



E-ISSN: 2708-4523
P-ISSN: 2708-4515
AJMC 2022; 3(1): 78-81
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www.allcommercejournal.com
Received: 07-10-2021
Accepted: 17-12-2021

Dr. Shankha Shubhra Bhadra
Assistant Professor and Head
Department of Commerce
Holy Cross College, Agartala,
Tripura, India

A study on sustainability development practice of steel & cement industries

Dr. Shankha Shubhra Bhadra

Abstract

In this paper an attempt was made to find out whether both steel and cement industries sustainability reporting practice regarding environmental issues are similar or not. In this regards total of 40 companies enlisted in BSE were chosen. To analyze the hypothesis, first of all contentment analysis were used to convert the qualitative data in quantitative. Secondly, reliability test on the predetermined parameters were applied using Chronbach Alfa. Lastly, to study further, mean percentage of the score were calculated and to find out the significant difference chi square test was used.

It was found that, reporting activities of both the industries are similar although mean percentage of steel industry regarding the sustainability reporting is bit higher than cement industry. Although from mean percentage table, the difference in reporting style by steel and cement industry seems to be very minimal and difficult to prove whether any significant difference exists or not? Hence, the statistical tool, chi-square test is used and derived the value of 8.032 along with 'p value' (0.00495) which is less than 0.05. Hence, it is proved that there is significant difference in environmental reporting style of steel and cement industries.

Keywords: Sustainability reporting, environmental parameters, content analysis

Introduction

As India is considered to be the fastest growing economy in the globe, hence it needs to strike a balance on production to cater the global need and conservation of the key resources and the society. Hence Sustainability Reporting (SR) needs to be understood from the core. Sustainability development is "meeting the needs of the present generation without compromising the ability of future generations to meet their own needs" (Brundtland Commission Report, 1987) ^[1]. In other words, sustainability reporting is "the practice of measuring, disclose and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development" (GRI Sustainability Reporting Guidelines). Extending the understanding, "Corporate Sustainability is a business approach that creates long term shareholder value by embracing opportunities and managing risks deriving from economic, environment and social developments" (Dow Jones Sustainability Index).

As per Pollution Control Board, Steel and Cement Industries are one of the most polluting industries in India. Hence the present study focus on those industries regarding their practice on sustainability development.

In this backdrop, both these industries should be responsible and held accountable (if required) to the various stakeholders to balance finely to enhance production in one hand and to reduce pollution on the other hand. So, it is very important to know: do these industries enhancing their production along with reduction in pollution to the environment? What are the various ways they adopt to reduce such pollution and preserve environment? Perhaps that's what we call sustainable development which gives rise to two pertinent questions: what is the practice sustained in past years for reducing pollution by such industries? & what are the different practices adopted by these industries contemporarily?

Objective

- To study the disclosure practice on environmental issues by both these industries.

Corresponding Author:
Dr. Shankha Shubhra Bhadra
Assistant Professor and Head
Department of Commerce
Holy Cross College, Agartala,
Tripura, India

¹ "Our Common Future", Brundtland Commission Report (formerly the World Commission on Environment and Development), 1987

Methodology

In this paper sustainability reports of top 20 cement and 20 steel companies enlisted in BSE (Bombay Stock Exchange) are analyzed manually using content analysis where some of the factors are presumed and set before the analyses; for both the industries. All these parameters are selected based on BRSR (Business Responsibility and Sustainability Report) issued by SEBI on 2021, 10th May. Hence to understand sustainability development, particularly in terms of environmental issues, following factors are examined, such as: management of hazardous and non-hazardous waste and management of water which includes use of underground water, surface water, rainwater harvesting and discharge of liquid in the nature, sowing of plant samplings are examined. For the said purpose, qualitative data were converted into quantitative form using disclosure index, particularly un-weighted disclosure index method, which provides and consider each item equally important to the stakeholders. Hence following formula is used.

Where, $d=1$ if the item di is disclosed and 0 if the item di is not disclosed; n = number of items, $TDS=$ Total Disclosure. Following were the items with corresponding weightage which altogether is 15 along with 20 companies, which makes total of 300 components to analyze from each industries.

