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GRI-aligned disclosures of Indian corporates: a study on environmentally sensitive industries

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Abstract: The purpose of this study is to examine the sustainability reports of the Indian companies belonging to environmentally sensitive industries (ESI) and listed in the Nifty 100 index. Four ESI were chosen, viz, cement and construction, oil and gas, metal and mining, and automobile. Content analysis was performed for calculating sustainability disclosure score based on the GRI sustainability reporting framework. Results indicate that four out of 21 companies have disclosure below 50%. Further, it was found that companies have majorly focused on the reporting of governance and stakeholder engagement aspect (80%) followed by the environment (78%), economic (62%), and social (60%). This indicates that ESI companies prioritise environmental issues over social issues. Results of hypothesis testing show that there is no significant variation among the disclosure of the four sectors. Further, the cement and construction sector has the highest disclosure while automobile sector has the least disclosure in all aspects.

Keywords: ESG disclosures; sustainability reporting; Global Reporting Initiative; GRI; environmentally sensitive industries; content analysis; India.

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1 Introduction

The concept of social responsibility is not new in India, it is deeply rooted in Indian culture in the form of philanthropy for ages. Large business owners-built foundations and trusts for the advancement of society. India was the first country to mandate corporate social responsibility (CSR). The Ministry of Corporate Affairs (MCA) made it a legal requirement for companies of a certain size to establish CSR committees and to contribute at least 2% of their average net profits made during three preceding years to CSR activities (MCA, 2013). There has been a significant increase in the absolute, sector-wise, theme-wise, and percentage CSR expenditure of companies, after the implementation of Section 135 of the Companies Act, 2013 (Gupta and Kumar, 2022). Although the CSR expenditure and quality of reporting on CSR and sustainability initiatives have progressed in India, there is still a long way to go until the act is met (Kulkarni and Aggarwal, 2022). The recent pressing global concerns including climate change, clean energy, poverty, gender equality, and human rights violations also compelled nations and companies to pay closer attention to the environmental and social effects of their operations. Many nations have regulations requiring businesses to disclose their social, environmental, and economic impacts. In India, the business responsibility report (BRR), which is based on the environmental, social, and governance (ESG) components, was made mandatory for the top 100 listed firms by market capitalisation in 2012 and later expanded to the top 500 and 1,000 corporations to enhance the status of reporting on non-financial issues (SEBI, 2012, 2015, 2019). According to Carrots & Sticks (2020) report, India is one of the nations to have the largest number of provisions for sustainability reporting (SR).

SR also known as 'ESG disclosure' or 'non-financial disclosure' is an entity's report that provides information about its environmental, social, governance, and economic performance (Kolk, 2004). Global Reporting Initiative (GRI) has defined sustainability reporting as organisations' efforts to publish information on environmental, social, and economic dimensions publicly to communicate their contribution toward sustainable development (GRI, n.d.). Sustainability reporting is a tool to communicate the activities that an organisation performs towards the environmental and social dimensions in the form of a report (Laskar and Maji, 2016). Companies that are consistent with the distribution of information across various stakeholder categories, benefit from better transparency and information symmetry (Romito and Vurro, 2021). To contribute toward sustainable development, companies should consider their relationships with stakeholders

while designing their approach for sustainability in such a way that it creates value for each stakeholder (Schaltegger et al., 2019). Better stakeholder relationship is important for the success and long-term viability of organisations, and SR support organisations in developing good relations with stakeholders (Laskar and Maji, 2016). Stakeholders are also getting more aware of the companies' activities and demanding information on ESG parameters from the companies. The emergence of new technologies has made data collection and processing considerably easier and less expensive, which has further raised the demand for non-financial information (Kell, 2021). In such a scenario, it becomes more crucial for companies to provide the required information accurately to the stakeholders. Publishing sustainability reports have several benefits for the companies such as better access to capital, better productivity, and cost-saving, stronger brand value and reputation, greater market access, superior human capital, and others (MCA, 2011).

Due to global pertinent issues such as climate change and environmental degradation, many regulatory bodies and stakeholders have initiated to pay attention to the environmental effects of the companies of environmentally sensitive industries (ESI). ESI companies must make suitable efforts in publishing sustainability reports to fulfil regulatory requirements and information needs of heterogeneous stakeholders. Existing literature shows that firms which are involved in the manufacturing process are the major contributors to air and water pollution but are more socially responsible as compared to service sector firms (Bhurjee and Paliwal, 2022). Ruiz et al. (2021) studied S&P 100 companies and reported that the ESI companies greenwash less than the companies in other industries. Such companies tend to provide an exhaustive report on their social and environmental activities to legitimise their actions (Manes-Rossi et al., 2018; Aggarwal and Singh, 2019).

