



# ESG reporting and sustainable development: A study of top 10 Indian companies

Suryansh Singh<sup>1\*</sup>, Saumya Kaushik<sup>1</sup> and Virendra Kumar Gupta<sup>2</sup>

<sup>1</sup> Research Scholar, Faculty of Commerce & Management, Pt. LMS Campus Rishikesh, SDSUV, Uttarakhand, India

<sup>2</sup> Faculty of Commerce & Management, Pt. LMS Campus Rishikesh, SDSUV, Uttarakhand, India

Corresponding Author: Suryansh Singh

Received 13 March 2026; Accepted 22 Apr 2026; Published 18 May 2026

DOI: <https://doi.org/10.64171/JSRD.5.S2.43-50>

## Abstract

Companies across the world are now expected to be accountable not just for their profits, but also for how they manage their environmental impact, how they treat their people, and how transparent their governance is. This is what ESG Environmental, Social, and Governance reporting is about. In India, this became a formal regulatory requirement when SEBI introduced the Business Responsibility and Sustainability Reporting (BRSR) framework in May 2021, making it mandatory from FY 2022-23 for the top 1,000 listed companies.

Analyzed the ESG performance of India's ten most valued companies by market capitalization – Infosys, TCS, HDFC Bank, ICICI Bank, SBI, Bajaj Finance, HUL, Bharti Airtel, Reliance Industries, and LIC – using CRISIL ESG ratings for FY 2024-25. The scores ranged from 76 (Infosys) to 53 (LIC), a gap of 23 points. Among sectors, Digital/IT companies averaged 75.0, Financial Services averaged 65.2, Manufacturing and Telecom averaged 60.5, and the Energy sector stood at 55.0. When the data was examined, the Governance score was the highest of the three pillars for all seven companies pillar-level data was available.

Evaluated that the sector of which a company belongs to is especially how carbon-intensive its business is, that plays a major role in determining its ESG score. IT firms score high partly because of the nature of their business, not just because they manage sustainability better. The Governance pillar emerged as the strongest pillar consistently, which ties directly to India's BRSR framework where governance disclosures are the most standardized and most verifiable. These findings are placed in the context of India's Viksit Bharat 2047 vision and the Panchamrit climate commitments made at COP26.

**Keywords:** ESG reporting, BRSR, CRISIL ESG ratings, Carbon intensity, Governance pillar, Sectoral analysis, Viksit Bharat 2047, Sustainable development, Secondary data, Corporate accountability

## 1. Introduction

As per the past regulations, a company's success was measured almost entirely by its financial performance that how much profit it made, how fast it grew, and how high its share price went. But that picture has changed significantly over the last two decades. Nowadays with new BSR regulations, businesses are expected to answer harder questions: Are they responsible about the environment? Are they fair to their workers? Is their governance clean and transparent? These questions are what ESG — Environmental, Social, and Governance reporting tries to answer in a structured and measurable way.

Research over the years has shown that companies with stronger ESG practices tend to perform better in the long run and are more flexible to risks (Eccles *et al.*, 2014; Friede *et al.*, 2015) [6, 8]. At the same time, there are valid concerns about whether ESG scores actually reflect genuine sustainability performance or whether they end up favoring certain types of industries over others simply because of structural differences (Chopra *et al.*, 2024) [4].

India took a significant step in this direction when SEBI introduced the Business Responsibility and Sustainability Reporting (BRSR) framework through Circular No.

SEBI/HO/CFD/CMD-2/P/CIR/2021/562 dated 10 May 2021. This replaced the older Business Responsibility Report format and made structured ESG disclosures mandatory from FY 2022-23 for the top 1,000 listed companies. In July 2023, SEBI added another layer of the BRSR Core layer which requires third-party assurance on a specific set of key ESG metrics, with a phased rollout to all top 1,000 firms by FY 2026-27. India is now among the few emerging economies where ESG disclosure is both mandatory and externally verified.

All of this connects to India's larger national goal under Viksit Bharat 2047 with the vision of transforming India into a fully developed nation by the centenary of Independence. At COP26 in Glasgow in November 2021, India committed to five key targets called the Panchamrit that are installing 500 GW of non-fossil energy capacity by 2030, generating 50% of energy from renewable sources by 2030, cutting projected CO<sub>2</sub> emissions by one billion tonnes by 2030, reducing the carbon intensity of GDP by 45% compared to 2005 levels, and achieving net-zero emissions by 2070. Corporate ESG reporting, in this context, is not just about investor communication but it is about measuring how India's largest companies are actually contributing to these national targets.

Not all companies score similarly on ESG, and that is not surprising. A software company and an oil refinery operate in completely different environments when it comes to environmental footprint, social obligations, and governance complexity. Existing research has confirmed that ESG performance is shaped by sector characteristics, company size, and governance quality (Sharma *et al.*, 2020; Motwani & Gupta, 2023)<sup>[14, 10]</sup>. So we will compare ESG scores across ten companies from six different sectors and tries to understand what drives those differences, using data from CRISIL's FY 2024-25 ratings.

