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Research Article

Are companies walking the talk for disclosing as per GRI305? Evidence from India

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ABSTRACT

Introduction: Drawing upon the institutional theory, surging global concerns for carbon emission and other environmental issues have led the stakeholders to keep vigilance over a company's activities on 3 pivots of sustainability namely, economic, environmental, and social along with its financial performance, to ensure its sustainable growth. As per stakeholder and agency theories, the company (Board of Directors) is the agent of its stakeholders so, it needs to fulfill its corporate social responsibility of environmental disclosure. The emission of various Greenhouse gases (GHGs) is a major environmental issue responsible for climate change and a threat to sustainability, therefore it is important to disclose and report the GHG emissions of the company in a standardized way as prescribed by the Global Reporting Initiatives norms for the understanding of the stakeholders.

Objectives: The current investigation proposes to find out the viability of nonobligatory emission disclosure by Indian companies claiming to be following Global Reporting Initiatives (GRI) standards in comparison with the information that ought to be disclosed under GRI 305 Emissions 2016 standards. In this regard, the threefold objectives of this research are as follows:

1. To highlight the gap in emission disclosure practices of Indian companies in comparison with GRI 305_ Emissions 2016 standards.
2. To find out the sectoral influence on reporting practices (RPs) of the companies.
3. To find out the disparity in emission reporting practices of public and private sector companies.

Methods: The companies are selected from the NIFTY 100 Index wherein the companies from the most polluting sectors as per the report of Intergovernmental Panel on Climate Change (IPCC) and UN Environmental Protection Agency (EPA) are sampled. The sustainability reports (SRs) or the integrated sustainability reports (IARs) of the sampled companies are content analyzed for mapping their environmental disclosure as per the GRI305 emission standards. For analyzing the data, one-sample t-test, one-way ANOVA, and independent t-test have been used in version 26.0 of the SPSS statistics.

Results: Our findings showed that companies in India don't completely comply with GRI standards even when they claim to do so, whilst a few companies like BPCL, IOCL, and United Spirits Ltd. disclose most of the emission parameters. Furthermore, it was analyzed that there is absence of influence of ownership or the industrial sector on the emission reporting practices (RPs).

Conclusions: The study is useful for policymakers to formulate stringent rules of compliance for sustainability disclosure as per the standards for most polluting companies to adhere to. It is also helpful for investors for acquainting themselves with the emission disclosure practices adopted by companies from various industrial and ownership sectors and taking better decisions while putting a stake in the company. Lastly, the society will be conversant with the companies who not only talk the walk but also walk the talk that is, the companies indeed follow the standards when they claim to be doing so and thus can decide whom they want to plunk for.

Keywords: sustainability, emission disclosure, Indian Companies, GRI305, NIFTY, Mapping, GRIS, environment.

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INTRODUCTION

GHG emission is a worldwide concern because of its impacts on the ecology, climate change, economy, society, and industrial processes (Abeydeera et al., 2019). Thus, it becomes inevitable for the business institutions to take on assiduity for the issue. Research on various aspects of GHGs and environmental disclosure has been seeking the attention of various policymakers, industrialists, researchers, and society as it shows its impelling influence on every sphere of sodality (Dabbebi et al., 2022; Zhang et al., 2022). It has been predicted by IPCC that there will be an upsurge in global temperature of about 2°C over the end of this century owing to which it has become an international concern (Alexander et al., 2013; Strickland, 2017). As per Kyoto protocol, there are six major GHGs responsible for climate change namely, carbon dioxide (CO_2), hydrofluorocarbons (HFCs), methane (CH_4), perfluorocarbons (PFCs), nitrous oxide (N_2O) and Sulphur hexafluoride (SF_6) amongst which CO_2 is the most prominent gas (Heller III, 200; EIA, 2016). Most industrial organizations emit GHGs and thus are precursors to the climate change crunch (Ge & Friedrich, 2020). It is utmost important for the stakeholders of any organization to know about its emissions to decide upon putting their stake, getting assured of its sustainability for a prolonged period. This research is chiefly centered around the environmental disclosure by 31 Indian companies who claim to be following the GRI standards (Global Reporting Initiative Standards) amongst the NIFTY 100 Index, sampling those amongst them that are amongst the most GHG emitting sectors as per IPCC and EPA. The emission disclosure of these companies is compared with GRI_305 emission-related standards (hereafter referred to as GRIS305) to know the extent of their compliance with the standards.