This study explores the nature and extent of sustainability reports on four major aspects, namely: governance and stakeholder engagement, economic, social, and environmental. Further, we also identified the major indicators that ESI companies disclose in their sustainability and integrated reports based on GRI sustainability reporting standards. The study also determines the variation among the disclosures published by the companies of different sensitive sectors. Companies from four ESI (cement and construction, oil and gas, metal and mining, and automobile) were selected. Content analysis was performed on the sustainability and integrated reports of the chosen companies based on GRI sustainability reporting standards. Reports that were published in 2017–2018 and are based on GRI standards were considered. The final sample comprises 21 companies (cement and construction – 5, oil and gas – 6, metal and mining – 6, automobile – 4). Results indicate that many Indian companies do not follow international standards of reporting and publishing sustainability reports for fulfilling the mandatory requirement rather than satisfying the information needs of the stakeholders (Aggarwal and Singh, 2019). The findings of the hypotheses testing indicate that there is no significant difference among the disclosures of the four selected sensitive sectors. The cement and construction sector was found to have the highest disclosure while the automobile sector has the least disclosure. Among the four aspects, the governance aspect is highly reported followed by environmental, economic, and social. The less reporting on the social aspect than the environmental aspect shows that ESI companies are emphasising environmental issues may be due to high stakeholder pressure or to fulfil regulatory requirements rather than focusing on employees and societal issues. There is a dearth of disclosure on a few social indicators such as customer privacy, supplier social assessment, and human rights assessment.

2 Literature review

Disclosing information and external communication is crucial for the companies' corporate sustainability. Sustainability reports provide information about the pertinent sustainability issues and how companies are dealing with them. Publishing reliable information on non-financial corporate activities depicts the companies' willingness to communicate details about societal issues and their strategies to handle those issues, this may provide better relations with stakeholders and make the company more reliable (Herzig and Schaltegger, 2006). Apart from fulfilling the information needs of the stakeholders, SR also helps the companies identify the issues and measure their impacts. Research evidence shows that non-financial disclosure focussing on ESG factors has a positive impact on the financial performance of the firm (Friede et al., 2015; Aboud and Diab, 2018; Fatemi et al., 2018; Mann and Kaur, 2020). Reporting on sustainability issues assists companies in minimising the risk, providing a competitive advantage and improving their brand image (Băndoi et al., 2021).

Sustainability reports assist the stakeholders in evaluating the organisation's risk and reliability and the long-term challenges organisations might face (Băndoi et al., 2021). It not only fulfils the heterogeneous information requirement of the stakeholders but also has economic relevance as it boosts the company's performance (Hongming et al., 2020). Darus et al. (2019) studied Malaysian companies and indicated that businesses that align their critical strategies with the mission and vision statement are more proactive in implementing sustainability practices and reporting. ESG disclosures are not only advantageous for the companies but also add value to the investors (Schiehll and Kolahgar, 2021). Investors with long-term investment goals also prefer firms with better ESG performance (Starks et al., 2017). During the pandemic, ESG funds received a lot of traction in India and were regarded as a safe haven for investment (Jain, 2021). To facilitate and encourage SR, there are multiple international standards and frameworks such as GRI, International Integrated Reporting Framework (IIRC), Carbon Disclosure Project (CDP), Climate Disclosure Standards Board (CDSB), Sustainability Accounting Standards Board (SASB), United Nations Global Compact (UNGC). For this study, GRI sustainability reporting standards have been used as a basis for content analysis as GRI is the most widely used framework globally because of its adaptability, validity, consistency, and its emphasis on continuous improvement (Dissanayake, 2020).

Sustainability reporting climate in India has evolved over the years (Jain and Winner, 2016). According to KPMG's survey of the largest 100 companies, there is substantial growth in the rate of sustainability reporting in India having a current reporting rate of 98% (KPMG, 2020). The stakeholders are becoming more aware and the demand for non-financial information is increasing. Laskar and Maji (2016) stated that the sustainability practices of Indian companies are not a myth but a real thing. Companies communicate their sustainability practices and their impact through reports and their websites (Jain and Winner, 2016). Managers of Indian companies consider their social responsibility for disclosing non-financial information in the form of a sustainability report (Matta et al., 2019). Companies focus on sustainability issues and activities to reduce their operational cost and for the long-term survival of the company. Studies on Indian corporates have shown mixed and ambiguous conclusions about the effect of sustainability performance on financial performance. While few studies have reported a positive effect (Dalal and Thaker, 2019; Kumar and Firoz, 2022; Laskar and Maji, 2016),

others have found a negative one (Kumar et al., 2021a; Laskar, 2019). Behl et al. (2021) studied Indian energy and allied sectors and found that sustainability performance affects financial performance in the short-run but leads to positive financial gains in the long run.

Though there is a positive trend in reporting as the number of companies adopting SR is increasing with each passing year (Nayan and Bhaskar, 2016), still the quality of sustainability reports of Indian companies is not at par (Aggarwal and Singh, 2019). Indian companies are issuing sustainability reports due to regulatory pressure and legitimacy approach to fulfil compliance and gain reputation in society (Aggarwal and Singh, 2019). Matta et al. (2019) have found that to avoid disclosure of confidential and sensitive information and the possible damage it could have on the company's image, managers of Indian companies restrain themselves from providing information on material issues in SR. Companies also struggle to identify the material issues that are crucial for preparing the reports. The concept of materiality in SR is ambiguous as the users of SR are more heterogeneous than the financial reporting (Reimsbach et al., 2020). Companies publish minimal relevant information and fail to clarify the process of stakeholder and material issues identification (Beske et al., 2020).