## 2. Literature review

### 2.1 ESG and corporate performance: global evidence

The link between ESG performance and financial outcomes has been studied widely across the world. Eccles *et al.* (2014)<sup>[6]</sup> matched 90 high-sustainability firms with 90 low-sustainability firms in the US and tracked them over 18 years. Firms with stronger sustainability practices consistently outperformed their peers in both stock market returns and accounting measures. Friede *et al.* (2015)<sup>[8]</sup> went even broader they reviewed more than 2,000 empirical studies and found that around 90% of them showed a non-negative relationship between ESG and financial performance. These two studies are often cited as the starting point for understanding why ESG matters beyond just ethics.

On the governance side specifically, a Summarized review of around 91 studies published between 2010 and 2023 found that board-level factors That are having more female directors, independent directors, institutional investors on board, ESG-linked executive pay, and dedicated sustainability committees, were the most consistently positive drivers of ESG outcomes (Buchetti *et al.*, 2025)<sup>[2]</sup>. In this study approximately 93% of the theoretical frameworks used in governance-ESG research, split between Stakeholder Theory (48%) and Agency Theory (45%). Family-owned companies, on the other hand, tended to score lower on ESG.

Despite this broadly positive picture, several researchers have raised concerns about the quality and comparability of ESG disclosures. Chopra *et al.* (2024)<sup>[4]</sup> argue that current ESG frameworks are too focused on the company itself and do not capture the broader impact that companies have on society and the environment which they call a double-materiality gap. They also flag the risk of greenwashing, where companies disclose selectively to look good on paper without making real changes. Senadheera *et al.* (2021)<sup>[13]</sup> pointed out specifically that the Environmental pillar is the weakest in terms of measurement consistency, so the different agencies use different metrics and weightings, which makes comparisons across sectors unreliable and tends to put carbon-heavy industries at a structural disadvantage.

### 2.2 ESG reporting in India

The Indian ESG review found that there have been growing steadily, particularly after SEBI's BRSR mandate came into effect. Sharma *et al.* (2020)<sup>[14]</sup> studied 60 BSE-listed companies from 2013 to 2016 and found that financially stronger firms, those with higher profitability and better market

performance, tend to disclose more on ESG. Companies with higher foreign institutional investor (FII) stake and higher leverage disclosed less. The explanation offered was signaling theory that is stronger firms use ESG disclosure to differentiate themselves and disclosing less or giving controlled information to get steady growth in ESG because the same or steady growth of ESG score helps in getting FII or FPI investment more .

Motwani and Gupta (2023)<sup>[10]</sup> looked specifically at environmental disclosures made by large Indian energy sector companies under the BRSR format. Their finding was that while companies managed to fill in the required disclosures, the quality and depth of information particularly around emissions data and transition planning, was still quite shallow. This is important context for understanding why Reliance Industries, despite being one of India's largest companies, scores lower on ESG compared to IT firms.

Valliammal and Manivannan (2023)<sup>[16]</sup>, looking at the Indian power sector, found that boards with more independent directors and ESG-specialized members achieved better ESG ratings. Chakrabarti *et al.* (2025)<sup>[3]</sup> raised a more critical concern that mandating ESG reporting broadly without adjusting for sector-specific material factors does not actually improve shareholder value. Their finding directly supports the argument that India needs sector-calibrated ESG benchmarks, not a single fixed scale applied uniformly across all industries.

### 2.3 Research gap to fill

Most existing Indian studies either focus on a single sector or use older BRR data. A cross-sector comparison using CRISIL's verified FY 2024-25 ratings, with a specific focus on pillar-level differences and a connection to Viksit Bharat 2047 policy goals. That is the gap this paper addresses. Using CRISIL's data is particularly appropriate because CRISIL ESG Ratings & Analytics Limited is one of SEBI's registered Category 1 ESG Rating Providers, making its scores both regulator-recognised and publicly verifiable also the study is based in these online available data of these rating agency and then structured and Evaluated .

## 3. Theoretical framework and hypotheses

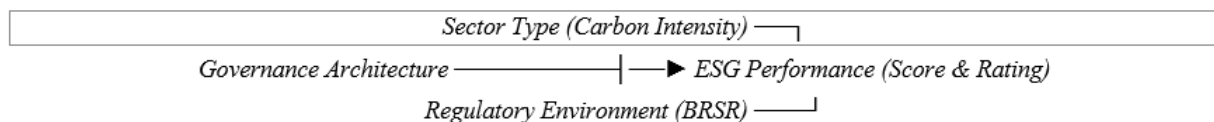
### 3.1 Conceptual framework

Two well-established theoretical frameworks guided the analysis in this study. The first is Stakeholder Theory, proposed by Freeman (1984)<sup>[7]</sup>, which says that a company's long-term success depends on how well it manages its relationships with all stakeholders like employees, communities, regulators, and the environment, not just its shareholders. ESG reporting, from this perspective, is the formal way through which a company communicates its responsibility towards all these groups. The second is Agency Theory (Jensen & Meckling, 1976), which focuses on governance, specifically how the structure of a board and management accountability mechanisms reduce the information gap between owners and managers. Good governance, in this view, is what makes ESG disclosures credible and meaningful.