The sustainability reports (SRs) published by organizations assume a vivacious role in intimidating the various measures taken by them to discharge their corporate social responsibility which ameliorates the public stature of the company amidst its stakeholders (Székely & Brocke, 2017; Christensen et al., 2021). To legitimize good performance in society, organizations also tend to follow international standards of sustainability reporting, one amongst which is GRIS (Siew, 2015; Patara & Dhalla, 2022). GRIS is formulated in harmony with multi-stakeholders' expectations from an organization and is cast out in various intergovernmental instruments (GRI, 2016). An enterprise may affect the economy, environment, and people either positively or negatively (GRI, 2016). Through GRIS these can disclose their gravest impacts on these aspects (GRI, 2016).

OBJECTIVES

India has recently started adopting such standards in their SRs (Goel & Misra, 2017). Owing to this, there is largish scope for exploring the trend of GRI emission disclosure in India which makes it worthwhile research to gain insight into the compliance of these standards in India. This research specifically talks about the GRI305: Emissions 2016 standards which state the standards related to various GHGs released by an organization as per which we would deduce the extent to which the sample companies in India claiming to be complying with such standards disclose the information in their SRs. SRs or integrated annual reports (IAR) of the companies and the GRIS305 were content analyzed to effectuate the results. This research has the following objectives:

1. To highlight the gap in emission disclosure practices of the Indian companies in comparison with GRI 305_ Emissions 2016 standards.
2. To find out the sectoral influence on reporting practices (RPs) of the companies.
3. To find out the disparity in emission reporting practices of public and private sector companies.

LITERATURE REVIEW

2.1.1. GRI framework and sustainability reports

The existing literature succinctly talks about the compliance of GRI Environmental Standards in the SRs of the companies. Not much literature is specifically available on follow-up of detailed GRIS305 by Indian companies. The theme-wise literature affiiliated to the different aspects of sustainability disclosure in the context of the GRI framework are mentioned in the following subsections:

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2.1.2. Extent and quality of sustainability information in SRs in line with GRI

Frost et al. (2005) scrutinized the conventions in Sustainability RPs (SRPs) of companies indexed on ASX in several reporting media using key indicators from the GRIS and found that annual reports provided trivial information whilst discrete reports and websites imparted a plethora of reportage. Alimbudiono et al. (2023) explored the seriousness of sustainability reporting by taking the case of 38 companies grounded on the GRI framework. Khan et al. (2011) investigated the SRs of headmost commercial banks of Bangladesh listed on the Dhaka stock exchange in certain broad aspects of ESG in comparison with GRI G3 guideline. Penney et al. (2023) compared the quality of CSR of African western and locally listed firms on African Stock Exchange using GRIS.

2.1.3. Factors impacting sustainability reporting practices

Kumar (2020) investigated the SRs of 100 National Stock Exchange-listed companies and found that the reports drawn based on GRIS disclosed more information than the non-GRI reporting companies. Furthermore, no major difference between the RPs of government-owned and private companies was acknowledged. Rezaee et al. (2023) explored the impact of US voluntary and EU mandatory regimes on the ESG reporting on the ESG disclosures by the companies that the EU mandatory reporting regime had an edge over US voluntary regime. Rankin et al. (2011) attempted to corroborate the dependence of reporting of GHG on the internal organizational systems, external privately proclaimed guidance, and the European Union Emission Trading System by taking the case of 187 ASX 300 firms. It was found that the firms who voluntarily disclosed GHG emissions had an Environmental Management System in the organization, had higher corporate governance quality, publically reported through carbon disclosure projects, and used GRIS for disclosure.