The sensitive industry is a comprehensive term that constitutes sinful industries (such as alcohol, gambling, tobacco, and adult entertainment) as well as industries that are involved with social, environmental, and ethical issues (such as oil and gas, cement, weapons) (Garcia et al., 2017). Environmentally sensitive industries are those that affect the environment directly from their operations. Stakeholders' demands for sustainability disclosure may vary significantly across business sectors due to their operations (Garcia et al., 2017; Miralles-Quirós et al., 2018). ESI companies have more stakeholder pressure and stringent requirements for disclosure (Welbeck et al., 2017; Manes-Rossi et al., 2018; Miralles-Quirós et al., 2018). Extant literature shows that ESI companies tend to disclose a more exhaustive report on material social and environmental issues to legitimise their actions and enhance their image (Manes-Rossi et al., 2018; Aggarwal and Singh, 2019). Sensitive industries companies have higher disclosure scores compared to companies in non-sensitive industries as they bear higher risk due to their social and environmental impact (Garcia et al., 2017). Kumar et al. (2021a) studied Nifty 100 companies and found that disclosures of companies belonging to ESI are comparatively higher than the non-sensitive industries. Qureshi et al. (2020) studied European listed firms and found strong significance of ESG disclosure on firm value in case of ESI than non-sensitive industries. Miralles-Quirós et al. (2018) found a significant and positive impact of sustainability performance on stock prices. Kumar et al. (2021b) analysed the sustainability reports and their relation with firm characteristics of 57 Indian energy and mining companies and found that firm size, standalone sustainability reports, and market capitalisation are positively related to sustainability disclosures of the company. Sensitive industries tend to focus not only on the environmental aspect but also perform better in social and governance aspects (Miralles-Quirós et al., 2018; Qureshi et al., 2020). Apart from the legitimacy perspective, another reason for better sustainability disclosure of sensitive industries can be to fulfil the mandatory regulatory requirements (Welbeck et al., 2017; Aggarwal and Singh, 2019). In India, regulatory bodies initiated efforts toward CSR/SR with the mandatory disclosure of conservation of energy in the board of directors' report in 1988 (MCA, 1988).

As per the literature survey, inadequate studies were found that focus on sustainability reporting in environmentally sensitive industries in the Indian context. This study is an enhancement of existing studies in two ways: first, it compares the reporting practices of various companies that deal with environmental issues. Second, whereas most studies concentrate on the environmental and social aspects, this study also emphasises the governance and economic aspects. This study provides insights on the present status of sustainability reporting and the major indicators disclosed by the companies in environmentally sensitive industries. Sustainability reports of the companies belonging to environmentally sensitive industries (cement and construction, oil and gas, metal and mining, and automobile) listed in the Nifty 100 index were selected and content analysis was applied based on GRI sustainability reporting standards to calculate the sustainability score of the companies. A lot of studies have used GRI Standards as the basis for the content analysis of sustainability reporting (Skouloudis et al., 2010; Alazzani and Wan-hussin, 2013; Dickinson and Hu, 2015; Godha and Jain, 2015; Nayan and Bhaskar, 2016; Laskar, 2019).

3 Global Reporting Initiative

GRI is an international standards organisation founded in 1997 that assists organisations, businesses, and the government in disclosing information on important sustainability concerns. It provides a framework for sustainability reporting that enables businesses to increase their level of transparency and aid in the accomplishment of the sustainable development goals (SDGs). It is the most adopted framework for sustainability reporting globally (KPMG, 2020). GRI produced its first set of guidelines in 2000, and the most recent sustainability reporting standards were released in 2016. Table 1 shows the development of the GRI guidelines over the years. GRI standards are structured in two categories, i.e., universal standards (GRI 101, GRI 102, GRI 103) and topic-specific standards (GRI 200, GRI 300, GRI 400). These standards can be used to prepare a balanced Sustainability Report that comprises organisations' material issues and their impacts. GRI also has Sectors Supplements Disclosure that is sector-specific and can be used along with general disclosure guidelines. For this study, GRI sustainability reporting standards were used as a base for content analysis. GRI 200 (economic), GRI 300 (environmental), GRI 400 (social), and governance issues from GRI (102) were taken into consideration.

Table 1 Evolution of GRI framework

Year	*Updates in GRI guidelines*
2000	First version of GRI guidelines
2002	GRI G2 guidelines
2006	GRI G3 guidelines
2013	GRI G4 guidelines
2016	GRI sustainability reporting standards

Source: GRI (2021)

4 Objectives of the study

1 To assess the nature and extent of sustainability reporting practices of Indian companies belonging to ESI.

2 To determine the key performance indicators that selected companies disclose as per the GRI Sustainability Reporting Standards.