These two theories were confirmed as the dominant frameworks in governance-ESG research, together accounting

for approximately 93% of studies reviewed in Buchetti *et al.* (2025)<sup>[2]</sup>. Arellano (2025)<sup>[1]</sup> also makes the point that classical governance theories need to be extended to cover contemporary ESG demands, especially in companies undergoing digital transformation. Yadav *et al.* (2025)<sup>[17]</sup> further argue that technology from IoT to blockchain, can make ESG data collection more real-time and reliable, addressing some of the limitations of the current retrospective disclosure approach.

Based on these ideas, the study is focused on the conceptual model which has two main drivers of ESG performance the sector a company operates in (specifically, how carbon-intensive its business is), and the strength of its governance architecture (board composition, external assurance, BRSR compliance). The regulatory environment SEBI's BRSR framework and technology-enabled disclosure act as supporting contextual factors. Figure 1 shows this model visually.



Source: Author's conceptualization based on Freeman (1984), Jensen & Meckling (1976), Buchetti *et al.* (2025)

**Fig 1:** Conceptual Framework — Determinants of ESG Performance

### 3.2 Hypotheses

As we only analyse secondary data and uses a descriptive-comparative approach directly testable from the CRISIL rating data available.

**H1:** *Companies in carbon-intensive sectors such as energy and refining records lower CRISIL ESG scores compared to companies in asset-light sectors (information technology and financial services).*

**H2:** *The Governance pillar score is consistently the highest of the three ESG pillars across all selected companies, making it the dominant contributor to overall ESG performance.*

CRISIL gives the Environmental pillar a 35% weight in its overall scoring. A company whose core business generates large direct emissions will naturally score lower on the E pillar than a software company that produces very little direct pollution. This is not just a theoretical argument Senadheera *et al.* (2021)<sup>[13]</sup> stated this scoring disadvantage for high-carbon industries, and Motwani and Gupta (2023)<sup>[10]</sup> resulted it playing out in Indian energy companies under BRSR. CRISIL weighs the Governance pillar at 40%, which is the highest of the three pillars. Practically, governance disclosures in India where board composition, audit practices, related-party transactions have been required under company law and stock exchange regulations for far longer than environmental or social disclosures. So Indian companies have more data, more experience, and more institutional pressure to get the G pillar right. Buchetti *et al.*'s (2025)<sup>[2]</sup> reviewed of 91 international studies confirmed this pattern at a global level. So we analyzed whether it holds in the Indian CRISIL data or not.

### 4. Research methodology

#### 4.1 Research design

In this study a descriptive and comparative research design is used. All data came from publicly available secondary sources. The goal was to compare ESG scores across 10 companies and 6 sectors and identify patterns.

#### 4.2 Data sources

ESG scores were taken directly from CRISIL ESG Ratings' publicly available database for FY 2024-25, CRISIL ESG Ratings & Analytics Limited is one of SEBI's registered Category 1 ESG Rating Providers (Category 1 approval received 25 April 2024). Its ratings cover over 1,000 companies across 65+ sectors and use a double-materiality approach, which means it assesses both how ESG risks affect the company and how the company's activities affect society and the environment. Scores run from 0 to 100, with five categories: Weak (0-40), Below Average (41-50), Adequate (51-60), Strong (61-70), and Leadership (71-100). The three pillars are weighted as: Environmental 35%, Social 25%, and Governance 40%.

Additional sustainability data like renewable energy usage, female workforce composition, green financing figures are extracted from individual company BRSR reports and Integrated Annual Reports for FY 2024-25, accessed from company websites and BSE/NSE regulatory filings. The list of top 10 companies by market capitalisation was taken from Tickertape (FY 2024-25).

#### 4.3 Sample

The ten companies selected are India's largest by market capitalisation as of FY 2024-25. Together they span six sectors — Energy, Banking, IT, Telecom, NBFC/Insurance, and FMCG and include both public sector and private sector firms. All ten are subject to BRSR mandatory disclosure and have externally assured BRSR Core reports.

