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Critical evaluation of relationship between financial performance and disclosure practices of selected environmental parameters by Indian corporates

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***Abstract*---**Adoption, application and disclosure through reporting of Environmental parameters can facilitate to understand the accountability and responsibility of any corporate entity towards various stakeholders in letter and spirit. This study vehemently asserts that companies that are consistently performing activities for preserving and protecting environment and also disclosing them with transparency are more prone to better financial performance and profitability. This practice helps the company earn the trust of all stakeholders, as such practices help in building organizational reputation and credibility in the market. The direction for further study can encourage researchers for undertaking the analysis of data of Indian corporates falling in environment sensitive categories.

***Keywords*---**disclosure practices, environmental parameters, financial performance.

Introduction

With the economic development and emerging business potentials, variety of economic activities led to the pressure on the environment and became part of socio-economic life. Different enterprises started consuming the natural resources abundantly for large scale production and maximization of wealth. Subsequently, in the wake of need the greed surmounted and the business groups started exploiting water, air, soil, wood, flower and fauna and even species. Due to this concern, demands arose from various sections of groups across the continents towards addressing the environmental information in the form of environmental accounting, environmental auditing and corporate environmental reporting.

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Annual Reports compiled and published along with annexures is significant medium of communiqué to interested internal and external stakeholders. Considering the importance of stakeholders and having detailed information about the business, corporate reporting practices gained importance and its nature also improving over the years. Thus, corporate reporting communicates about required important issues of concern for society in general as well as specific stakeholders.

The corporate financial reporting is a system of communication between the management and the user-groups of the financial statements; to report the results of the business activities and also to demonstrate the credibility, accountability and reliability of its working (Saeed, 1990). Therefore, now-a-days annual reports contain the details pertaining to financial position, Corporate Social Responsibility (CSR) activities and even environmental performance.

Objective of Study

The rationale of this study is that as there has been less uniformity in the guidelines, procedures and practices of environmental reporting, there exist several unanswered questions about the verification of organizational ethics and conduction of these ethics in actual practice. This study is an attempt to find out Disclosure and Reporting practices by Indian corporate giants through comparative cum qualitative analysis.

Concept and Lietrature Review

Research effort has been carried out in few countries to explore the environmental disclosure and reporting practices having impact on financial performance and vice-a-versa. The appraisal thereof divulges the impact of environmental accounting and auditing practices by corporates on its financial performance. Results of these studies are producing a concoction of feelings of both positive and no effects of adoption of environmental reporting practices on financial performance of the businesses. Few studies have also been carried on to expound the relationship of financial performance on environmental disclosures.

Rio Tinto (1998) has explored that over recent years there has been a swing as companies come round to the view that excellence in environmental performance is an integral part of excellence in business. Early environmental regulations were seen as a costly add-on to production. Subsequently, Fortes (2002) also found that above view is increasingly being reflected by the disclosure of company responses to environmental matters through the development of environmental reports. The demand for greater transparency and responsibility has developed from increased social awareness of the damage caused by pollution and from the debate about sustainable development.

Meanwhile, after the emerging trend of environmental accounting, environmental auditing and environmental disclosure practices worldwide, some researchers started exploring the nature of relationship between financial performance and environmental performance. Murphy (2002) performed literature review of research conducted within the time span of 1994 to 2001 to investigate the nature of relationship between environmental and financial performance, and found a vivid positive association between them. Particularly, it was concluded that firms with high environmental ratings and firms that exceed regulatory requirements experience higher market valuation; while firms with negative environmental performance (e.g. environmental accidents, oil spills, harmful substance releases, etc.) experience decline in stock prices.

According to Hecht, J. (2007), initially environmental accounts were constructed in several European countries working independently of each other where Norway being pioneer. Influenced by the publication of 'Limits to Growth' and a burgeoning environmental movement, Norwegian officials were concerned that their natural resources, on which their economy is relatively dependent compared with other European countries, would run out. They therefore developed accounts to track use of their forests, fisheries, energy, and land. In the 1980s, they developed accounts for air pollutant emissions, which were closely tied to the energy accounts.