3 To examine the variations in the sustainability reporting among selected sensitive sectors.

5 Research methodology

5.1 Sample and data collection

The initial sample of the study has considered listed entities of Nifty 100 as of 31 March 2021. As per National Stock Exchange (NSE), "the NIFTY 100 Index represents about 76.8% of the free float market capitalisation of the stocks listed on NSE as of March 29, 2019" (NSE, 2022). Out of 17 sectors in Nifty 100, five sensitive sectors were selected, i.e., construction, construction materials, metal and mining, and automobile. Further, construction and construction materials were combined and referred to as cement and construction in this study. Among these sectors, companies that have published sustainability report following GRI sustainability reporting standards in 2017–2018 made the final sample for this study. GRI framework is the most preferred standard for SR (Momin and Parker, 2013; Laskar, 2019) due to its flexibility and its emphasis on continuous improvement (Dissanayake, 2020). There are a total of 31 companies in the four sectors, however, only 21 of them have sustainability reports that comply with GRI sustainability standards. The summary of sample information can be seen in Table 2. GRI launched GRI sustainability reporting standards in 2016, which were adopted by companies in their FY 2017–2018 Report. These criteria have undergone revisions in subsequent years that were reconciled in companies' reports during different years. Therefore, to improve comparability and ensure consistency in reporting across firms, 2017–2018 was selected for this study.

The GRI database and companies' websites were used to gather the sustainability reports. Keywords such as 'corporate sustainability reports', 'CSR reports', 'sustainability reports', 'sustainability development reports' and 'integrated reports' were used to search the reports. These reports were content analysed based on the GRI sustainability reporting standards to assess the sustainability performance of the companies. The quantitative evaluation of the sustainability reports as per the scoring system may assist the investors and stakeholders to compare the sustainability performance of the companies with their peers to make an appropriate decision. The term performance in this study does not represent the actual performance of the companies, it simply shows the inferences obtained from the company's sustainability report. This research looked at four aspects of sustainability, namely: governance and stakeholder engagement, economic, environmental, and social. These aspects comprise a total of 106 indicators as shown in Table 3. The following formula was used to get the companies' disclosure score:

$$Disclosure\ score = \sum_{i=1}^{m}\sum_{j=1}^{n} Sij$$

Here,

i represents company

j represents indicator

n total number of indicators considered in this study (106)

m total number of companies in the study (21)

Sij 1 if the company has disclosed that particular item in their report and 0 otherwise.

In the present study, the author herself coded the data. The coding was further evaluated by experts and senior researchers with several years of experience in this field. No inconsistency was found in the codes by the senior researchers.

Table 2 Summary of final sample information

Sector	*Total no. of companies*	*Total no. of companies with GRI reporting*	*Percentage*
Cement and construction sector	7	5	71%
Oil and gas sector	8	6	75%
Metal and mining sector	7	6	86%
Automobile	9	4	44%
Total	31	21	67%

Source: Author's compilation

Table 3 Information of indicators

Aspects	*No. of indicators*
Governance and stakeholder engagement	29
Economic	13
Environmental	30
Social	34
Total no. of indicators	106

Source: Author's compilation

5.2 Hypotheses

For this study, governance and stakeholder engagement, economic, environmental, and social sustainability reporting factors were taken into account. Five hypotheses were developed to achieve the third objective:

H1 The comprehensive sustainability disclosure varies significantly across selected sensitive sectors.

H2 The disclosure of governance and stakeholder engagement indicators varies significantly among chosen sectors.

H3 The disclosure of economic indicators varies significantly among chosen sectors.

H4 The disclosure of environmental indicators varies significantly among chosen sectors.

H5 The disclosure of social indicators varies significantly among chosen sectors.

6 Content analysis

Content analysis is used to assess the nature and extent of the companies' sustainability disclosure. It is a method used to draw logical inferences from the text (Weber, 1990). It entails textual analysis of written text and focuses on non-textual content such as images, sounds, graphical content, and non-verbal behaviour (Neuendorf and Kumar, 2015). Several studies have utilised content analysis as a standard technique for gauging sustainability performance (Alazzani and Wan-hussin, 2013; Kumar, 2018; Manes-Rossi et al., 2018; Aggarwal and Singh, 2019; Laskar, 2019).

To conduct this study and evaluate the level of sustainability disclosure, a total of 106 indicators from the GRI Sustainability Reporting Standards have been recognised, which were introduced by GRI in 2016. The four dimensions of the 106 equally weighted items are governance and stakeholder engagement (29), economic (13), environment (30), and social (34) as shown in Table 3. The first aspect, governance and stakeholder engagement comprises values, standards, and concerns about ethics, transparent and well-grounded governance policies, remuneration policies, collective bargaining, and other aspects of stakeholder engagement. The economic aspect includes information such as economic value generated by the company, policies regarding anti-corruption and anti-competitive behaviour. The environment aspect comprehends the details regarding emission, wastes, usage of energy and water, environmental compliance, etc. The social aspect depicts the information regarding employment, human rights, and labour relations.

