

ASSESSING SUSTAINABILITY REPORTING OF INDIAN INFRASTRUCTURE FIRMS

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Abstract: *This paper summarizes the arguments and counterarguments within the scientific discussion on the issue of Business sustainability. The main purpose of the research is to look at the quality of sustainability reports of Indian infrastructure firms and use scoring method from literary sources for solving the problem and the issue of Business sustainability. The relevance of this scientific problem decision is that it adds to the literature of sustainability of firms. Investigation of the topic in this paper is carried out by using the Global Reporting Index (GRI) framework viz., economic, environment and social factors Methodological tools of the research methods were scoring methods which has been used for decade by the researchers in this field of study.*

The object of research is the analysis of sustainability reports of Indian Infrastructure firm because this sector faces namely external business environment negativities in Indian context. The paper presents the results of an empirical analysis by comparing large, medium and small firms, which showed that difference inside the large, medium, small group of companies. We find support to the earlier researches that have shown, large companies report better sustainability scores more than smaller ones on sustainability reporting. The research empirically confirms and theoretically proves the resources based view of strategic management. The results of the research can be useful for policy makers who can promulgate better incentive and provide technical expertise to medium and small firms to enhance their sustainability reporting.

Keywords: GRI reports, scoring method, Indian firms, infrastructure sector, business sustainability.

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Introduction

The concept of Sustainable development was originated in the Brundtland Report entitled “Our Common Future” by the United Nations World Commission on Environment and Development (UNWCED, 1987). Subsequently, many countries have incorporated the principles of sustainability in their programmes and policies. On the other hand, corporate houses have overlooked fundamental doctrine of sustainable development in their business (Mudd, 2009). In the past few years, many pressing global problems such as climate change, poverty, human rights violations and legal compliance issues have entailed corporate to pay attention towards social and environmental impacts of their business. Further, many countries have enacted national legislations, that mandate firms to report their actions towards sustainable development. This in turn, has also created a need for developing a comprehensive framework for sustainable reporting by the firms so that they can be compared in terms of their responsibility on sustainability. Consequently, firms are increasingly called upon to play a positive role, and thus to shape the future of societies globally (Kolk and Van Tulder, 2010). As a result, firms are incorporating policies, procedures, tools and approaches that go beyond regulatory compliance and contribute towards achieving sustainable societies (Henriques and Richardson, 2004).

GRI (2006b) has given most influential definition of sustainable reporting, “sustainability reporting is the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development”. A comprehensive sustainability reporting framework developed by GRI (Global Reporting Initiative) is widely used across the globe in this regard. The framework enables organizations to measure and report their economic, environmental, social and governance performance. The emergence of such reporting practices has been accompanied by numerous attempts over the years to homogenize such practices. Large companies have discovered that being environmentally conscious and running sustainable operations addresses not only the fiscal bottom line, but also the “triple bottom line” which include social and environmental happenings in addition to financial success (Esty and Winston, 2009). However, the stakeholders like customers, suppliers, employees, communities and other social groups also expect a higher standard of accountability and demand a more comprehensive depiction of corporate impacts, risks and performance (Rasche and Esser, 2006). However, there were no tools to examine and evaluate the sustainability report based on numerical scoring system in term of TBL (triple bottom line) criteria that work as benchmark, compare their reported performance against their peers and distinguish between better and poorer report.

Schmeltz (2014) argues company’s value and commitments improved significantly by the credibility and transparent communication. As the sustainability reporting is gaining momentum in Indian firms, the efforts of Government of India’s, ministry of corporate affairs to bring more transparency in to the reporting on environment, the current action is the adoption of the business responsibility statement that is being mandatory for all the firms listed at stock exchange in India.

Motivation of study

Yadava and Sinha (2016), analysed only six apex companies from India using numerical scoring method, a new approach of sustainability assessment. The current study is considerably important as it is analysing sustainability reports using *numerical scoring methods* for 36 infra firms from India. Therefore, it will be interesting to see through this maiden study on sustainability reporting of Indian infra firms, how these 36 infra firms compare against their peers by applying the scoring method/ assessment tools for the Indian companies as these companies are competing globally and some of them listed in fortune 500 companies. This study is useful for investors, shareholders to compare infra companies in India against their local, national and international peers.