2.1.4. Analysis of assurance statements to check the sustainability reporting practices

Boiral et al. (2017) examined 301 assurance statements from the mining and energy industry on sustainability in respect of their quality, reliability, and loopholes, along with suggestions for improvement of SRs using GRIS. Manetti & Becatti (2008) described the preeminent international standards for providing assurance services on SRs, empirically examined the reports drawn up as per GRI 2006 guidelines and also assessed how effectively GRIS was applied. Abay (2022) examined the impact of third-party assurance statements of the ESG reporting on the ESG performance of 645 European firms between 2012-2017 utilizing GRI database.

2.1.5. A check over greenwashing proclivities in SRs

Hahn & Lülfs, (2013) analyzed the SRs of companies using GRI guidelines for reporting, listed on the US DJIA and on the German DAX Index to diagnose the legitimization schemes used by the sample companies to communicate the negative bearings in their reports and to focus on the greenwashing tendencies of the corporates and discovered six legitimization strategies used by the organizations. Nishitani et al. (2021) clarified the allegation that the environmental activities of corporates to meet UN SDGs are mere greenwashing by exploring the impact of stakeholders' pressure on the environmental management control system (EMCS) and further checking its impact on the environmental aspect of Vietnamese companies.

2.1.6. Impact of non-financial disclosures on Performance

Kirova and Yosifova (2024) analyzed the relation between non-financial disclosure on grounds of GRI framework and ex-post financial performance of 2 largest Bulgarian enterprise from the road freight transportation sector by applying multiple regression model. Jeriji et al. (2023) analyzed the impact of GRI migration for sustainability reporting and its impact on firm value by taking data from 39 different countries and found a negative relationship between the two. Abay (2022) examined the impact of third-party assurance statements of the ESG reporting on the ESG performance of 645 European firms between 2012-2017 utilizing GRI database.

2.2.Sustainability reporting in the Indian context

India is in the initial stages of its race for sustainability reporting (Goel & Misra, 2017). It has recently become mandatory for large companies in India to establish a CSR committee injuncted by section 135 of the Companies Act 2013 (ICAI, 2014). So, there has cropped up a wide scope of research in SRPs by Indian companies recently. A few researches are ensnaring the intensity of SRPs by Indian companies as per international standards considering

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various aspects of organizations such as size of the firm, type of industry, sector, and profitability but none of the research hitherto have fastened to detailed emission-related disclosures by Indian companies. Gola et al., (2022) investigated the environmental reporting of 29 companies from the NIFTY 50 Index through sector and keyword-wise content analysis of annual reports taking the GRI framework as a foundation. Mishra and Sant (2023) studied the extent of ESG disclosure in the sustainability reports by taking the case of the Indian banking sector and found that environmental aspects are disclosed more than the other two. Aggarwal & Singh (2019) analyzed the SRP of Indian companies in various spectrums that are industry, ownership structure, firm size, and profitability. The SRPs were found to differ with the type of industry, firm size, and profitability, but not with ownership structure. Sahay, (2004) states that Indian companies lack quality reporting and there is room for betterment. Yadava & Sinha (2015) analyzed the SRs of eminent public and private Indian companies on various aspects of ESG and compared them with GRIS. Goel & Misra (2017) analyzed the SRs of 120 BSE-listed companies based on GRIS along with establishing the correlation between sustainability disclosure by the sample companies with their financial performance.