**Table 1:** Sample Companies

Company	Sector	Ownership
Reliance Industries	Energy / Refining	Private
HDFC Bank	Banking	Private
ICICI Bank	Banking	Private
SBI	Banking	Public
TCS	Information Technology	Private
Infosys	Information Technology	Private
Bharti Airtel	Telecommunications	Private
Bajaj Finance	NBFC / Financial Services	Private
LIC	Insurance	Public
HUL	FMCG	Private

*Source:* Tickertape Market Cap Rankings, FY 2024-25

**5. Data analysis and findings**

**5.1 Company-wise esg scores**

The verified CRISIL ESG scores for all ten companies, arranged from highest to lowest. Scores were confirmed

directly from CRISIL's publicly available ratings database, with TCS additionally confirmed from its own SEBI Regulation 30 filing dated 17 April 2025. (Shown Table 2)

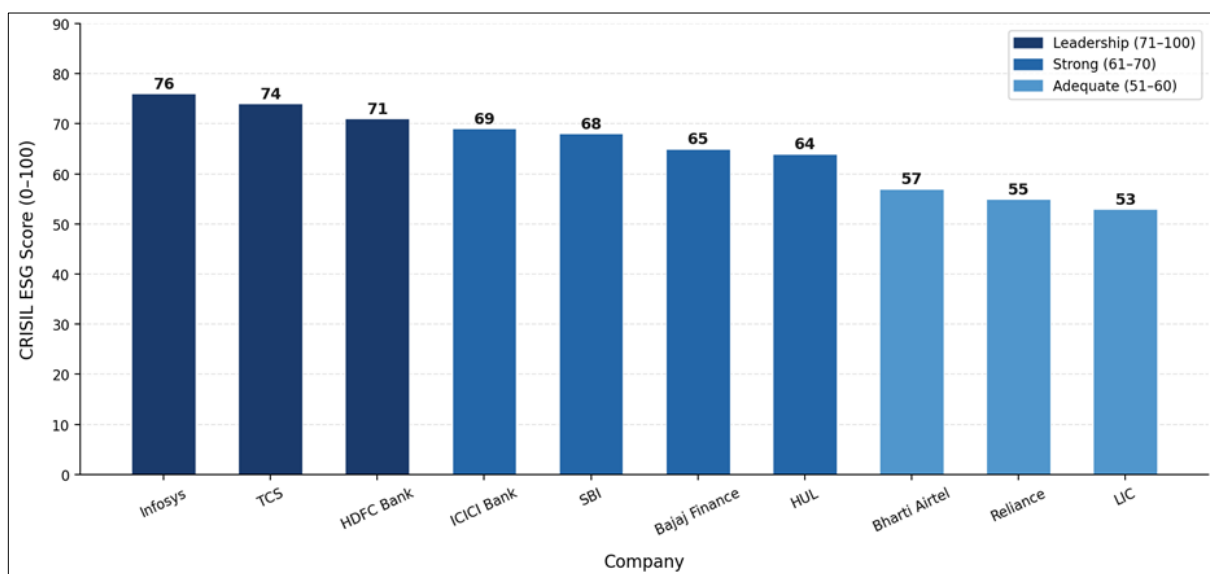
**Table 2:** CRISIL ESG Scores – Top 10 Indian Companies (FY 2024-25)

Company	ESG score	Rating category
Infosys	76	Leadership
TCS	74	Leadership
HDFC Bank	71	Leadership
ICICI Bank	69	Strong
SBI	68	Strong
Bajaj Finance	65	Strong
HUL	64	Strong
Bharti Airtel	57	Adequate
Reliance Industries	55	Adequate
LIC	53	Adequate

*Source:* CRISIL ESG Ratings 2024-25 (crisilesg.com)

Infosys scored the highest at 76, followed by TCS at 74 and HDFC Bank at 71. LIC came in lowest at 53. The total gap from top to bottom is 23 points. Infosys, TCS, and HDFC Bank are the only three in the Leadership band (71-100). Four

companies, ICICI Bank, SBI, Bajaj Finance, and HUL are in the Strong band (61-70). Bharti Airtel, Reliance, and LIC are in the Adequate band (51-60). Figure 1 shows this pattern visually.



Source: CRISIL ESG Ratings (2025)

**Fig 1:** Company-wise CRISIL ESG Scores — Top 10 Indian Companies (FY 2024-25)

**5.2 Pillar-level Scores**

One of the more interesting aspects of CRISIL's data is that it also publishes individual E, S, and G pillar scores for many

companies. For H<sub>2</sub>. Table 3 shows these for the seven companies where this data was publicly available.