Methodology

Earlier researcher has used objective methods to assess the quality and quantity of sustainability reporting (Yadava and Sinha (2016), Evangelinos et al. (2009) and Skouloudis et al. (2009) using scoring system also known as scoring method. Thus, the objective of this study is to use the scoring system method for 36 infrastructure listed firms at the Indian stock exchange. The study adopted the numerical scoring system developed by Yadava and

Sinha (2016), Evangelinos et al. (2009) and Skouloudis et al. (2009) to assess environmental/sustainability reporting of the GRI reports 36 infrastructure companies. GRI reports consists of performance indicators which are sub-grouped under aspects, which are grouped as economic, environment and social dimension of sustainability reporting.

Table 1. A brief of GRI aspect, indicator and numerical score on different dimension

GRI performance indicators/ measurement	Number of aspect	Number of indicators	scale	Maximum score	Total score
Economic	3	9	0-3	27	27(Economic)
Environmental	9	30	0-3	90	90(Environment)
Social	25	45	0-3	135	135(Social)
Total score(GRI)	37	84	0-3	252	

Source: Authors compilation.

Result and discussion

Through this study we have made the attempt to map the GRI sustainability reports of the 36 infra firms in India. We find that the average reporting of the large firms is better, whereas as small firms are not so good, therefore policy makers and business bodies must initiate capacity building for the very small size firm for GRI sustainability reporting. Thus the economic, social and environmental dimension of reporting needs considerable improvement. Furthermore, the policy makers can make improvement in the norms to further improve the reporting coverage. The overall analysis of 36 infra firms as indicated in Table-1, the number of indicators not reported by the 36 infra firms on economic, social, environmental aspect are as follow-

Indicators not reported by firms

Economics indicator

Table 2. The economic score of the selected Indian infrastructure firm

Size	Organisation	Economic performance [12]	Aspect		Total score [27]
			Market presence [9]	Indirect economic impact(6)	
Large	ABB	12	3	6	21
Large	siemens	10	6	5	21
Large	RIL	10	4	6	20
Large	BHEL	9	3	2	14
Large	Adani Ports	5	5	3	13
Large	L & T	8	3	2	13
Large	Vedanta	3	3	1	7
Large	AFCONS	4	0	0	4
medium	Welspun India Limited	10	2	5	17
medium	godrej properties	8	2	5	15
medium	HEG	5	4	2	11
medium	Thermax	5	1	3	9
medium	Relience infra	7	1	1	9
medium	GMR	5	0	2	7
small	IRCON	10	3	6	19
small	Gayatri Projects Ltd.	6	7	6	19
small	Texmaco	10	0	5	15
small	NCC	6	5	4	15
small	ILFS	6	4	4	14
small	IRB Infra	7	5	1	13
small	HCC	6	4	0	10
small	Lanco infra	5	1	2	8
small	GVK	4	1	3	8
small	JMC Projects (India) ltd	6	0	2	8
small	JAIPRAKASH ASSOCIATES	4	1	1	6
small	VA TECH WABAG	3	1	1	5
small	Sadbhav Engineering	2	0	1	3
small	Sadbhav Engineering	2	0	1	3
small	JAYPEE INFRA	0	0	0	0

Table 2 (cont.). The economic score of the selected Indian infrastructure firm

Size	Organisation	Aspect			Total score [27]
		Economic performance [12]	Market presence [9]	Indirect economic impact(6)	
very small	RPP INFRA	7	1	2	10
very small	MEP INFRASTRUCTURE	3	4	3	10
very small	GAMMON	7	0	2	9
very small	SKIL INFRA	4	2	2	8
very small	Ramky infra	1	3	2	6
very small	IVRCL	4	0	2	6
very small	Madhucon Projects Ltd	1	0	0	1
Average		5.694444444	2.194444444	2.583333333	10.47222222
max		12	7	6	21
min		0	0	0	0

Source: Authors compilation.

Out of the nine economic indicator, Jaypee infra was not reporting on any of economic indicators followed by Madhucon project ltd, sabbhav engineering, afcon were not reported on 6 economic indicators followed by gammon, lanco infra, RPP infra, IVRCL, VA tech, wabag, JMC project ltd were not reporting on 4 indicators. All the other firm falls between 3 to 2 economic indicators were not being reported. The lowest economic indicators not reported by godrej properties, ABB, Vedanta, L7 T, ILFS, BHEL and Siemens. Whereas RIL, HEG, NCC, Gayatri projects reported all the economic indicators.