Thereafter, coding was done to measure the sustainability performance. Each indicator is equally weighted and assigned a value of 1 or 0 based on the presence (1) or absence (0) of information in that particular indicator in the companies' report. For this study, only the presence or absence of the indicator has been taken into consideration, and the quality and intensity of information disclosed in the report were not assessed. The GRI standards provide comprehensive information for each indicator, which makes it an unambiguous and accurate method to assess companies' sustainable performance. The majority of companies also include a distinct part called GRI content index in their sustainability reports that maps their disclosure data to GRI indicators, making it simple to find all of the GRI information in one location. Additionally, the author has also highlighted the companies that have externally third-party assured sustainability reporting as well as other non-financial international reporting frameworks that the companies are using apart from GRI.

7 Results

7.1 Company-wise disclosures

The findings reveal that, out of 31 organisations, every single company produces BRR reports to comply with regulatory requirements, however, only 21 (68%) of companies publish as per GRI standards. Out of the 21 companies that were sampled, 20 (or 95%) provide reports that have been assured by the external third-party assurers. Indian Oil Corporation Ltd. is the only company in the sample that does not have an externally assured non-financial report. Seven companies (35%) out of 20 companies have got their reports assured by big four audit firms.

Table 4 Summary of disclosure on various aspects

Aspect	*Mean score*	*Disclosure (%)*
Governance and stakeholder engagement	16.72	80%
Economic	13.08	62%
Environment	16.30	78%
Social	12.56	60%

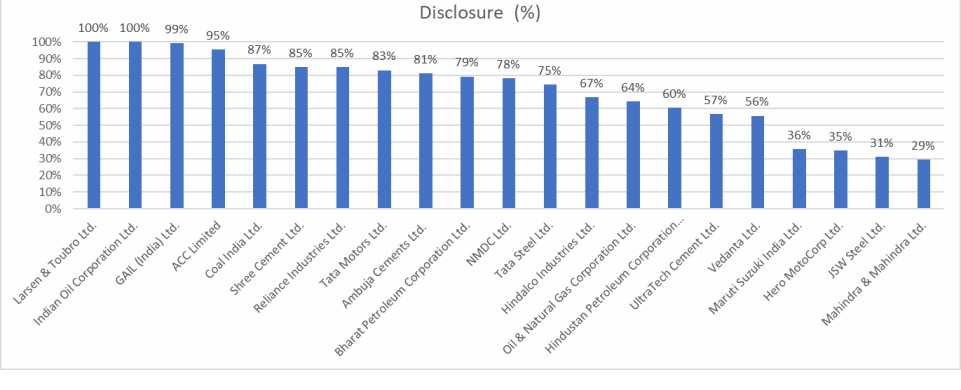
Source: Author's compilation

Table 5 Result of hypothesis testing

Hypothesis	*Result*
H1	Not supported (H(3) = 6.566, p = .087)
H2	Not supported (H(3) = 5.318, p = .150)
H3	Not supported (H(3) = 5.761, p = .124)
H4	Not supported (H(3) = 4.285, p = .134)
H5	Not supported (H(3) = 5.583, p = .232)

Source: SPSS

Figure 1 Disclosure percentage (see online version for colours)



Source: Author's compilation

Table 6 Hypotheses testing

Kruskal-Wallis test			
Ranks			
	Sector name	*N*	*Mean rank*
Total disclosure score	Cement and construction	5	14.60
	Metal and mining	6	9.00
	Oil and gas	6	13.67
	Automobile	4	5.50
	Total	21	
Governance and stakeholder engagement score	Cement and construction	5	13.60
	Metal and mining	6	9.92
	Oil and gas	6	13.17
	Automobile	4	6.16
	Total	21	
Economic score	Cement and construction	5	13.70
	Metal and mining	6	11.25
	Oil and gas	6	12.75
	Automobile	4	4.63
	Total	21	
Environmental score	Cement and construction	5	14.20
	Metal and mining	6	9.58
	Oil and gas	6	12.75
	Automobile	4	6.5
	Total	21	
Social score	Cement and construction	5	14.20
	Metal and mining	6	9.25
	Oil and gas	6	13.50
	Automobile	4	5.88
	Total	21	

Source: SPSS

The assessment of the sustainability reports of the sampled companies showed a substantial gap in the sustainability disclosures made by the companies. As presented in Table 7 and Figure 1, the sustainability disclosure score ranges from 29% to 100%. The top five companies comprise Larsen & Toubro Ltd. (100%), IOCL (100%), GAIL (99%), ACC Limited (95%), Coal India Ltd. (87%), and the bottom five companies include Vedanta Ltd. (56%), Maruti Suzuki Ltd. (36%), Hero MotoCorp Ltd. (35%), JSW Steel Ltd. (31%), Mahindra & Mahindra (29%). The bottom four companies have less than 50% disclosure score. It depicts the wide gap between the companies when it comes to disclosing information on ESG issues according to international standards. As presented in Table 4, among the four factors taken into account for this study, the majority of corporations reported on the governance and stakeholder engagement aspects. Out of 21 companies, 12 companies have reported on all 29 indicators of governance and

stakeholder engagement. The second most highly reported aspect is environment, out of sample companies, five companies have reported on all 30 indicators of the environmental aspect. The social aspect is the least reported with a disclosure percentage of 60%. Apart from GRI standards, 18 (85.71%) of 21 companies have linked their sustainability disclosure information with sustainable development goals (SDGs). The majority of these companies also aligned their disclosure information with UNGC principles and submitted their emission report to Carbon Disclosure Project (CDP).