Table 1: Factors used in content analyses and corresponding weightage.

Hazardous Waste (HW):	80
▪ CO2	
▪ Battery Waste	
▪ Bio-Medical Waste	
▪ E-Waste & used oils	
Non-Hazardous Waste (NHW):	100
▪ Paper Scrap	
▪ Mixed Metal Scrap	
▪ Plastic Scrap	
▪ Rubber Scrap	
▪ Wooden Scrap	20
Sowing of Plant Saplings (SPS)	
Underground Water (UGW)	80
▪ Surface Water	
▪ Harvest Rainwater	
▪ Ground Water	
▪ Treated & Re-used	
Publication of SR Report in companies' website (SR)	20
Total Weightage	300

Source: Author's Compilation

All these parameters are tested to check their reliability, hence Cronbach Alpha was used, using IBM SPSS 2.0. It was found that alpha result shows 0.973, which means reliable and acceptable.

Reliability Statistics

Cronbach's Alpha	N of Items
.973	15

Survey of Literature

The prime source of the studies reviewed here includes

various websites, annual reports, sustainability report and various other journals. Some of the major relevant research which have taken place earlier are reviewed in this section.

According to ACCA (2013) [1] report, it was concluded that neither reporter nor stakeholder has the understanding of sustainability reporting nor they see it as a practice or goal. Moreover, the benefit of sustainability reporting are not clear within the companies leadership and employees. ACCA also finds that there is a skill gap between what companies are reporting and what they should report, as there is no framework. Although, the introduction of BRSR and making it mandatory reporting from 2022-23 in India, which will provide some structure of sustainability reporting.

According to Glass Lewis & Co. (2014) [3] report, it is quite clear that the voluntary reporting on sustainability is growing in the world, at the same time challenges and opportunities associated with sustainability should be recognized and communicated with the shareholders.

According to Ernst & Young (2013) [12] report, it is quite evidential that sustainability reporting is gradually becoming popular, as per their survey 86% of the companies reported that sustainability was embedded in their firm's strategy and 68% of surveyed companies often discuss sustainability related risks and opportunities with investors. It is also advocated that gradually shareholders are demanding for curbing emissions, enhancing governance and enhancing disclosure.

It is important to note here that sustainability report engulfs not only environmental issues but also governance and social related issues as well.

According to Motwani S & Panday H. (2016) in their paper "Evaluating the Impact of Sustainability Reporting on Financial Performance of Selected Indian Companies" advocate that major Indian companies has identified the significance of sustainability reporting. Moreover, in their study, it was also found that community related sustainability reporting has a significant impact on profitability of the firm.

On the other hand, study done by Aggarwal P. (2013) in her paper "Impact of Sustainability Performance of Company on its Financial Performance: A Study of Listed Indian Companies" concludes that corporate sustainability as a whole has no significant influence on financial performance. According to Kumar K. & Prakash A. (2019) "Examination of sustainability reporting practices in Indian banking sector" finds out that social development indicators like financial inclusion, training, education, health programs, etc. are most common indicators of disclosure for both PSBs and private sectors banks in their non-financial reporting whereas, environmental issues are relatively less reported.

According to Oncioiu I et.al (2020) in their study "Corporate Sustainability Reporting and Financial Performance" found that Sustainability reporting has a strong impact on shareholders and employees. Moreover, they also advocated that if non-financial information is added with financial information viability of the company can be assessed in a better way.

It is quite evidential that, majority of the research paper reflects about overall sustainability reporting and its influence on financial performance, financial reporting, firms' strategy, CSR activities, and on non-financial reporting and not emphasizing on the environmental issues and its reporting practices in different industries. Moreover,

as the law of the land is silent about such reporting practice, it is interesting to study the reporting culture of various industries. Therefore, this paper attempts to answer the one of the significant questions, that is, how both the industries address environmental issues in their sustainability report? Based on the above research gap, the following hypothesis has been established:

H_0 = There is no difference in environmental reporting through their sustainability report by both the industries.