Environmental indicators

Table 3. Environment score of Infrastructure firm

Size	Firms	Aspect									Total score [90]
		Material [6]	Energy [15]	Water [9]	Biodiversity [15]	Emission, effluent and waste [30]	Product and services [6]	Compliance [3]	Transport [3]	Overall [3]	
Large	ABB	3	13	4	3	28	3	0	0	3	57
Large	RIL	5	4	7	7	14	5	1	1	1	45
Large	vedanta	2	11	5	9	21	1	1	1	1	52
Large	siemens	0	15	6	0	20	3	2	3	3	52
Large	L & T	3	5	2	6	23	4	1	2	3	49
Large	BHEL	6	12	6	0	15	6	1	0	3	49
Large	Adani Ports	6	1	3	8	0	1	1	3	0	23
Large	AFCONS	0	4	0	0	2	0	0	0	0	6
medium	GMR	4	6	4	4	15	4	3	1	2	43
medium	Welspun India Limited	3	14	8	0	12	3	0	0	2	42
medium	Thermax	1	10	8	5	7	3	1	2	2	39
medium	godrej properties	2	13	2	10	3	3	1	0	1	35
medium	HEG	2	6	5	0	10	2	0	1	2	28
medium	Releince infra	0	4	0	5	1	1	1	2	2	16
small	ILFS	4	13	6	11	18	0	2	1	2	57
small	JAIPRAKASH ASSOCIATES	3	11	3	10	5	2	0	0	2	36
small	HCC	4	11	4	8	1	1	0	0	0	29
small	IRCON	0	3	0	4	4	3	0	3	3	20
small	Gayatri Projects Ltd.	2	7	2	2	3	0	1	0	0	17
small	GVK	1	6	1	3	1	2	1	0	1	16
small	Texmaco	1	4	0	4	1	1	0	1	1	13
small	Sadbhav Engineering	1	5	1	1	1	1	1	1	1	13
small	Sadbhav Engineering	1	5	1	1	1	1	1	1	1	13
small	VA TECH WABAG	1	3	4	2	2	0	0	0	0	12
small	JMC Projects (India) ltd	0	4	1	2	0	1	0	3	1	12

Table 3. Environment score of Infrastructure firm

				Aspect							
Size	Firms	Material [6]	Energy [15]	Water [9]	Biodiversity [15]	Emission, effluent and waste [30]	Product and services [6]	Compliance [3]	Transport [3]	Overall [3]	Total score [90]
small	IRB Infra	0	4	0	0	0	0	0	2	1	7
small	Lanco infra	0	5	0	0	0	1	0	0	0	6
small	NCC	2	0	0	2	1	1	0	0	0	6
small	JAYPEE INFRA	0	0	0	0	0	0	0	2	2	4
very small	Gammon	0	5	1	0	1	0	2	0	0	9
very small	SKIL INFRA	0	3	0	2	1	1	1	0	0	8
very small	RPP INFRA	1	2	1	0	0	1	0	0	2	7
very small	Ramky infra	0	0	0	5	0	0	0	0	0	5
very small	IVRCL	0	3	0	0	0	1	0	0	0	4
very small	Madhucon Projects Ltd	0	2	0	0	0	0	0	0	1	3
very small	MEP INFRASTRUCTURE	0	0	0	2	0	0	0	0	0	2
											23.194444
	Average	1.61111111	5.94444444	2.36111111	3.22222222	5.86111111	1.55555555	0.61111111	0.83333333	1.19444444	23.19444444
	Max	6	15	8	11	28	6	3	3	3	57
	Min	0	0	0	0	0	0	0	0	0	2

Source: Authors compilation.

Out of 30 environmental indicators, the highest not reporting firms are Jaypee infra(30), MEP infra(28), Ramky infra(28) madhucon and RPP infra(25), whereas the score of not reporting for other firms ranged from 23 to 8 for not reporting on environmental front. The lowest score of not reporting on environmental indicators are L&T and ILFS (92), Vedanta (3) and RIL (4).