Table 7 Details of companies' disclosure score

Companies	*Sector*	*Disclosure (%)*	*Total disclosure score*	*Rank*
Larsen & Toubro Ltd.	Cement and Construction	100%	106	1
Indian Oil Corporation Ltd.	Oil and gas	100%	106	1
GAIL (India) Ltd.	Oil and gas	99%	105	3
ACC Limited	Cement and construction	95%	101	4
Coal India Ltd.	Metal and mining	87%	92	5
Shree Cement Ltd.	Cement and construction	85%	90	6
Reliance Industries Ltd.	Oil and gas	85%	90	6
Tata Motors Ltd.	Automobile	83%	88	8
Ambuja Cements Ltd.	Cement and construction	81%	86	9
Bharat Petroleum Corporation Ltd.	Oil and gas	79%	84	10
NMDC Ltd.	Metal and mining	78%	83	11
Tata Steel Ltd.	Metal and mining	75%	79	12
Hindalco Industries Ltd.	Metal and mining	67%	71	13
Oil & Natural Gas Corporation Ltd.	Oil and gas	64%	68	14
Hindustan Petroleum Corporation Ltd.	Oil and gas	60%	64	15
UltraTech Cement Ltd.	Cement and construction	57%	60	16
Vedanta Ltd.	Metal and mining	56%	59	17
Maruti Suzuki India Ltd.	Automobile	36%	38	18
Hero MotoCorp Ltd.	Automobile	35%	37	19
JSW Steel Ltd.	Metal and mining	31%	33	20
Mahindra & Mahindra Ltd.	Automobile	29%	31	21

Note: Disclosure percentage was calculated by dividing the total disclosure score of the company by the maximum score possible.

Source: Author's compilation

7.2 Hypotheses testing results

The non-parametric Kruskal-Wallis H-test was performed to determine the significant variation in the disclosure between all four sectors. All five hypotheses were not supported. As can be seen in Tables 5 and 6, the result of H-test reveals, that there is no significant difference in the sustainability disclosure between the four sectors, the disclosure of cement and construction was highest (mean rank = 14.60) followed by oil and gas (mean rank = 13.67), metal and mining (mean rank = 9.00), and automobile

sector (mean rank = 5.50), H(3) = 6.566 p = .087. Results indicate cement and construction sector has the highest disclosure in all four aspects governance and stakeholder engagement aspect (mean rank = 13.60), economic (mean rank = 13.70), environmental (mean rank = 14.20), and social (mean rank = 14.20) followed by oil and gas sector and metal and mining sector as shown in Table 6. The automobile sector has the lowest disclosure in all four aspects, i.e., governance and stakeholder engagement (mean rank = 6.13), economic (mean rank = 4.63), environmental (mean rank = 6.50), and social (mean rank = 5.88).

7.3 Aspect-wise disclosure

7.3.1 Governance and stakeholder engagement

Governance and stakeholder engagement is the highest reported aspect having 80% disclosure percentage. Table 8 depicts the mean score and disclosure percentage of the themes under the governance and stakeholder engagement aspects. The theme of stakeholder engagement is pronouncedly reported by all the companies as compared to governance and ethics and integrity theme. Mahindra & Mahindra has not been reported on any indicator of ethics and integrity. Out of 21 companies, 16 companies (76.19%) have reported information about all the indicators in ethics and integrity category. Companies like JSW Steel Ltd., Mahindra & Mahindra Ltd., Vedanta Ltd., Hero MotoCorp Ltd., and Maruti Suzuki Ltd., are the ones that have low disclosure scores in governance aspect.

Table 8 Disclosure on various themes of governance and stakeholder engagement aspect

Theme	*Mean score*	*Disclosure percentage*
Ethics and integrity (2)	18	86%
Governance (22)	15.68	74%
Stakeholder engagement (5)	21	100%

Note: Mean score was calculated by dividing the total number of indicators reported in a particular theme by the total number of indicators in a theme.
Numbers in brackets represent the total number of indicators in a theme.

Source: Author's compilation

7.3.2 Economic aspect

With a disclosure proportion of 62%, the economic aspect is the second-lowest disclosed. The only theme that received significant attention from the companies was economic performance, this reveals that companies prioritise disclosing financial information more than non-financial one. As presented in Table 9, 12 companies (57.14%) have not reported completely on any indicator of the market presence. Nine companies (42.85%) have not disclosed information under indirect economic impacts and seven companies (33.33%) have not mentioned details regarding the incidents of corruption and training for anti-corruption. Eight companies namely Shree Cement, ONGC, Hindalco Industries, JSW steels, HPCL, Hero MotoCorp Ltd., Mahindra and Mahindra, and Maruti Suzuki Ltd. disclosed the least information under economic aspect.