This particular analysis explicitly focuses on the comparison of GRIS305 with the emission-related disclosure by 31 Indian companies amongst the most polluting sectors cited in the NIFTY 100 Index, by doing an analysis of their SRs or IARs for FYs 2022-24 which was not much attended by the previous researches hitherto. Thus, our first proposition assumes that the most polluting developed companies in India completely comply with the GRI emission-related standards when they claim to follow GRIS. Together with this, the study also aims to find out the influence of sectoral differences on emission reporting owing to which our second proposition suggests that there is absence of any influence of industry-specific differences on the emission reporting. Lastly, it attempts to find out the disparities in emission reporting of public and private sector enterprises. Based on this, the third proposition presumes the absence of disparities between the RPs of public and private enterprises. These propositions are mentioned below:

P1: The most polluting Indian companies claiming to follow GRIS emission disclosure standards disclose most of the information in their SRs or IARs as required by GRI 305 emissions standards.

P2: There is absence of influence of industry-specific differences in emission reporting.

P3: There are no major differences between the emission reporting practices of developed public and private enterprises in India.

METHODS

3.1.Data Collection

The sample companies are selected after 3 phased screening process. The first phase involved choosing the companies cited in the Nifty 100 Index for the year ending 31st March 2024 (NSE, 2024). In the succeeding phase of screening, the companies that were amongst the highest polluting sectors as per the report of IPCC and UN EPA were selected. As per EPA, the prominent sectors responsible for GHGs are industry, commercial and residential, transportation, agriculture, electricity production, and land use and forestry (EPA, 2018) whilst as per a report of IPCC, the predominant industries responsible for GHGs are iron and steel, non-metallic minerals, chemicals, pulp and paper, fertilizers, non-ferrous metals, textiles and food processing industry (Fischedick et al., 2018). Therefore, we chiefly selected companies from power, oil & gas, construction material, fast-moving consumer goods which inculcates food processing, metal and mining, and chemical industries from among the companies cited in the Nifty 100 Index. Finally, the last phase of the screening process involved choosing companies that claimed to report as per GRI guidelines. Therefore, 31 companies were selected, 5 from oil & gas, 5 from power, 4 from construction material, 11 from FMCG, 4 from metal and mining, and 2 from the chemical sector which are depicted in Table 1. Thereafter the latest SRs or IARs of these companies are downloaded from the official websites of these companies. These comprise the SRs and IARs for either 2022-2023 or 2023-2024. The GRIS305 are collected from the GRI website (GRI, 2016).

TABLE 1.NIFTY 100 Index-Selected companies

Company Name	Industry
Adani Energy Solutions (Adani Energy Solutions, 2023)	Power
Adani Power (Adani Power Ltd., 2023)	Power

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Britannia Industries (Britannia, 2024)	Fast Moving Consumer Goods (FMCG)
Dabur India (Dabur, 2023)	FMCG
GAIL (India) (GAIL, 2023)	OG&C
Godrej Consumer Products (Godrej, 2023)	FMCG
Grasim Industries (GRASIM, 2024)	Construction Materials
Hindalco Industries (Hindalco Industries Ltd., 2023)	Metals & Mining (M&M)
Hindustan Unilever (Hindustan Unilever Ltd., 2023)	FMCG
ITC (ITC, 2024)	FMCG
Adani Green Energy (Adani Green Energy, 2023)	Power
Indian Oil Corporation (IOCL, 2023)	OG&C
JSW Steel (JSW Steel, 2024)	M&M
Marico (Marico, 2024	FMCG
NTPC (NTPC, 2024)	Power
Nestle India (Nestle, 2023)	FMCG
Oil & Natural Gas Corporation (ONGC, 2024)	OG&C
Pidilite Industries (Pidilite, 2023)	Chemicals
Bharat Petroleum Corporation (BPCL, 2023)	Oil Gas & Consumable Fuels (OG&C)
Reliance Industries (RIL, 2024)	OG&C
SRF (SRF Ltd., 2023)	Chemicals
Shree Cement (Shree Cement, 2024)	Construction Materials
Tata Consumer Products (TATA Consumer Products Ltd., 2024)	FMCG
Ambuja Cements (Ambuja, 2024)	Construction Materials
Tata Power Co. (TATA POWER Ltd., 2024)	Power
Tata Steel (TATA Steel, 2024)	M&M
Colgate Palmolive (India) (Colgate-Palmolive, 2024)	FMCG
UltraTech Cement (Ultratech, 2024)	Construction Materials
United Spirits (DIAGEO, 2023)	FMCG
Varun Beverages (Varun Beverages, 2023)	FMCG
Vedanta (Vedanta, 2024)	M&M