Social indicators

Table 4. Social dimension score of the selected Infrastructure firm

			Aspect							
Size	Organisation	Employment [12]	Labor/management relations [6]	Occupational health and safety [12]	Training and education [9]	Diversity and equal opportunity [3]	Equal remuneration for women and men [3]	Equal remuneration for women and men [3]	Total (45)	
Large	Adani Ports	9	1	6	9	0	0	0	25	
very small	GAMMON	6	0	4	0	2	0	0	12	
small	Texmaco	6	0	4	4	1	0	0	15	
medium	godrej properties	9	0	4	7	3	3	3	29	
Large	ABB	12	1	12	9	3	3	3	43	
small	Sadbhav Engineering	4	1	1	0	1	0	0	7	
medium	GMR	3	0	7	4	1	0	0	15	
medium	Thermax	5	2	9	5	2	1	1	25	
small	IRCON	4	0	4	3	1	0	0	12	
small	Lanco infra	2	0	2	0	0	0	0	4	
small	JAYPEE INFRA	6	2	0	0	0	1	1	10	

Table 4 (cont.). Social dimension score of the selected Infrastructure firm

Size	Organisation	Employment [12]	Aspect				Diversity and equal opportunity [3]	Equal remuneration for women and men [3]	Equal remuneration for women and men [3]	Total (45)
			Labor/management relations [6]	Occupational health and safety [12]	Training and education [9]					
Large	RIL	12	4	9	8	3	3	3	42	
very small	RPP INFRA	6	5	2	2	2	1	1	19	
medium	HEG	5	3	2	4	1	1	1	17	
very small	SKIL INFRA	5	2	2	0	1	1	1	12	
medium	Relience infra	1	0	4	2	1	0	0	8	
small	NCC	1	0	1	0	1	0	0	3	
very small	Ramky infra	0	0	0	2	0	0	0	2	
Large	vedanta	5	6	7	8	1	1	1	29	
small	HCC	11	5	9	7	2	1	1	36	
medium	Welspun India Limited	8	1	7	6	2	0	0	24	
Large	L & T	8	9	7	7	2	1	1	35	
small	Gayatri Projects Ltd.	4	1	4	3	0	0	0	12	
small	Sadbhav Engineering	4	1	1	0	1	0	0	7	
very small	MEP INFRASTRUCTURE	1	0	0	0	1	0	0	2	
very small	Madhucon Projects Ltd	0	0	0	0	0	0	0	0	
small	ILFS	6	4	9	7	2	2	2	32	
small	GVK	0	1	0	2	1	0	0	4	
Large	BHEL	9	1	8	8	2	0	0	28	
Large	AFCONS	1	0	5	2	0	0	0	8	
very small	IVRCL	3	0	0	0	0	0	0	3	
Large	siemens	3	0	0	4	1	0	0	8	
small	JAIPRAK ASH ASSOCIATES	4	0	0	4	0	0	0	8	
small	IRB infra	5	4	3	1	0	1	1	15	
small	VA TECH WABAG	1	1	2	3	0	0	0	7	
small	JMC Projects (India) ltd	3	2	6	2	3	0	0	16	
Average	Average	4.777777778	1.583333333	3.916666667	3.416666667	1.138888889	0.555555556	0.555555556	15.944	
Max	Max	12	9	12	9	3	3	3	43	
Min	Min	0	0	0	0	0	0	0	0	

Source: Authors compilation.

Out of 45 social; indicators not reported by the firms in the sample of 36 infra firms. The highest number of social indicators not reported is 43 by Jaypee infra and Maducom, followed by ivrcl (42). Thus, range of the social indicators not reported by the firms is maximum 43 to minimum 1. The minimum social indicators on not reporting is RIL (1), L& T (9) and ILFS(3). Thus the range of economic indicators not reported not reported is from maximum 6 to minimum 0 whereas for environmental indicators it is maximum 30 to minimum 2 for social indicators it is between 43 and 1. The average not reporting for the social indicators of 36 infra firms are 25.58. Thus the total of all, economic, social and environmental average is 45.36 with maximum not reporting is 82 and minimum is 5.

