 2030 and removing all historical emissions by 2050. The company invests in carbon removal technologies and powers operations with 100% renewable energy. Microsoft will achieve 100% renewable energy for its data centers by 2022. The company allocated \$1 billion to a Climate Innovation Fund to accelerate global carbon reduction.
- **Mahindra** pledged to become carbon neutral by 2040 and actively invests in renewable energy and electric vehicle manufacturing. The company promotes

afforestation and water conservation projects through its CSR initiatives. Mahindra became the first Indian company to commit to the **Science-Based Targets Initiative (SBTi)** for emission reductions. Over 1 million trees were planted under Project Hariyali.

- **Nestlé** focuses on responsible sourcing, reducing water use, and improving nutrition. The company implemented initiatives to eliminate deforestation in its supply chain and transition to recyclable packaging. Achieved a 100% deforestation-free supply chain for its core commodities like palm oil. Committed to making all packaging recyclable or reusable by 2025.
- **Starbucks** focuses on ethical sourcing of coffee, reducing its environmental footprint, and supporting farmers. It partners with NGOs like Conservation International to ensure sustainable practices. Over 99% of Starbucks coffee is ethically sourced. Committed to achieving carbon-neutral green coffee by 2030.

These examples demonstrate that companies aligning their business models with ESG principles not only address sustainability challenges but also achieve competitive advantages in the market.

The chemical industry consistently demonstrates poor environmental performance, as reflected in low Environmental, Social, and Governance (ESG) scores. Key contributing factors include excessive resource consumption, high emissions, and substantial hazardous waste generation (Kumar & Sharma, 2022). Inadequate waste management practices and non-compliance with environmental regulations further exacerbate these challenges, often resulting in regulatory penalties and reputational damage (Singh et al., 2021). Additionally, the sector's slow transition to renewable energy sources and reluctance to adopt green chemistry principles hinder sustainability efforts (World Economic Forum, 2023). Small and medium enterprises (SMEs) in India, in particular, struggle to meet stringent global ESG and safety standards due to financial and technological constraints (IBEF, 2022). A lack of transparent ESG reporting further compounds these issues, limiting investor confidence and international competitiveness (Dutta & Bose, 2023).

Social and Governance Disparities Across Sectors

Social Performance Variations

The Utilities and Energy sectors exhibit strong social performance, attributed to ethical employment practices, community engagement, and robust corporate social responsibility (CSR) initiatives (McKinsey & Company, 2023). Conversely, the chemical industry records the lowest social score (38), indicating deficiencies in employee welfare, diversity and inclusion, and community relations (Sustainalytics, 2023). Targeted interventions, such as workforce development programs and stakeholder engagement strategies, could enhance social performance in underperforming sectors.

Governance Performance Insights

The Information Technology (IT) industry excels in governance, reflecting well-defined corporate structures, stringent risk management frameworks, and regulatory compliance (Gartner, 2023). In contrast, the Utilities and Energy sectors exhibit governance weaknesses, suggesting a need for improved board oversight and ethical business practices (Deloitte, 2022). Transparency in governance reporting and adherence to international standards could strengthen performance in these industries.

Strategies for ESG Improvement in Struggling Sectors

To enhance ESG performance, industries such as Chemicals and Energy should consider the following measures:

1. **Adoption of Cleaner Technologies** – Accelerating the shift toward renewable energy and sustainable production methods (IEA, 2023).
2. **Enhanced ESG Reporting** – Implementing standardized disclosure mechanisms to improve transparency (SEBI, 2022).
3. **Regulatory Compliance** – Strengthening adherence to environmental and safety regulations to mitigate penalties (OECD, 2023).
4. **Stakeholder Engagement** – Developing community outreach and employee welfare programs to bolster social scores (PwC, 2023).

CONCLUSION

RECOMMENDATIONS AND SUGGESTIONS

Possible reasons for a low environmental score in the Chemical industry include issues such as high resource consumption, emissions, waste generation, or other

environmental impact factors. It might be valuable to conduct a more detailed analysis to understand specific areas of concern and potential areas for improvement within the environmental practices of companies in the Chemical industry. Similarly, the Utilities and Energy sectors demonstrated significant score variations across the three pillars during the study period, excelling in the social aspect but displaying weaknesses in the Governance category. On the other hand, the Consumer Discretionary and Materials sectors maintained consistently tight scores across the Environmental, Social, and Governance pillars.