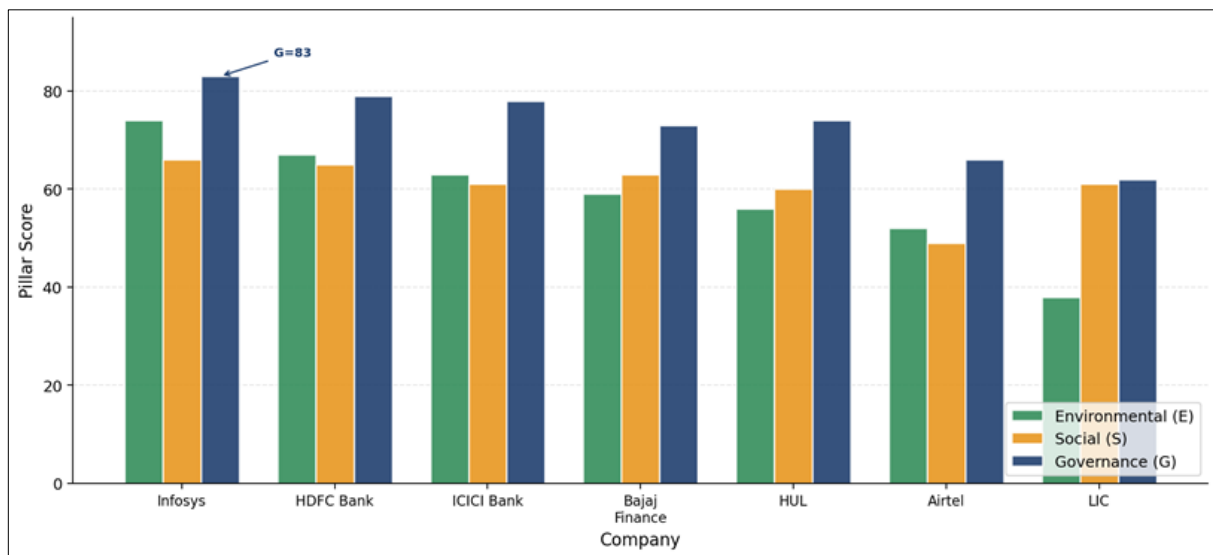
**Table 3:** E, S, G Pillar Scores (FY 2024-25)

Company	Environment (E)	Social(S)	Governance(G)	Total
Infosys	74	66	83	76
HDFC Bank	67	65	79	71
ICICI Bank	63	61	78	69
Bajaj Finance	59	63	73	65
HUL	56	60	74	64
Bharti Airtel	52	49	66	57
LIC	38	61	62	53

Source: CRISIL ESG Ratings (2025). Pillar weights — E: 35%, S: 25%, G: 40%.

Looking at this data, H<sub>2</sub> was confirmed for all seven companies. In every single case, the Governance score was the highest of the three pillars. The gap was clearest for Infosys — G scored 83, which was 9 points above E (74) and 17 points above S

(66). Even for LIC, where the difference was the smallest, Governance (62) was still higher than Social (61) by 1 point. Figure 4 shows these pillar differences visually.



Source: CRISIL ESG Ratings (2025). Governance pillar is consistently the highest across all companies.

**Fig 2:** Pillar-level E, S, G Scores — Selected Companies (FY 2024-25)

The reason Governance consistently tops is not hard to explain. Indian listed companies have been required to disclose board composition, audit committee structure, and related-party transactions under SEBI's Listing obligation and Disclosure Requirement Regulations (LODR) for many years. So governance data is available, structured, and verifiable. Environmental data, on the other hand, only became mandatory under BRSR in 2022. It varies a lot by sector, is harder to measure, and has the widest range across the sample

Environmental (E) scores run from 38 (LIC) to 74 (Infosys). This finding matches what Buchetti *et al.* (2025)<sup>[2]</sup> found in globally research that governance mechanisms are the most consistent driver of ESG outcomes.

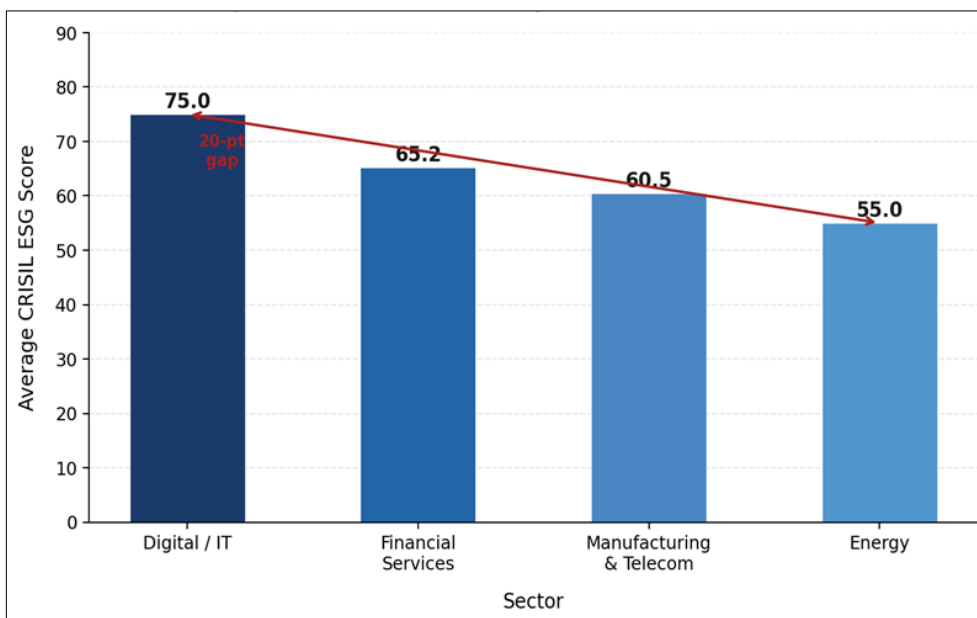
**5.3 Sector-wise Comparison**

Table 4 and Figure 2 show the average ESG scores when companies are grouped by sector. For H<sub>1</sub>