Reporting on economic dimension

The three aspect of the economic dimension- economic performance, market presence and indirect economic impact. On the economic performance aspect ABB scores 100% that is 12 out of 12, followed by RIL, welspun and siemen with score of 10. The minimum score for not reporting is 0, which belongs to jaypee infra. Thus the average score on economic performance is 2.94 of all the 36 firms and minimum score 9 and maximum 0. On the market presence the maximum score is that of the gayatri projects (7), whereas the minimum score of zero is that of afcon, IVRCL, JMC projects, sadhbhav engineering, GMR, texmaco and gmmon. The average score of all the 36 firms on the market presence aspect is 2.19. Maximum is 7 and minimum is 0. For the indirect economic impact out of six, gayatri projects, RIL, IRCON, ABB scores total six, whereas, afcon, madhucon, HCC, Jaypee infra scores the minimum 0. The average score of all the 36 firms on indirect economic aspect is 2.58, max is 6, min is 0. Thus the total score for the economic aspect, which includes economic performance, market presence and indirect economic aspects is 10.47 with minimum 0 and maximum 21 out of 27 points. Please refer to table 1.

Reporting on environmental dimension

Table 4 indicates the performance of all the 36 firms on environmental dimension. The material spect (6), shows the average reporting of 1.5 with maximum score of 6 and minimum 0. The energy aspect (15) scoring of the 36 firms indicates that the average score on energy aspect is 5.94 with mximum is 15 and minimum is 0. The water aspect (9), score average value of 36 firms is 2.36 with maximum 8 and minimum 0. On the biodiversity aspect (15), the average value is 3.22, maximum is 11 and minimum is 0. Further more on the emission, effluent and waste (30) the average value of 36 sampled firms is 5. 86., with maximum 28 and minimum is 0. On product and services (6) the verage value is 1.5 with maximum is 6 and minimum is o. Moreover, on compliance aspect (3), average value is 0.6 with maximum score of 3 and minimum score of 0. On Transportation (3) the average value of reporting is 0.83 with maximum 3 and minimum is 0. On overall (3), the average value of reporting is 1.94 with maximum 3 and minimum is 0. Thus, on the totl score of 90 for the environmental aspect the 36 firms have average reporting of 23.19 with maximum score of 57 and minimum 2. Please refer to table 2.

Reporting on social dimension

The social dimension of the GRI reporting consists of labour prake & abort work, 6 as [pects, total score of 45, human right, 9 aspects total score of 30. Product representing with 5 aspect & total score of 45. On the labour practice and decent work total score of 45, the average score of all 36 firms were 15.94 with maximum 43 and minimum 0. On the human right aspects with total score of 33, the average value of all 36 information is 6.08 with maximum 18 and minimum 0. On the total score of 30 for the society aspect, the average value of all the 36 information is 4.97 with maximum 14 and minimum 0. Finally, on the product responsibility of total score 27, the average value of all 36 information is 4.77 with maximum score of 20 and minimum score of 0. Please refer to table 4.

Comparison between Large, Medium, Small and Very Small firm

Security exchange board of India (SEBI), capital market regulator in India has classified companies as large is market capitalization is Rs. 20000 crores and above, Medium –mid size, if market capitalisation is between Rs. 5000 crores to 20000 crores, small size, if the market capitalisation is between Rs. 1000 crores to 5000 crores and very small (micro companies) if the market capitalisation is below Rs. 1000 crores.

Table 5. Ranking of Indian organisation based on GRI report

Ranking of Indian organisation based on GRI report		from infrastructure sector		
Organisation	Size of firm	Percentage of reprting (score(%))(Average=0.26 out of 1)	Rank	Total score [252](average=66)
ILFS	small	0.587301587	1	148
ABB	large	0.583333333	2	147
RIL	large	0.579365079	3	146
BHEL	large	0.492063492	4	124
L & T	large	0.48015873	5	121
Vedanta	large	0.468253968	6	118
Thermax	Medium	0.392857143	7	99
siemens	large	0.392857143	8	99
godrej properties	medium	0.376984127	9	95