The chemical industry generates significant dangerous waste, emissions, and effluents that can harm air, water, and soil quality. Poor waste management and non-compliance with environmental standards lead to penalties and lower ESG scores. Slow transition to renewable energy sources hampers sustainability efforts. Many small and medium enterprises (SMEs) in the Indian chemical sector struggle to meet stringent global ESG and safety standards. Many companies lack clear reporting mechanisms or fail to disclose critical ESG data, such as emissions and safety

incidents. Indian chemical firms often face criticism for not aligning with global ESG benchmarks, making them less attractive to international investors.

Many businesses in the sector lack awareness of the growing importance of ESG, leading to insufficient prioritization of sustainability initiatives. Transitioning to cleaner technologies and renewable energy is capital-intensive, which discourages adoption, especially for smaller firms.

The slow adoption of green chemistry and sustainable production techniques limits the sector's ability to improve ESG performance.

A high social score in the IT industry may be indicative of positive practices such as ethical employment practices, community involvement, and corporate social responsibility initiatives. It reflects a focus on the well-being of employees, stakeholders, and the broader community.

Understanding the specific factors contributing to the high social score within the IT industry can provide valuable insights for other sectors and contribute to the sharing of best practices in social responsibility and sustainability. Further analysis of access to detailed criteria for scoring would provide a more

comprehensive understanding of the specific strengths contributing to the IT industry's high social score. On the other hand, the Chemical Industry also lowest Social Score of 38 among the industries, a low social score may suggest challenges or areas for improvement related to social responsibility, employee well-being, community engagement, diversity and inclusion, and other social impact factors. To address this, companies in the Chemical industry could consider implementing targeted initiatives and strategies to enhance their social performance and contribute positively to society.

A high governance score in the IT industry may be indicative of robust corporate governance structures, effective risk management practices, and adherence to regulatory requirements. It reflects a commitment to maintaining high standards of ethical conduct and governance principles. Understanding the specific factors contributing to the high governance score within the IT industry can provide valuable insights for other sectors and contribute to the sharing of best practices in corporate governance and accountability. Further analysis of access to detailed criteria for scoring would provide a more comprehensive

understanding of the specific strengths contributing to the IT industry's high governance score.

For struggling sectors looking to improve their Environmental, Social, and Governance (ESG) performance, practical and actionable steps are essential. Here are suggestions tailored to address the challenges faced by such industries:

RECOMMENDATIONS AND SUGGESTIONS

1. For Environmental

- Implement energy-saving technologies (e.g., waste heat recovery, LED lighting, energy audits).
- Transition to solar, wind, or biomass energy for operations. Consider renewable energy Power Purchase Agreements (PPAs).
- Introduce circular economy models by recycling waste materials and using by-products.
- Use water-efficient processes and recycling systems (e.g., Zero Liquid Discharge, rainwater harvesting).
- Set measurable carbon neutrality or net-zero targets and use carbon offsets where direct reductions are challenging.

2. For Social

- Enhance worker safety by implementing global Occupational Health and Safety (OHS) standards.
- Provide fair wages, skill training, and development opportunities for employees.
- Foster a diverse and inclusive workplace with active promotion of gender and cultural equity.
- Develop Corporate Social Responsibility (CSR) programs focusing on healthcare, education, and infrastructure in local communities.
- Involve communities in decision-making processes for projects that impact them.
- Conduct regular audits to ensure suppliers adhere to ESG standards.
- Partner with sustainable suppliers and promote fair trade practices.

3. For Governance

- Adopt globally recognized reporting frameworks like the **Global Reporting Initiative (GRI)** or **Sustainability Accounting Standards Board (SASB)** for ESG disclosures.

- Publicly disclose key ESG metrics, including emissions, diversity data, and governance practices.
- Diversify board representation to include expertise in sustainability and stakeholder engagement.
- Build partnerships with NGOs, governments, and industry peers to align with global ESG goals.
- Actively communicate with investors, employees, and consumers about ESG progress.
- Apply for green bonds, sustainability-linked loans, or grants to fund ESG initiatives.
- Obtain certifications like ISO 14001 (Environmental Management), ISO 45001 (Occupational Health & Safety), or FSC (Forest Stewardship Council).
- Use IoT devices to monitor emissions, water usage, and energy consumption in real time.
- Implement AI and data analytics to optimize supply chains and predict ESG risks.
- Conduct ESG training for employees, suppliers, and leadership teams.

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