Table 9 Disclosure on various themes of economic aspect

Theme	*Mean score*	*Disclosure percentage*
Economic performance (4)	16.5	79%
Market presence (2)	8.5	40%
Indirect economic impacts (2)	10.5	50%
Procurement practices (1)	15	71%
Anti-corruption (3)	12.67	60%
Anti-competitive behaviour (1)	13	62%

Source: Author's compilation

Table 10 Disclosure on various themes of environmental aspect

Theme	*Mean score*	*Disclosure percentage*
Material (3)	15.33	73%
Energy (5)	16.8	79%
Water (3)	18.67	89%
Biodiversity (4)	12.5	60%
Emissions (7)	19.14	91%
Effluents and waste (5)	15.8	78%
Environmental compliance (1)	16	76%
Supplier environmental assessment (2)	11	52%

Source: Author's compilation

7.3.3 Environmental aspect

After governance and stakeholder engagement, the environmental issue receives the most emphasis from the companies. This shows that companies operating in environmentally sensitive industries give environmental issues a higher priority and prioritise disclosing this information to stakeholders to legitimise their actions. Emissions are noticeably recorded more frequently than other themes, as demonstrated in Table 10. Most of the companies report their information on emissions through sustainability reports, but there are few companies like Ambuja Cements Ltd, Ultratech Cements Ltd. Tata Steel Ltd. Tata Motors Ltd., Mahindra & Mahindra Ltd. that also report their emissions and climate change disclosure to CDP. This depicts the company's concern regarding the issue of carbon emissions and climate change. Water and energy are also highly reported themes and all companies have published information on these themes. Nine companies (42.85%) have not reported details on the reduction in energy requirement and seven companies (33.33%) have not reported information regarding the sources of water affected in the conservation of energy and water theme. Ministry of Power, Government of India has also published guidelines for energy conservation for the industries (Bureau of Energy Efficiency, 2018). Five companies have not reported information about the non-compliance with environmental laws and regulations. Biodiversity theme has only 60% of disclosure. 33.33% of companies, i.e., seven companies (2 – metal and mining, 2 – oil and gas and 3 – automobile) have completely omitted to report on biodiversity. supplier environmental assessment was the least reported, eight companies (1 – cement

and construction, 2 – metal and mining, 4 – oil and gas and 1 – automobile) have completely skipped reporting information regarding actions taken for negative environmental impact on supply chain and screening the new suppliers on environmental criteria.

7.3.4 Social aspect

Human resource is considered an asset for the company and improving their welfare would improve the company's reputation among stakeholders and foster a positive perception of the business. The GRI standards framework lists 19 themes in the Social aspect category. Among the four aspects, the social element is the one about which firms reported the least. Only the top three companies Larsen & Turbo, IOCL, and GAIL have reported all the indicators of the social aspect. Seven companies (33.33%) have less than 50% of disclosure score in this aspect. As presented in Table 11, themes like employment, labour/management relations, occupational health and safety, training and education, and socio-economic compliance noticeably have high disclosure having a mean score above 15 and more than 70% disclosure percentage. There is a dearth of reporting by the companies on themes like customer privacy, public policy, supplier social assessment, human rights assessment, right of indigenous people, security practices, freedom of association, and collective bargaining.

Table 11 Disclosure on various themes of social aspect

Theme	*Mean score*	*Disclosure percentage*
Employment (3)	18	86%
Labour/Management Relations (1)	15	71%
Occupational Health and Safety (4)	17	81%
Training and Education (3)	17	83%
Diversity and Equal Opportunity (2)	14	67%
Non-discrimination (1)	12	57%
Freedom of association and collective bargaining (1)	9	43%
Child labour (1)	12	57%
Forced or compulsory labour (1)	12	57%
Security practices (1)	7	33%
Rights of indigenous peoples (1)	7	33%
Human rights assessment (3)	7.33	35%
Local communities (2)	15	69%
Supplier social assessment (2)	8	38%
Public policy (1)	9	43%
Customer health and safety (2)	11	52%
Marketing and labelling (3)	10.67	51%
Customer privacy (1)	6	29%
Socioeconomic compliance (1)	15	71%

Source: Author's compilation

8 Discussion and conclusions

This study assessed the nature and extent of SR of Indian companies belonging to ESI. Results indicated that out of 31 listed companies, all companies publish BRR reports to satisfy the regulatory obligation, but only 21 companies (67.74%) publish reports as per GRI criteria. This implies that companies do not adhere to international standards and instead publish reports to satisfy mandatory regulatory requirements. This finding is consistent with (Aggarwal and Singh, 2019). Companies that follow the GRI framework for sustainability reporting tend to greenwash less than their counterparts (Ruiz et al., 2021). The majority of the selected companies have also aligned their disclosure to the SDGs and UNGC principles. Companies like L&T Ltd., and IOCL are the top-ranked companies while Mahindra and Mahindra Ltd. secured the last rank. There is also a rise in the adoption of the integrated reporting framework in Indian companies (KPMG, 2020), three sampled companies, i.e., JSW Steel, Larsen & Toubro, and Tata Steel have started publishing the integrated report to provide both financial and non-financial information more concisely. Except for IOCL, all of the other 21 corporations publish reports that have been audited by an external third-party assurer. Externally assured sustainability reports increase the trust and confidence of stakeholders in the quality of SR (GRI, 2013). Companies have majorly focused on the disclosure of governance and stakeholder engagement aspect (80%) followed by the environment (78%), economic (62%), and social (60%). This demonstrates that ESI companies place a greater emphasis on environmental disclosure to legitimise their actions and enhance corporate reputation and are less concerned with community-related issues.