Environmental reporting practice was embedded in the CSR practice. Also known as Triple Bottom Line Reports or Sustainability Reports, CSR Reports are progressively compiled on a stand-alone format as all stakeholders demand comprehensive information about a company's economic, social and environmental performance. Transparency about the sustainability of organizational activities is also important to a more diverse range of stakeholders, including labor, non-government organizations, customers, suppliers, the media, and others. Some researches indicate incidences of adverse relationship between environmental performance and financial performance. Roy and Ghosh (2011) examined bilateral association between economic performance and quality of voluntary disclosure of sustainable environmental practices in an Asian perspective, focusing on seven Asian countries including India. In consistent with the previous studies, finding supports the argument that larger firms disclose more environmental information than smaller firms for the purpose of increasing their legitimacy (Huang and Kung, 2010). Akbas, H. E. (2014) has found that company size, industry membership and profitability are important company characteristics that can have influence on the extent of environmental disclosure.

In western countries regulatory and statutory bodies made environmental accounting, auditing and reporting mandatory by obliging through stringent enactments in 1970s. In India, even after late initiation, statutory bodies came out with voluntary disclosure practices in the year 2011 which is followed by some mandatory disclosures for listed companies by Securities and Exchange Board of India (SEBI).

Therefore, to assess the objectivity of the environmental reporting practice followed by economically sound Indian corporates, following three companies representing different environmental sensitive industries are selected:

I. Tata Steel Ltd.
II. Reliance Industries Ltd.
III. Larsen & Toubro Ltd.

Three corporate players from Steel, Petrochemicals cum Energy and Infrastructure industry have been selected viz. Tata Steel Ltd., Reliance Industries Ltd. and Larsen & Toubro Ltd. respectively for analysis purpose. Normally, Steel, Petrochemicals and Infrastructure industry are considered polluting the environment. Annual Reports from 2003-04 to 2014-15 (time span of twelve years) and available Sustainability Reports from the websites of the above selected company are considered as secondary data for the present analysis.

Here above three corporate giants have been selected for case study in wake of their robust financial performance, their vibrant operations and due to diversity in product and service delivery. The nature and variety of operations and processes carried out in the business make the selected companies exposed to inherent environmental risks.

Research Methodology

The methodology adopted in this study is an analytic-descriptive approach where observation and review of financial documents are the key techniques. Study of the reporting practices has been carried out considering Environmental Reporting by procuring the disclosure of select environmental parameters and financial information for the year 2003-2004 to 2014- 2015.

For study, analysis of three companies is carried out to check the environmental reporting practice and its impact with the help of following research methodology:

I. Time series
This section studies the behavior of individual variables over a period of twelve years duration i.e. financial year 2003-04 to 2014-15.

II. Environmental Parameters or Variables
Mukherjee, K. et al. (2010) have observed in their research study that the growing global concern towards corporate environmental disclosure has led to the voluntary reporting of environmental information by Indian companies as well. However, the nature and content of disclosure vary across industries and firms, and these variations can be attributed to various firm specific factors. Environmental disclosure was measured by developing an environmental disclosure index based on prior literature. In earlier studies, the sample for the study comprised select companies chosen from ten environmentally sensitive industries, viz., distillery, sugar, fertilizer, pulp and paper, chlor alkali, pharmaceuticals, dyes and dye intermediates, pesticides, oil and refinery and petrochemicals. These themes were chosen based on previous empirical literature (Wiseman, 1982; Blacconiere and Patten, 1994; Burritt, 1997; Holland and Foo, 2003; Dixon et al., 2005; Clarkson et al., 2007; and Chatterjee and Mir, 2008)

Based on above disclosure requirements and previous literature review and sensitivity of environmental concerns, in present study seven environmental parameters have been identified in terms of;

(i) Carbon disclosure
(ii) Global Reporting Initiatives (GRI)
(iii) Environmental Policy
(iv) ISO 14001
(v) Renewable Energy
(vi) Awards and accolades for environmental performance
(vii) Research and development in the environmental area.

III. Techniques of analysis
The study has been carried out using basic statistical techniques viz. content analysis, correlation analysis and single factor ANOVA analysis.

IV. Data source (secondary data, from online annual reports)
The data used in the study has been collected from the annual reports and sustainability reports of selected three companies for the Financial years from 2003-04 to 2014-15. These reports have been downloaded from the websites of the corporate selected.