Table 5 (cont.). Ranking of Indian organisation based on GRI report

Ranking of Indian organisation based on GRI report		from infrastructure sector			
Organisation	Size of firm	Percentage of repring (score(%))(Average=0.26 out of 1)	Rank	Total score [252](average=66)	
HCC	small	0.373015873	10	94	
Welspun India Limited	medium	0.345238095	11	87	
Adani Ports	large	0.333333333	12	84	
GMR	medium	0.313492063	13	79	
Jaiprakash	small	0.30952381	14	78	
HEG	medium	0.305555556	15	77	
Texmaco	small	0.281746032	16	71	
IRCON	small	0.281746032	17	71	
JMC Projects (India) ltd	small	0.226190476	18	57	
Gayatri Projects Ltd.	small	0.218253968	19	55	
IRB	small	0.186507937	20	47	
RPP INFRA	very small	0.182539683	21	46	
Relience infra	medium	0.182539683	22	46	
IVRCL	very small	0.158730159	23	40	
SKIL INFRA	very small	0.146825397	24	37	
GVK	small	0.142857143	25	36	
GAMMON	very small	0.138888889	26	35	
VA TECH WABAG	small	0.130952381	27	33	
Sadbhav Engineering	small	0.123015873	28	31	
NCC	small	0.115079365	30	29	
Lanco infra	small	0.095238095	31	24	
AFCONS	Large	0.083333333	32	21	
Ramky infra	very small	0.071428571	33	18	
JAYPEE INFRA	small	0.067460317	34	17	
MEP INFRASTRUCTURE	very small	0.067460317	35	17	
Madhucon Projects Ltd	very small	0.023809524	36	6	
Average reporting =0.26 which is 26 % of reporting				66.65714286	

Source: Authors compilation.

Thus, in our sample of 36 infra firms there are 9 large size firms, mainly, ABB, RIL, BHEL, L & T, Vedanta, Siemens, adani ports and afcons. There are 6 medium size firms, mainly, Thermax, godrej properties, welspun India, GMR, HEG, reliance infra. There are 14 small size firms, mainly, ILFS, HCC, Jaiprakash, Texmaco, IRCON, JMC projects, Gayatri projects, IRB, GVK, VATech wabag, Sadhbhav engineering, NCC, Lanco infra, Jaypee infra. There are 7 very small size firms mainly, RPP infra, IVRCL, Skil infra, Gammon, Ramky infra, MEP infra, Madhucaon projects. From the appendix -1 and figure 1 to 8 indicates, the total performance score of the large size firm is better than the medium size, which is better than the small size firm, with exception to small firm ILFS, which is small size firm. On not reporting the very small size firms reporting worst score on GRI indicators than the small size firms. The large size firms do better than all the other category, the level of reporting is better of the large size firms in comparison to the medium and small size firms. On economic dimension the scores of the large size is better than the medium size, medium size does better than very small size firm, small size firms does better than he medium size. On environmental aspect the scores of large size firms do better than all the categories of the firm, with exception to the ILFS, which is small size firms. Very small size firms have the lowest score in all the categories. On the society aspects, all the dimensions – social, human rights, society, product responsibility, the large size firms do better than all the other three category of firms, while the very small size firms score are the lowest in the category. The exceptional firm is ILFS, small size firms which has done better than all the other firms and across all categories, it ranks high in all the 36 firms on all the dimension with maximum reporting of 57%. Thus the score ranged from 148/252 (58%) to 6/ 252 (2%). The average score of large firm is 52 %, medium firm is 34%, and small firm is 24%, very small 9%. Also, we find considerable difference in reporting of the large size firm, Medium size firm, small size firm and very small size firm.

The result follows view of Patten (1991), Roberts (1992), Hackston and Milne (1996), Garcia and Sanchez (2008), who show that more sensitive companies have more informative reports. Furthermore, Raar (2002) show in their result, of the sample from Australian industries, the sectors which are under law regulators radar dispose more information to all their stakeholders.

Conclusion

Morhardt (2001), argued sustainability reporting is to promote governance, transparency, which is reflected in the scoring of the company, GRI, 2013, applied to the sector which is applied equally by all the Organisation. These guidelines are the most used frameworks and for this that we have chosen this, scoring methodology as the basis of the evaluation.

The objective of this research was to identify at which level the sustainability reports published for the year 2017 by Indian Infra Companies, have incorporated the Principles of the Global Reporting Initiative. The percentages of companies that fulfilled the criteria of the Principles were discussed. After that, the companies were divided into to four groups. The first included the companies that belong in the Large, Medium, Small. Again the highest and the lowest scores were identified for each Principle along with the average scores and comparisons were made.

This evaluation revealed that the sustainability reports have many differences in the way and the degree to which they disclose information, which leads to the conclusion that no principle was fully and efficiently integrated in a report. It can be noted that there are Principles that were often not at all found in reports.

Contribution

Thus, this study contributes to the body of literature on sustainability reporting using scoring methodology on the Global Reporting Initiative and testing it on the Indian reports published for the year 2017 for 36 infrastructure firms listed in Indian stock exchange.