**Table 4:** Sector-wise Average ESG Scores (FY 2024-25)

Sector	Companies with ESG score	Average ESG Score
Digital / IT	Infosys (76), TCS (74)	75.0
Financial Services	HDFC (71), ICICI (69), SBI (68), Bajaj (65), LIC (53)	65.2
Manufacturing / Telecom	HUL (64), Bharti Airtel (57)	60.5
Energy	Reliance Industries (55)	55.0

Source: Calculation based on CRISIL ESG Ratings (2025)



Source: Calculation based on CRISIL ESG data (2025)

Fig 3: Sector-wise Average ESG Scores (FY 2024-25)

The 20-point gap between Digital/IT (75.0) and Energy (55.0) is the clearest finding in the data and confirms H1. But it is important to read this gap correctly. It does not mean Reliance is a poorly managed company or that it is ignoring sustainability. The gap exists largely because of the nature of the business. Infosys and TCS are software companies and their core operations generate very little direct emissions. Reliance runs oil refining and petrochemical plants, where emissions are a physical by-product of production, not something that can be easily eliminated. Chopra *et al.* (2024)<sup>[4]</sup> described exactly this problem that ESG scores can end up reflecting industry structure more than actual sustainability effort. The CRISIL data for these ten Indian companies shows that pattern very clearly.

**5.4 Public vs. Private Sector**

Table 5 compares public and private sector ESG performance. The sample has only two public sector companies — SBI and LIC — which limits how much can be concluded.

Table 5: Public vs. Private Sector ESG Comparison

Category	Number	Companies	Average Score
Public Sector	2	SBI, LIC	60.5
Private Sector	8	Other 8 companies	66.4

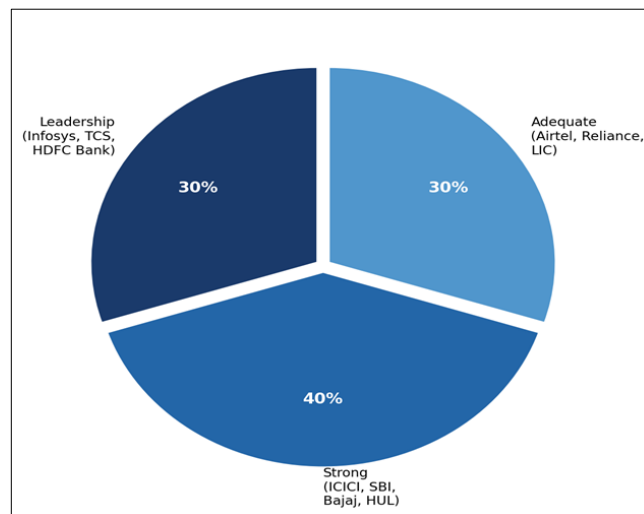
Source: Calculation. Note: n=2 for public sector limits any strong conclusion.

There is a 5.9-point gap in favour of private sector firms. But looking more carefully at the individual numbers, SBI scored 68 — which is actually higher than five private sector companies in the sample (Bajaj Finance 65, HUL 64, Airtel 57, Reliance 55, LIC 53). The lower public sector average is mostly because LIC scored 53, and that has more to do with the Insurance sector structural ESG characteristics than with public ownership. Buchetti *et al.* (2025)<sup>[2]</sup> noted that family

ownership can negatively affect ESG, but found no clear pattern for state-owned enterprises. Given all of this, the public-private gap here is noted but not presented as a strong conclusion.

**5.5 Rating category distribution**

Out of the ten companies, three fell in the Leadership category (Infosys, TCS, HDFC Bank), four in Strong (ICICI Bank, SBI, Bajaj Finance, HUL), and three in Adequate (Bharti Airtel, Reliance, LIC). Figure 3



Source: CRISIL ESG Ratings (2025). Leadership: 71-100; Strong: 61-70; Adequate: 51-60.

Fig 4: ESG Rating Category Distribution — Top 10 Companies (FY 2024-25)

Seven out of ten of India's largest companies are in the Strong or Leadership bands. That is 70% of the sample, and these companies represent the bulk of India's stock market capitalisation. For a framework that only became mandatory

three years ago, this is a meaningful starting point. The three in Adequate are not there because they are irresponsible but they face sector-level structural constraints that better disclosure rules alone cannot fix.