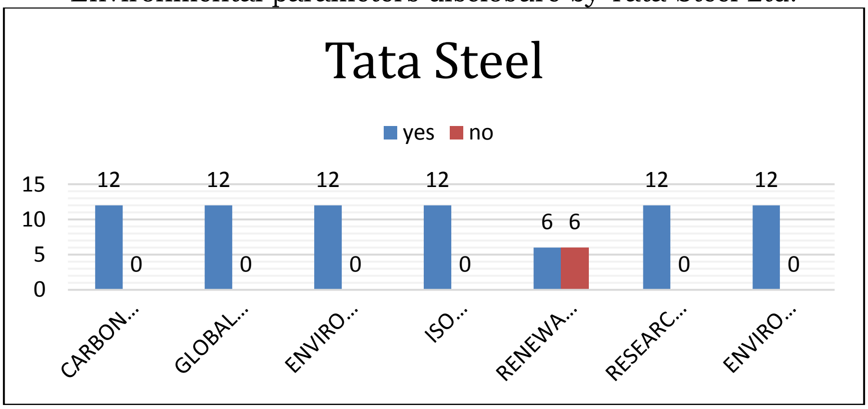
Data Analysis and Hypothesis Testing

Disclosure of select identified environmental parameters in annual reports and sustainability reports in the select three corporates viz. Tata Steel Ltd., Reliance Industries Ltd. (RIL) and Larsen & Toubro Ltd. (L & T) are discussed in the following part of the study.

Tata Steel Ltd.

In the Graph 1 given under for Tata Steel Ltd. the disclosure of select seven environmental parameters is reported.

Graph 1
Environmental parameters disclosure by Tata Steel Ltd.



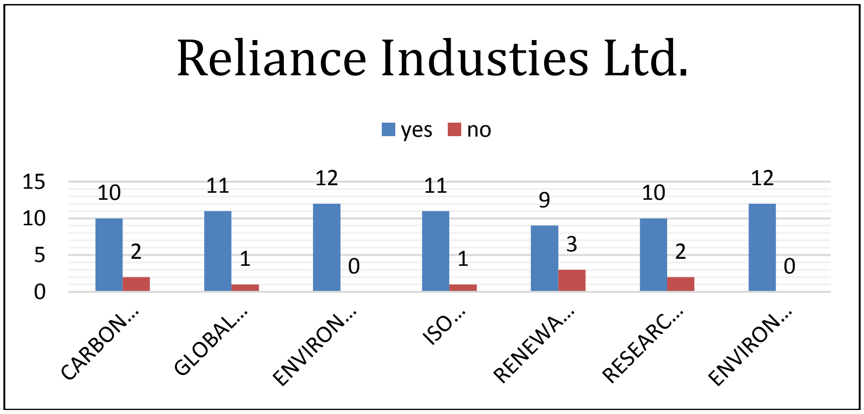
Findings

- Tata Steel Ltd. has disclosed all parameters namely Carbon Issues, Global Reporting Initiatives, Environmental Policy, ISO 14001 Certification, Research & Development in Environment and Environmental Awards in all twelve years starting from 2003-04 to 2014-15. But in the area of Renewable Energy adoption disclosure is reported for only six years within the span of twelve years.

Reliance Industries Ltd. (RIL)

In the Graph 2 given under for Reliance Industries Ltd. the disclosure of select seven environmental parameters is reported.

Graph – 2
Environmental parameters disclosure by Reliance Industries Ltd.