Contribution to existing knowledge

In this research we insisted on the difference inside the large, medium, small group of companies. We find support to the earlier researches that have shown, large companies report more than smaller ones on sustainability reporting (Kolk, 2004, p. 51-54, Eccles et al., 2012, p. 8).

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References

1. Bruntland, G. H. (1987). Report of the World Commission on Environment and Development: Our Common Future. United Nations. [\[Link\]](#).
2. Buhr, N. (2007). Histories of and rationales for sustainability reporting. In J. Unerman, J. Bebbington, & B. O'Dwyer, *Sustainability, accounting and accountability* (pp. 57-69). Abingdon: Routledge. [\[CrossRef\]](#).
3. Cornier, D., Magnan, M., & Van Velthoven, B. (2005). Environmental Disclosure Quality in Large German Companies: Economic Incentives, Public Pressures or Institutional Conditions. *European Accounting Review*, 14(1), 3-39. [\[CrossRef\]](#).
4. Daizy, Sen, M., & Das, N. (2013a). Corporate Sustainability Reporting: A Review of Initiatives and Trends. *IUP Journal of Accounting Research & Audit Practices*, 12(2), 7-18. [\[CrossRef\]](#).

5. Deegan, C., & Rankin, M. (1997). The materiality of environmental information to users of annual reports. *Accounting, Auditing & Accountability Journal*, 10(4), 562. [\[CrossRef\]](#).
6. Eccles, R.G., Krzus, M.P., Rogers, J., & Serafim, G. (2012). The Need for Sector-Specific Materiality and Sustainability Reporting Standards. *Journal of Applied Corporate Finance*, 24(2), 8-14. [\[CrossRef\]](#).
7. English, D. M., & Schooley, D. K. (2014). The Evolution of Sustainability Reporting. *CPA Journal*, 26–35. [\[Link\]](#).
8. Freeman, E. (1984). *Strategic management: a stakeholder approach* Edward Freeman. Boston: Pitman. [\[CrossRef\]](#).
9. Gou, M., & Zhao, X. (2011). What is the impact of industrial environmental events on the quality of environmental disclosure in corporate annual reports? A longitudinal study. 30 hp Master thesis. Umeå: Umeå University. [\[Link\]](#).
10. Gray, R., Kouhy, R., & Lavers, S. (1995). Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal*, 8(2), 47. [\[Link\]](#).
11. GRI. (2013). G4 Sustainability Reporting Guidelines - Reporting principles and standard disclosure. Amsterdam: Global Reporting Initiative. [\[Link\]](#).
12. GRI. (2013a). G4 Sustainability Reporting Guidelines. Amsterdam. [\[Link\]](#).
13. GRI. (2014). About GRI. [\[Link\]](#).
14. Herzig, C., & Schaltegger, S. (2006). Corporate sustainability reporting: an overview. *Sustainability Accounting and Reporting*, 301–324. [\[CrossRef\]](#).
15. Holsti, O. R. (1969). *Content analysis for the social sciences and humanities*. Reading, Mass.: Addison-Wesley. [\[Link\]](#).
16. Joshi, P.L., & Gao S.S. (2009). Multinational corporation's corporate social and environmental disclosures (CSED) on web sites. *International Journal of Commerce and Management*, 19 (1), 27-44. [\[CrossRef\]](#).
17. Jupe, R. (2005). Corporate environmental reporting: A test of legitimacy theory (No. Working Paper No. 91). Kent Business School. [\[CrossRef\]](#).
18. Kolk, A. (2003). Trends in sustainability reporting by the Fortune Global 250. *Business Strategy and the Environment*, 12, 279–291. [\[CrossRef\]](#).
19. Kolk, A. (2004). A decade of sustainability reporting: developments and significance. *International Journal Environment and Sustainable Development*, 3, 51–64. [\[Link\]](#).
20. Kolk, A. (2005). Environmental reporting by multinationals from the Triad: convergence or divergence? *Management International Review* 45 (Special issue 1), 145–167. [\[Link\]](#).
21. KPMG. (2013a). GRI's G4 Guidelines: the impact on reporting. [\[Link\]](#).
22. KPMG. (2013b). The KPMG Survey of Corporate Responsibility Reporting 2013. [\[Link\]](#).
23. Legendre, S., & Coderre, F. (2012). Determinants of GRI G3 Application Levels: The Case of the Fortune Global 500. *Corporate Social Responsibility and Environmental Management*, 20, 181-192. [\[CrossRef\]](#).
24. Lynch, B. (2010). An examination of environmental reporting by Australian state government departments. *Accounting Forum*, 34(1), 32–45. [\[CrossRef\]](#).
25. Lynch, N. C., Lynch, M. F., & Casten, D. B. (2014). The Expanding Use of Sustainability Reporting. *CPA Journal*, 18–24. [\[Link\]](#).
26. Mathews M.R. (1995). Social and environmental accounting: a practical demonstration of ethical concern? *Journal of Business Ethics*, 14, 663-671. [\[Link\]](#).
27. Milne, M.J., Tregidga, H., Walton, S., 2003. The triple-bottom-line: benchmarking New Zealand's early reporters. *University of Auckland Business Review*, 5, 36–50. [\[Link\]](#).
28. Morhardt, J. E., Baird, S., & Freeman, K. (2002). Scoring corporate environmental and sustainability reports using GRI 2000, ISO 14031 and other criteria. *Corporate Social Responsibility & Environmental Management*, 9(4), 215–233. [\[CrossRef\]](#).
29. Donovan, G. (2002). Environmental disclosures in the annual report: extending the applicability and predictive power of legitimacy theory. *Accounting Auditing And Accountability Journal*, 15, 344–371. [\[CrossRef\]](#).
30. Prado-Lorenzo, J., Rodríguez-Domínguez, L., Gallego-Álvarez, I., García-Sánchez, I., 2009. Factors influencing the disclosure of greenhouse gas emissions in companies worldwide. *Manage. Decis.*, 47 (7), 1133–1157. [\[CrossRef\]](#).