### 5.6 Key BRSR sustainability data points

Beyond the overall scores, individual company BRSR disclosures for FY 2024-25 provide some useful data points. TCS reported 79% renewable energy usage in its operations. HUL reported a 99% reduction in CO<sub>2</sub> emissions per ton of production compared to its baseline year. SBI's green financing portfolio crossed ₹76,736 crore, directly contributing to India's renewable energy targets under the Panchamrit commitments. On diversity, TCS had 35.3% female workforce composition and Infosys was around 38.9%. LIC's board had only 7.14% female directors which have a governance gap that matters because, as Buchetti *et al.* (2025) [2] found, female board representation is one of the most consistently positive predictors of ESG performance. All ten companies obtained external third-party assurance for their BRSR Core disclosures, which shows full compliance with SEBI's mandatory assurance requirement.

## 6. Discussion

The data analyzed and evaluated points out two clear patterns, both of which were confirmed by the hypotheses. For H<sub>1</sub> the sector effects shows the 20-point gap between Digital/IT (75.0) and Energy (55.0) is real and significant. But as discussed, this is not about one industry being more ethical than another. It is about structural differences. A software company does not burn fossil fuels to deliver its product. An oil refinery does. The CRISIL scoring system, which weighs the E pillar at 35%, will naturally reward low-carbon industries and penalise high-carbon ones, regardless of how much effort a company is putting into improving its sustainability performance. Chopra *et al.* (2024) [4] called this the risk of ESG scores becoming proxies for industry structure rather than genuine sustainability effort. The Indian data here provides direct evidence for that concern. The practical recommendation that follows is that SEBI's BRSR framework should develop sector-specific benchmarks as for the energy companies should be evaluated on their decarbonisation trajectory and transition planning, not held to the same absolute score as an IT company. For H<sub>2</sub> governance dominance resulted all seven companies showed Governance as the highest pillar, confirming the hypothesis without exception. For companies trying to improve their total ESG score, the clearest path forward is through governance improvements by appointing more independent directors, increasing board diversity especially gender diversity, forming dedicated sustainability committees, and strengthening audit quality. These are changes within a company's control, they directly improve the Governance (G) pillar which carries 40% of the total weight, and they are well-evidenced as the most reliable ESG driver (Buchetti *et al.*, 2025) [2]. LIC's low female board representation (7.14%) is a specific example of where a meaningful governance improvement is both possible and measurable.

On the public-private difference there is the gap of 5.9 points exists but is not a clean ownership story. SBI outscoring five private sector firms makes that clear. What does seem to matter more than ownership is the sector. The two public sector firms in this sample happen to be in Insurance and Banking and the Insurance sector's ESG structure pulls LIC's score down. If India added more public sector companies from other sectors to this kind of comparison, the picture might look quite different.

Chopra *et al.* (2024) [4] made a broader point worth addressing that the ESG reporting globally has created a feedback loop between companies and investors that looks good on paper but has not reliably translated into real planetary sustainability outcomes, what they describe as the 'ESG Dream' problem. India's BRSR architecture is structurally sound, but the concern is valid. The next step for India should be double-materiality standards which requiring companies to report not just how ESG risks affect their business, but how their business affects society and the environment. Yadav *et al.* (2025) [17] add another dimension: that technologies like IoT sensors and blockchain can make ESG data more real-time and verifiable, closing the gap between what companies disclose and what they actually do.

## 7. Conclusion

ESG performance across ten of India's largest companies using CRISIL's FY 2024-25 ratings. The scores ranged from 76 (Infosys) to 53 (LIC). Two clear patterns came through the data.

First, the sector a company belongs to is the biggest structural factor in its ESG score. IT companies averaged 75.0, while the Energy sector stood at 55.0 where a 20-point difference that reflects differences in carbon intensity and business model, not just management quality. This confirms H<sub>1</sub> and supports the argument that India's BRSR framework needs sector-calibrated benchmarks if it wants to measure genuine sustainability progress fairly.

Second, the Governance pillar was the highest of the three ESG pillars for all seven companies where disaggregated data was available from G=62 for LIC to G=83 for Infosys. This confirms H<sub>2</sub> and makes governance the most accessible lever for companies looking to improve their ESG performance. It also reflects the maturity of India's governance disclosure requirements, which predate ESG reporting by many years.

The fact that 70% of India's ten most valued companies are already in the Strong or Leadership ESG bands in just three years into mandatory BRSR which shows that the regulatory push has worked. The framework is producing real reporting. The question now is whether that reporting is driving real sustainability outcomes. The answer to that requires sector-adjusted benchmarks, double-materiality requirements, and eventually integration with transition finance to fund decarbonisation in India's hardest-to-abate sectors. These are the steps that would turn good ESG disclosure into a genuine tool for meeting India's Viksit Bharat 2047 and Panchamrit commitments.