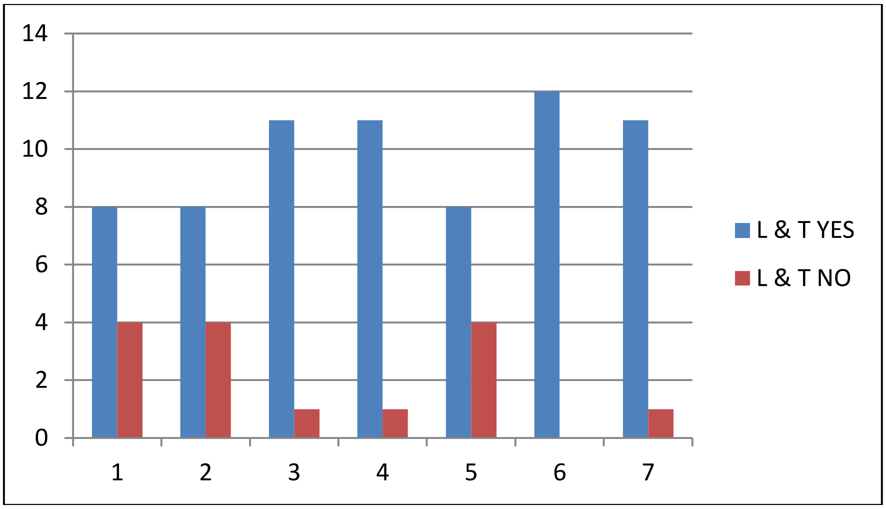
Findings

- Reliance Industries Ltd. has disclosed Environmental Policy and Environmental Awards in all twelve years starting from 2003-04 to 2014-15. Disclosure is found in Carbon Issues and Research & Development in Environment area to the extent of 83.33% within the span of twelve years. Disclosure is explored in Global Reporting Initiatives and ISO 14001 Certification by 91.67%. In Renewable Energy Adoption 75% disclosure is reported during the span of twelve years.

Larsen & Toubro Ltd. (L & T)

In the Graph 3 given under for L & T Ltd. the disclosure of select seven environmental parameters is reported.

Graph 3
Environmental parameters disclosure by L & T Ltd.



Findings

- Larsen & Toubro Ltd. has reported Research & Development in Environment in all twelve years starting from 2003-04 to 2014-15. It has disclosed the work in the area of Environmental Policy, ISO 14001 Certification and Environmental Awards to the tune of 91.67% in twelve years. In Carbon Issues, Global Reporting Initiatives and Renewable Energy Adoption 66.67% disclosure is shown by the company.

Single factor ANOVA analysis

Now, whether all the three companies have given due importance to all selected seven environmental parameters or not is to be statistically verified. For that Single factor ANOVA technique is applied herewith.

Table 1
Summary of single Factor ANOVA Analysis

SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	7	78	11.14286	5.142857143
Column 2	7	75	10.71429	1.238095238
Column 3	7	69	9.857143	3.142857143

Table 2
Summary of single Factor F cal Analysis

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	6	2	3	0.945	0.407136	3.554557

Within Groups	57.14286	18	3.174603			
Total	63.14286	20				

Ho1 = All three companies uniformly consider and disclose the selected environmental parameters.
Reject null hypothesis if Fcal> F tab

Findings

Here Fcal = 0.945 is not greater than F tab = 3.55 so we do not reject null hypothesis and conclude that all three companies have uniformly considered and disclosed the selected environmental parameters.

Analysis of financial data and disclosure practices

After the study of the disclosure practices adopted by selected three Indian corporates, here financial data has been compiled and analyzed for establishment of some crucial relationships between financial performance and disclosure practices. Here the Financial data of three companies Tata Steel Ltd., Reliance Industries Ltd. and Larsen and Toubro Ltd. are taken from the Annual reports for the financial year 2003-04 to 2014-15.

Table 3
Basic Financial data of all three Companies

	PROFIT AFTER TAX (Rs. Crores)		
Financial Year	TATA	L&T	RELIANCE
2003-04	1746.22	533	5160
2004-05	3474.16	984	7572
2005-06	3506.38	1012	9069
2006-07	4222.15	1403	11943
2007-08	4687.03	2173	19458
2008-09	5201.74	3482	15309
2009-10	5046.8	4376	16236
2010-11	6865.69	3958	20286
2011-12	6696.42	4457	20040
2012-13	5062.97	4384	21003
2013-14	6412.19	5493	21984
2014-15	6439.12	5056	22719

For this analysis the statistical tool in the form of correlation is used. Separate analysis is carried out individually for all select companies.

Simple Linear Correlation is measured by Karl Pearson's Correlation Coefficient (ρ). Karl Pearson's Correlation Coefficient can be statistically tested by using Student's t-test. This can be shown as Study of simple linear correlation coefficient between Number of 'Yes' towards disclosure of environmental parameters and Profit After Tax (PAT) of the select company.

Correlation of Profit After Tax (PAT) and Environmental parameter disclosures

At first instance the relationship between Profit After Tax (PAT) and the disclosures of environmental parameters made by the Tata Steel Ltd. in the annual reports and sustainability reports is explored.

Tata Steel Ltd.