3.2. Data Classification

30 emission-related parameters from the GRIS305 report that are required to be disclosed by the companies claiming to have adopted the GRIS are identified (GRI, 2016). The parameters are grouped under six broad categories namely, Direct (Scope-1) & Energy indirect (Scope-2) GHG emissions (GRI-305-1 & 305-2), Other indirect (Scope-3) GHG emissions (GRI-305-3), GHG emissions intensity (GRI-305-4), Reduction of GHG emission (GRI-305-5), Emissions of ozone-depleting substances (ODS) (GRI-305-6), and Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions (GRI-305-7) mentioned in table 2. Content analysis is used to scrutinize the SRs or IARs of the sample companies to spot their emission disclosure as per the GRIS305 parameters.

3.3. Data Analysis

This paper used SPSS and MS Excel to analyze and draw descriptive statistics to find out the mean and standard deviation of the percent of emission reporting companies as per GRIS305. For checking the variance between the disclosures by different companies, and the parameters mentioned in GRIS305, one- sample t-test has been used. For identifying the disparity in RPs amongst the six broad parameters and the industry-specific difference, one-way

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ANOVA has been used. Moreover, independent t-test has been used for all the broad parameters for checking the disparities between the RPs of public and private sector enterprises.

RESULTS

4.1. Comparing emission disclosure of the sample companies with GRI 305 parameters

It is evident from the results of the analysis of the SRs and IARs of the companies shown in Table 2 that gross direct GHG emission and base year for scope 1 & 2 emissions, GHG emission reduced, the base year for which the reduction took place and the scopes for which the reduction took place are the most disclosed parameters. 100 percent of the companies disclosed these parameters in their SRs whilst biogenic gas emissions for all the three scopes and gases included in the calculation of Scope-3 emissions are the least disclosed parameters, all falling below 20 percent.

TABLE 2. Percentage of companies disclosing GRI parameters

GRI Emission disclosure parameters	Companies (%)
GRI-305-1&305-2	
Gross direct GHG emission	100.00
Gases included in the calculation	29.03
Biogenic GHG emissions	19.35
Base year	100.00
Source of the emission factor and GWP rates used	51.61
consolidation approach for emission	32.26
Standards, methodologies, assumptions, and/or calculation tools used.	74.19
GRI-305-3	
Other indirect (Scope-3) GHG emissions	83.87
Gases included in the calculation	19.35
Biogenic CO2 emissions	16.13
Other indirect (Scope-3) GHG emissions categories and activities included.	77.42
Base year	64.52
Source of the emission factor and GWP rates used	38.71
Standards, methodologies, assumptions, and/or calculation tools used.	70.97
GRI-305-4	
GHG emissions intensity ratio for the organization.	90.32
Organization-specific metric (the denominator) chosen to calculate the ratio.	90.32
Gases included in the calculation	25.81
Types of GHG emissions included in the intensity ratio; Scope1/Scope2/Scope3	83.87
GRI-305-5	
GHG emissions reduced as a direct result of reduction initiatives	100.00
Gases included in the calculation	29.03
Base year	100.00
Scopes in which reductions took place	100.00
Standards, methodologies, assumptions, and/or calculation tools use	74.19
GRI-305-6	
Production, imports, and exports of ODS	45.16
Substances included in the calculation.	41.94
Source of the emission factors used	32.26