The result of hypothesis testing shows that there is no significant difference among the disclosures in the four chosen sectors. The cement and construction sector has the highest disclosure while the automobile sector has the least disclosure in all aspects. Infrastructure is the cornerstone of any country's economic growth, and more than 7% of CO2 emissions are caused by building materials (The Economic Times, 2019). Cement manufacture and construction activities like clearing land, demolishing buildings, and using diesel generators are some of the worst polluters (Borana, 2019). The higher disclosure in the cement and construction sector shows the companies' efforts to strengthen their ties with the stakeholders.

Almost every company has disclosed information on all indicators in the governance aspect, except for the last five ranked companies. The stakeholder engagement theme was reported by every company, effective stakeholder engagement is important for the long-term success of the company and this shows companies' concern towards the stakeholders. In the economic aspect economic performance was the major theme reported by the companies. The climate catastrophe has emerged as one of the most important global challenges in the contemporary context, and vulnerable industries face significant pressure from stakeholders and regulatory agencies for environmental and energy conservation. As a result, the environmental aspect is the most reported aspect after governance and stakeholder engagement. ESI companies provide superior environmental information in their disclosures to justify their environmentally detrimental actions. Among themes in the environmental aspect, the emission is a highly reported theme and many companies such as Ambuja Cement, Tata Steel, Mahindra & Mahindra also report their emission and climate change disclosure to CDP. This reflects the concern that companies have for emissions, a major contributor to climate change.

The majority of businesses also reported on water, energy, waste, effluents, and environmental compliance in addition to emissions. Biodiversity and supply chain screening based on the environmental aspect received the least amount of coverage. The social dimension of sustainability is the least recognised of the four aspects that were examined in this study. Apart from the two top-ranked companies as shown in Table 7, no other company has disclosed information on all indicators of the social aspect. There is a dearth of reporting on a few indicators, including customer privacy, supplier social assessment, security practices, freedom of association, and collective bargaining. This finding is inconsistent with the (Miralles-Quirós et al., 2018; Qureshi et al., 2020).

The status of disclosure on the social aspects indicates that ESI companies put more emphasis on environmental issues and are less concerned about community and employee aspects. Companies are accountable for the negative environmental and social effects of the organisations in their supply chain in addition to their operations. The findings show that few companies check the ethical and environmental credentials of prospective supply chain partners. If a company wants to manage its business sustainably, it must manage the supply chain activities involved in sourcing, procurement, conversion, and logistics in a way that maintains a balance among the economic, social, and environmental variables. Mann and Kaur (2020) examined BSE 100 businesses and found that sustainable supply chain management activities had a positive effect on the financial performance of the company. Companies should put a strong emphasis on the actions of their supply chain partners in addition to their operations. They should start scrutinising supply chain organisations with an eye on environmental and social concerns since supply chain risk can become a significant issue for the firm over time.

9 Implications

The present study has certain implications for the companies, policymakers, and stakeholders. The companies that have low sustainability disclosure scores need to enhance their sustainability communication strategies. Results indicate that companies in India are publishing sustainability reports due to mandatory regulatory requirements rather than fulfilling the information requirement of diverse stakeholders. Companies in the ESI industry should adopt the stakeholder approach instead of legitimacy approach. Additionally, ESI companies should address the needs of all stakeholders equitably, especially, employee and community-related issues. Policymakers need to expand the scope of BRR in India and motivate companies to enhance their sustainability reports. Additionally, there should be consistency in the global reporting frameworks, as multiple reporting standards makes it difficult for companies to choose suitable one. Further, there is a need for awareness programs for stakeholders to educate them about SR and its significance in investment decision making. This will increase stakeholder pressure on companies to include thorough and high-quality information in their sustainability reports.

10 Limitations and scope for future research

The study is limited to assessing the nature and extent of SR in ESI companies. It does not examine the quality and authenticity of the disclosure. Further studies may take place

to evaluate the quality and authenticity of reporting. Additionally, the sustainability performance of the companies is calculated based on the sustainability reports available in the public domain, this performance does not represent the actual performance of the company. To analyse the sustainability reports of companies, the study only utilised the GRI sustainability reporting standards as a framework. Other international reporting frameworks, the BRR framework, or the combination of different frameworks can be used to calculate the disclosure score of sustainability reports. During scoring, indicators can be fallible and errors might have occurred by missing indicators that should be scored or scoring the indicator that should not be scored. This study is limited to the sustainability reports published by the chosen ESI companies in 2017–2018. Further studies can be conducted with larger sample sizes or for a longer period. Further, the relation of calculated sustainability disclosure score can be seen with different dimensions of firm, such as firm size, firm age, profitability, market capitalization, and board characteristics.

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