For Tata Steel Ltd., in the following table, correlation is explored between Profit After Tax (PAT) and disclosure of seven select environmental parameters in consecutive twelve years. Ho2 = There is no linear relationship between Profit After Tax (PAT) and disclosure of selected environmental parameters in annual reports of the company.

Table 4
Summary of Disclosures and PAT of Tata Steel Ltd.

Financial Year	No. of Yes disclosures	PAT (Rs. Crores)
2003-04	6	1746.22
2004-05	6	3474.16
2005-06	6	3506.38
2006-07	6	4222.15
2007-08	6	4687.03
2008-09	7	5201.74
2009-10	6	5046.8
2010-11	7	6865.69
2011-12	7	6696.42
2012-13	7	5062.97
2013-14	7	6412.19
2014-15	7	6439.12

Findings

Here $t_{cal} = 4.047536 > t_{tab} = 1.8124$ so we reject null hypothesis at 5% level of significance, 10 degrees of freedom and conclude that there is positive correlation between Number of 'Yes' and PAT. In other words, as Profit After Tax (PAT) increases, Number of 'Yes' towards disclosure of environmental related aspects also increases. It implies that due to sound profitability, there are more chances of environmental disclosures.

Reliance Industries Ltd.

For Reliance Industries Ltd., in the following table, correlation is explored between Profit After Tax (PAT) and disclosure of seven select environmental parameters in consecutive twelve years.

Ho3 = There is no linear relationship between Profit After Tax (PAT) and disclosure of selected environmental parameters in annual reports of the company

Table 5
Summary of Disclosures and PAT of Reliance Industries Ltd.

Financial Year	No. of Yes Disclosures	PAT (Rs. Crores)
2003-04	2	533
2004-05	4	984
2005-06	6	1012
2006-07	7	1403
2007-08	7	2173
2008-09	7	3482
2009-10	7	4376
2010-11	7	3958
2011-12	7	4457
2012-13	7	4384
2013-14	7	5493
2014-15	7	5056

Findings

Here t_{cal} =4.191176> t_{tab} = 1.8124 so we reject null hypothesis at 5% level of significance, 10 degrees of freedom and conclude that there is positive correlation between Number of 'Yes' an PAT. In other words, as Profit After Tax (PAT) increases, Number of 'Yes' towards disclosure of environmental related aspects also increases. It implies that due to sound profitability, there are more chances of environmental disclosures.

Larsen & Toubro Ltd.

For L & T Ltd., in the following table, correlation is explored between Profit After Tax (PAT) and disclosure of seven select environmental parameters in consecutive twelve years.

Ho4 = There is no linear relationship between Profit After Tax (PAT) and disclosure of selected environmental parameters in annual reports of the company.

Table 6
Summary of Disclosures and PAT of L & T Ltd.

Financial Year	No. of Yes Disclosures	PAT (Rs. Crores)
2003-04	1	533
2004-05	4	984
2005-06	4	1012
2006-07	4	1403
2007-08	7	2173
2008-09	7	3482

2009-10	7	4376
2010-11	7	3958
2011-12	7	4457
2012-13	7	4384
2013-14	7	5493
2014-15	7	5056

Findings

Here $t_{cal} = 5.063124 > t_{tab} = 1.8124$ so we reject null hypothesis at 5% level of significance, 10 degrees of freedom and conclude that there is positive correlation between Number of 'Yes' an PAT. In other words, as Profit After Tax (PAT) increases, Number of 'Yes' towards disclosure of environmental related aspects also increases. It implies that due to sound profitability, there are more chances of environmental disclosures.

Observations and Conclusions

- From financial data analysis it is found that the company with sound track record of profitability is performing well towards the measures to be taken for carbon remedial issues, research and development expenses and some innovative environmental protection plans and policies.
- It is found that the company having sound profitability can perform well on environmental issues and disclose those aspects positively in the annual reports and sustainability reports. In this study, select three corporates have shown considerably good track record of profitability and simultaneously satisfactory performance in terms of disclosure of selected environmental parameters which have been disclosed in their form of communiqué to the stakeholders.
- Here, in the present study it is observed that the corporate with sound profitability can disclose various environmental parameters with positivity.
- There is still a lot of scope for further studies to explore the relationship between the disclosure of environmental parameters and profitability of entity. An attempt can also be made to explore the possibilities of environmental reporting and auditing practices for Micro, Small and Medium enterprises engaged in various industrial and manufacturing operations.

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