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The descriptive statistics in Appendix A depicts that GHG emission intensity and reduction of GHG emission are the most disclosed broad parameters with mean 72.58 per cent and 80.644 per cent of companies reporting these parameters in their SR but with a high degree of the standard deviation of 31.32790 and 30.94198, respectively, suggesting company-specific differences in RPs. Emissions from ODS gases are least reported with 39.5175 per cent. The test of homogeneity of variance in Appendix B shows Levene statistics 2.030 based on means and .682 based on the median at 95 per cent confidence level, sig. .110 & .642 that is greater than 0.05 suggesting that the postulate of homogeneity of variance is tenable. Further, the ANOVA test in Appendix C between the six broad parameters turns up with an f value of 1.477 at a 95 per cent confidence level, sig. 0.344 suggests that there doesn't exist a significant difference between the means of the six broad parameters of GRIS305 ranging from GRI-305-1,2 to GRI-305-7.

Appendix D states that the mean per cent of companies making emission disclosures as per GRI emission parameters is just 61.5655. Moreover, one sample t-test of the emission disclosures by all the companies for all the parameters depicted in Appendix E turns up with t -4.754 at a 95 per cent confidence level, sig. 0.005 with 90 per cent as the testable value, assuming that more than 90 per cent of the information is disclosed by the companies as per GRI 305 emission standards when they claim to follow GRIS, suggests that proposition P1 should be discarded and it is to be accepted that the Indian companies among the most polluting sectors don't completely comply with GRI emission related standards even when they claim to follow them.

4.2. Industry-specific comparison of emission disclosure with GRI 305_Emission parameters

Figure 1 and Table 3 suggest that the broad parameters relating to GRI-305-1&2, and GRI-305-5 related to the reduction of GHGs were highly reported in the Oil & Gas industry consisting of 71.43 and 88 per cent of the companies in the sector respectively. GRI-305-3 (Scope-3) is highly reported by the Metal and Mining industry. GHG emission intensity (GRI-305-4) is highly reported in construction materials, and metal and mining industries constituting 81.25 per cent of the companies in both sectors. Emissions of ODS, NOX, and other significant emission (GRI-305-6 & GRI-305-7) are highly reported in the metal and mining industry constituting 68.75 per cent and 83.33 per cent of the companies respectively. GHG emission intensity and ODS emissions (GRI-305-4 & GRI-305-6) are least reported by the chemical industry. Further, our analysis also suggested that BPCL, IOCL, and United Spirits disclose most of the emission parameters as per the GRIS305.

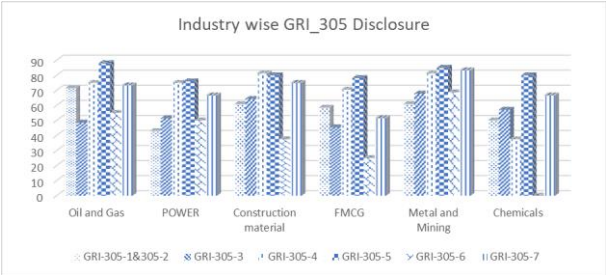

Figure 1. Industry-wise GRI_305 Disclosure

TABLE 3. Industry-wise Emission Disclosure

GRI emission Parameters	Oil and Gas	POWER	Construction material	FMCG	Metal and Mining	Chemicals
GRI-305-1&305-2	71.4285714	42.85714	60.71428571	58.44156	60.7143	50
GRI-305-3	48.5714286	51.42857	64.28571429	45.45455	67.8571	57.142857
GRI-305-4	75	75	81.25	70.45455	81.25	37.5
GRI-305-5	88	76	80	78.18182	85	80
GRI-305-6	55	50	37.5	25	68.75	0
GRI-305-7	73.3333333	66.66667	75	51.51515	83.3333	66.666667