Finally, the question of double-materiality where shifting from reporting how ESG risks affect the company, to also reporting how the company affects society and environment which is now central to ESG frameworks in the EU under the CSRD (2023) and is increasingly being discussed for India's BRSR evolution (Chopra *et al.*, 2024)<sup>[4]</sup>. How India transitions to this more demanding standard, and whether BRSR Core can evolve in that direction, is a significant policy research question. Yadav *et al.* (2025)<sup>[17]</sup> also open up an interesting avenue — studying how Industry 5.0 technologies like IoT and blockchain could make ESG data collection continuous and auditable rather than retrospective and annual.

## References

1. Arellano LFV. Reframing the firm as a governance system: a critical synthesis of transaction costs, capital structure, and agency theory. *Theor Econ Lett.* 2025;15(5):1148–61. <https://doi.org/10.4236/tel.2025.155063>
2. Buchetti B, Arduino FR, Perdichizzi S. A literature review on corporate governance and ESG research: emerging trends and future directions. *Int Rev Financ Anal.* 2025;97:103759. <https://doi.org/10.1016/j.irfa.2024.103759>
3. Chakrabarti R, Bharat A, Dash S, Gupta A. Does ESG reporting matter for shareholder value? Evidence on mandatory ESG regulations in India. *J Bus Finance Account.* 2025. Epub ahead of print. <https://doi.org/10.1111/jbfa.70005>
4. Chopra SS, Senadheera SS, Dissanayake PD, Withana PA, Chib R, Rhee JH, *et al.* Navigating the challenges of environmental, social, and governance (ESG) reporting: the path to broader sustainable development. *Sustainability.* 2024;16(2):606. <https://doi.org/10.3390/su16020606>
5. CRISIL ESG Ratings & Analytics Limited. ESG ratings list (FY 2024–25) [Internet]. Mumbai: CRISIL; 2025 [cited 2025 Apr 10]. Available from: <https://www.crisilesg.com/en/home/esg-ratings.html>
6. Eccles RG, Ioannou I, Serafeim G. The impact of corporate sustainability on organizational processes and performance. *Manage Sci.* 2014;60(11):2835–57. <https://doi.org/10.1287/mnsc.2014.1984>
7. Freeman RE. *Strategic management: a stakeholder approach.* London: Pitman; 1984.
8. Friede G, Busch T, Bassen A. ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *J Sustain Finance Invest.* 2015;5(4):210–33. <https://doi.org/10.1080/20430795.2015.1118917>
9. Jensen MC, Meckling WH. Theory of the firm: managerial behavior, agency costs and ownership structure. *J Financ Econ.* 1976;3(4):305–60. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
10. Motwani A, Gupta R. ESG reporting: environmental dimension disclosures by large energy sector companies in India. *Eur J Theor Appl Sci.* 2023;1(2):108–18. [https://doi.org/10.59324/ejtas.2023.1\(2\).11](https://doi.org/10.59324/ejtas.2023.1(2).11)
11. Securities and Exchange Board of India. Business responsibility and sustainability reporting by listed entities. Circular No. SEBI/HO/CFD/CMD-2/P/CIR/2021/562. New Delhi: SEBI; 2021 May 10. Available from: <https://www.sebi.gov.in>
12. Securities and Exchange Board of India. BRSR Core framework for assurance and ESG disclosures. Circular No. SEBI/HO/CFD/CFD-SEC-2/P/CIR/2023/122. New Delhi: SEBI; 2023 Jul 12. Available from: <https://www.sebi.gov.in>
13. Senadheera SS, Withana PA, Dissanayake PD, Sarkar B, Chopra SS, Rhee JH, *et al.* Scoring environment pillar in environmental, social, and governance (ESG) assessment. *Sustain Environ.* 2021;7(1):1960097. <https://doi.org/10.1080/27658511.2021.1960097>
14. Sharma P, Panday P, Dangwal RC. Determinants of environmental, social and corporate governance (ESG) disclosure: a study of Indian companies. *Int J Disclos Gov.* 2020;17(4):208–17. <https://doi.org/10.1057/s41310-020-00085-y>
15. Tickertape. Largest companies by market cap — India [Internet]. 2025 [cited 2025 Apr 10]. Available from: <https://www.tickertape.in/stocks/collections/largest-companies-by-market-cap>
16. Valliammal M, Manivannan SK. Corporate governance and ESG performance in Indian power sector. *Eur Econ Lett.* 2023;13(5):1255–62. <https://doi.org/10.52783/eel.v13i5.903>
17. Yadav G, Luthra S, Jakhar SK, Mangla SK, Rai DP. Exploring the nexus between Industry 5.0 and ESG reporting for sustainable development goals. *Sustain Dev.* 2025. Epub ahead of print.