31. Rasche, A. (2009). Toward a model to compare and analyze accountability standards - The case of the un global compact. *Corporate Social Responsibility and Environmental Management*, 16(4), 192–205. [\[CrossRef\]](#).
32. Roca, L.C., & Searcy, C. (2012). An analysis of indicators disclosed in corporate sustainability reports. *Journal of Cleaner Production*, 20(1), 103–118. [\[CrossRef\]](#).
33. Schmeltz, L., 2014. Identical or Just Compatible? The Utility of Corporate Identity Values in Communicating Corporate Social Responsibility. *International Journal of Business Communication*, 51(3), 234-258. [\[CrossRef\]](#).
34. Skouloudis, A., Evangelinos, K., & Kourmoussis, F. (2009). Development of an evaluation methodology for triple bottom line reports using international standards on reporting. *Environmental Management*, 44(2), 298–311. [\[CrossRef\]](#).
35. Skouloudis, A., Evangelinos, K., & Kourmoussis, F. (2010). Assessing non-financial reports according to the Global Reporting Initiative guidelines: evidence from Greece. *Journal of Cleaner Production*, 18(5), 426–438. [\[CrossRef\]](#).
36. Skouloudis, A., Jones, N., Malesios, C., & Evangelinos, K. (2014). Trends and determinants of corporate non-financial disclosure in Greece. *Journal of Cleaner Production*, 68, 174–188. [\[CrossRef\]](#).
37. SustainAbility/UNEP (1998). The Non-reporting Report. Engaging Stakeholders 1998, London. [\[Link\]](#).
38. SustainAbility/UNEP (2000). The Global Reporters: the 2000 Benchmark Study. [\[CrossRef\]](#).
39. Van der Laan, S. (2009). The Role of Theory in Explaining Motivation for Corporate Social Disclosures: Voluntary Disclosures vs “Solicited” Disclosures. *Australasian Accounting Business & Finance Journal*, 3(4), 15–20. [\[Link\]](#).
40. WBCSD. (2002). Sustainable development reporting. Striking the balance. Switzerland. [\[Link\]](#).
41. World_Bank 2011. Competitiveness and Corporate Social Responsibility. [\[Link\]](#).
42. Yadava, R.N., Sinha, B. (2016). Scoring Sustainability Reports Using GRI 2011 Guidelines for Assessing Environmental, Economic, and Social Dimensions of Leading Public and Private Indian Companies. *J. Bus. Ethics*, 138, 549–558. [\[CrossRef\]](#).