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Appendix F shows the mean per cent of reporting by different sectors and suggests that metal and mining, and oil & gas industries are amongst the highest emission-disclosing industries of all with 74.48 and 68.56 per cent of companies disclosing as per GRIS305 in the two industries respectively. The test for homogeneity of variance in Appendix G gives Levene statistics .868 & .711 based on mean and median respectively at 95 per cent confidence level, sig. 0.514 and 0.620 respectively suggesting that there exists homogeneity of variance among the RPs of different industries. Further, the ANOVA test in Appendix H comes up with an f-value of 1.710 at a 95 per cent confidence level, sig. 0.163 suggesting that there are no differences in emission RPs amongst different industries. Thus, we accept our second proposition P2 that there is absence of influence of industry-specific differences in emission RPs.

4.3. Ownership structure-specific emission disclosure comparison with GRI 305 parameters

By doing independent t-test analysis on the mean per cent of companies of the public and private sector at a 95 per cent confidence level the t-values achieved are as depicted in Table 4 which suggests that the emission disclosure practices between public and private sector companies don't significantly differ from each other except for GRI 305-6, ODS emission related standard whereby it is evident that public companies are more prone to disclosing this standard than private companies. Overall, we may accept our proposition P3 which states that emission disclosure practices don't differ between the public and private sector companies. It can be observed that the means differ largely between the two in the case of the GHG emission intensity parameter and emission of ODS parameter, that are, -26.73077 and -30.38462 respectively. So, it must also be noted that the two ownership sectors may differ in emission disclosure of these two parameters where the public sector provides more GHG intensity and ODS emission-related information.

TABLE 4. Difference in Emission disclosure based on the Ownership sector

GRI emission Parameters	Mean % private sector	Mean % public sector	SD of private sector	SD of public sector	Degree of freedom	p value	Mean difference	t values
GRI-305-1&305-2	56.0440	68.5714	35.44985	30.23716	12	.490	-12.52747	-.711
GRI-305-3	52.1978	57.1429	29.11051	24.29972	12	.736	-4.94505	-.345
GRI-305-4	68.2692	95.0000	35.44240	10.00000	6	.197	-26.73077	-1.452
GRI-305-5	78.4615	92.0000	35.10340	10.95445	8	.434	-13.53846	-.823
GRI-305-6	34.6154	65.0000	5.43928	10.00000	6	.002	-30.38462	-5.338
GRI-305-7	62.8205	80.0000	25.02464	34.64102	4	.525	-17.17949	-.696

CONCLUSION

This paper analyzed the emission disclosure of the Indian companies by taking the case of 31 Indian companies cited in the NIFTY 100 Index, from the most polluting sectors as per EPA and IPCC, who claim to be complying with GRIS and compared their reporting in SRs or IARs with the GRIS305. The t-test analysis done on emission disclosure of all the companies with a testable value of 90 per cent revealed that the companies do not disclose all the emission-related information required by the GRI emission standards when they claim to be doing so. They are lagging in complete disclosure as per GRIS although there are certain companies like BPCL, IOCL, and United Spirits Ltd. which are making disclosures to a great extent on all the parameters. As only a few companies indeed disclose their emission-related information completely, it signals towards formulation of more stringent laws for environmental disclosure to be followed by the most polluting sectors. It is also observed through the ANOVA test on mean per cent of companies from among different sectors that industry-specific differences don't exist in the disclosure practices of the companies. Furthermore, it was observed that the oil & gas and metal and mining industries are the highest emission-disclosing sectors of all. The independent t-test done on the mean per cent of companies from private and public sector supported that ownership sector-specific differences don't exist in the emission disclosing practices. The absence of industry and ownership sector-specific differences in the emission disclosure practices of companies in India signals that company-specific differences may persist in the disclosure practices which aligns with the study

of Rankin et al. (2011) that states that the disclosure practices of the companies vary with the internal organizational system.