H_1 = There is a difference in environmental reporting through their sustainability report by both the industries.

In this regards, chi square test of independence was conducted to find out the reporting behavior between the two industries, whether they publish similar information on environment or not.

Findings & Conclusion

In this paper an attempt was made to find out whether both steel and cement industries sustainability reporting practice regarding environmental issues are similar or not.

Apparently, it seems that reporting activities of both the industries are similar although mean percentage of steel industry regarding the sustainability reporting is bit higher than cement industry. In the segment of non-hazardous waste (NHW) 41% of the companies under steel industry reported about NHW in sustainability report whereas only 15% of the companies under cement industry reported the same. It is also evidential that cement industry is more cautious regarding the sowing of plant sapling in and around their manufacturing units as it reflects in their SR which is just a bit higher than the reporting of the same in steel industry which comprises of 7% only. The mean percentage table also highlights that the reporting style of steel industry is more robust in comparison to cement industries. The following mean (percentage) table reflects that companies under steel industry report more in their SR regarding hazardous waste (30%), non-hazardous waste (41%), use of underground water (41.25%) and publication of SR (45%) which is higher than the reporting style of cement industry.

Table 2: Mean Percentage of various factors

	HW(%)	NHW(%)	SPS(%)	UGW(%)	SR(%)
ΣC_{20}	26	15	8	37.5	40
ΣS_{20}	30	41	7	41.25	45

Source: Authors Compilation

Although from mean percentage table, the difference in reporting style by steel and cement industry seems to be very minimal and difficult to prove whether any significant difference exists or not? Hence, the statistical tool, chi-square test is used to find out whether there is any significant difference in reporting by steel and cement industry exists or not?

In this regard, chi-square test was used and derived the value of 8.032 along with 'p value' (0.00495) which is less than 0.05. Hence, null hypothesis is rejected and alternative hypothesis is accepted. Hence, it is proved that there is significant difference in environmental reporting style of steel and cement industries.

Along with the significant difference in reporting practice of steel and cement industries regarding environmental issues, it is also found that there are some other differences as well, which is based on the best practice of the companies. Such as:

1. The reporting on sustainability development varies significantly from companies to companies. Even the format of reporting also varies exponentially. Moreover, it was found that, many companies in cement and steel industries do not have any sustainability report in their official website.
2. Being the sustainability report is not mandatory and rather it is a voluntary, the company project their own best practices, which made the comparison difficult.
3. Both the industries emit large volume of carbon-dioxide and other GHG (green house gases) from the location of their plants and mines. Although majority of the companies claims that they are successful in reducing the carbon footprint and sow and grow plant around their manufacturing site to preserve the environment.
4. Maximum of the company's plant are situated in the rural areas, which provides some perquisites under CSR at the same time it is also to be understood that in rural areas majority of the family dependent on underground water (well, tube-well or bore-well) at the same time company's plant also use majority of the required water for their production from surface water, underground water, etc. which is a matter of concern. Although some of the companies are taking certain steps to preserve water bodies and conserve underground waters by practicing rainwater harvesting, reuse of water and before discharge of any waste in water they are filtered by sewage treatment plant some companies also put Effluent Treatment Plants (SAIL-2021, JSPL-202, Tinsplate Co. Ltd. 2021, et.al.) to ensure zero waste liquid discharge in the nature.
5. Some of the companies are responsible about their waste management and reflect the same in the sustainability report whereas, many a company does not report how much Hazardous waste, Non-Hazardous waste are created and how they were disposed.
6. It is also found that, being sustainability report is voluntary in nature some company publish it annually and some companies publish it once in couple of years and for some companies it just a compliance report to be uploaded as Mangalam Cement Ltd.
7. The cement industry relies heavily on natural resources to fuel its operations. As these dwindle, the imperative is clear-alternative sources of energy have to be sought out and the use of existing resources has to be reduced, or eliminated altogether. Only then can sustainable business be carried out, and a corporate can truly say it is contributing to preservation of the Environment. [Sustainability Report 2010, Ultra Tech cement, p.15]

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