The limitation of the study is that only the data that relates to the recent sustainability and Integrated Annual reports has been taken for comparison, a time series analysis could better reveal the outcomes. The sample size taken is small, a bigger sample size may come up with better conclusions. Despite its limitations, the study is useful for policymakers to formulate stringent rules of compliance for sustainability disclosure as per the standards for most polluting companies to adhere to. It is also helpful for investors for acquainting themselves with the emission disclosure practices adopted by companies from various industrial and ownership sectors and taking better decisions while putting a stake in the company. The investigation is also of great assistance to organizations themselves as it stimulates them to check for the disparity in their disclosure practices and signals improvements in the management of measurement and disclosure of their emission-related outcomes as per international standards. Lastly, the society will be conversant with the companies who not only talk the walk but also walk the talk that is, the companies indeed follow the standards when they claim to be doing so and thus can decide whom they want to plunk for.

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Appendix A.

Descriptives

PERC_COMP

					95% Confidence Interval for Mean				Between-Component Variance
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum	
GRI 305-1&2	7	58.0629	33.73068	12.74900	26.8672	89.2585	19.35	100.00	
GRI 305-3	7	52.9957	27.99062	10.57946	27.1087	78.8827	16.13	83.87	
GRI 305-4	4	72.5800	31.32790	15.66395	22.7303	122.4297	25.81	90.32	
GRI 305-5	5	80.6440	30.94198	13.83767	42.2245	119.0635	29.03	100.00	
GRI 305-6	4	39.5175	5.50847	2.75423	30.7523	48.2827	32.26	45.16	
GRI 305-7	3	65.5900	25.87209	14.93726	1.3202	129.8598	38.71	90.32	
Total	30	60.8597	29.13369	5.31906	49.9810	71.7384	16.13	100.00	
Model Fixed Effects			28.67279	5.23491	50.0553	71.6640			
Random Effects				5.75701	46.0608	75.6585			31.49377

Appendix B.

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PERC_COMP	Based on Mean	2.030	5	24	.110
	Based on Median	.682	5	24	.642
	Based on Median and with adjusted df	.682	5	15.986	.644
	Based on trimmed mean	1.873	5	24	.137

Appendix C.

ANOVA

PERC_COMP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4883.292	5	976.658	1.188	.344
Within Groups	19731.095	24	822.129		
Total	24614.386	29			

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Appendix D.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
PERC_COMP	6	61.5655	14.65233	5.98179

Appendix E.

One-Sample Test

	Test Value = 90					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
PERC_COMP	-4.754	5	.005	-28.43446	-43.8111	-13.0578

Appendix F.

Descriptives

PERC_COMP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound	Minimum	Maximum	Between-Component Variance
OIL & GAS	6	68.56	14.379	5.870	53.47	83.65	49	88	
POWER	6	60.33	14.087	5.751	45.54	75.11	43	76	
CONSTRUCTION MATERIAL	6	66.46	16.440	6.712	49.21	83.71	38	81	
FMCG	6	54.84	18.927	7.727	34.98	74.70	25	78	
METAL AND MINING	6	74.48	10.011	4.087	63.98	84.99	61	85	
CHEMICALS	6	48.55	27.830	11.361	19.35	77.76	0	80	
Total	36	62.20	18.718	3.120	55.87	68.54	0	88	
ModelFixed Effects			17.835	2.972	56.13	68.27			
Random Effects				3.887	52.21	72.20			37.662

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Appendix G.

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PERC_COMP	Based on Mean	.868	5	30	.514
	Based on Median	.711	5	30	.620
	Based on Median and with adjusted df	.711	5	15.421	.624
	Based on trimmed mean	.794	5	30	.562

Appendix H.

ANOVA

PERC_COMP

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		2720.223	5	544.045	1.710	.163
	Linear Term	Contrast	409.989	1	409.989	1.289	.265
		Deviation	2310.234	4	577.558	1.816	.152
Within Groups			9542.131	30	318.071		
Total			12262.354	35			