

Effectiveness of BRR on Financial performances of Power Generation industry in India- Standard Costing Technique

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Abstract

The present paper is to study the relationship between Corporate Social Responsibility (CSR) contributions and financial parameters of Total Assets, Total Income and Profit after tax of Indian Power generation industry. The study is based on secondary data, which is collected from annual reports and selected companies websites. For this purpose, five companies were selected from Power generation industry which were disclosed Business Responsibility Report (BRR) for the year 2012-13 to 2014-15. Accounting tool of standard costing (Variance analysis) and statistical tools of Mean, Standard Deviation, Chi square test, student t test, Correlation coefficients have been applied. CSR actual expenses, CSR budget and CSR recovery were used as CSR contribution variables. This study found that CSR contributions which disclosed in their annual report through Business Responsibility Report has significant relationship with PAT of Indian Power generation industry.

Keywords: Corporate social responsibility initiatives, Business Responsibility Report, CSR Budget, Power generation industry.

Introduction

Corporate Social Responsibility (CSR) had been defined by corporations and in literature in various ways but there some considerable common ground among them, According to Bowen (1953), who is the Father of Corporate Social Responsibility, "CSR refers to the obligations of businessman to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society". Ubius and Alas(2008). Tanimoto and Suzuki (2005), Ubius and Alias (2008) defined CSR as a concept whereby companies fulfill accountability to their stakeholders by integrating social and environmental concerns in their business operations. Schwartz and Carroll (2003) viewed CSR as the integration of ethical, legal and philanthropy components into economic activities of business, Culler (2010) concurs with Carol and added that the legal and ethical management of business yields positive results for society overall. Visser (2010) viewed CSR as the way in which business consistently creates shared value in society through economic development, good governance, stakeholder responsiveness and environmental improvement. A critical assessment of these definitions somehow suggests that CSR has various dimensions.

Freeman (1984) identified four dimensions of CSR which are the community, marketplace, the workplace and the environment. Presently organizations are publicizing the triple bottom line which is constituted of the community, the organization and the environment. Corporations are increasingly becoming conscientious on the effects of their operations to the communities and the environment, apart from the positive effect of profit realization to the same organizations. Corporate social responsibility is therefore a process of creating shared value among organizations and communities from the organization's economic activities. CSR need to be understood within this context captured in the development oriented CSR framework. First model is Ethical model which championed M.K.Gandhi, focused Voluntary commitment by Companies to public welfare. Second modal is Statist which championed by Jawaharlal Nehru, focused State ownership and legal requirements determine Corporate Responsibility. Third model is Liberal model which championed by Milton Friedman, focused corporate responsibilities limited to Private owners. Finally the current Stakeholder model which championed by Edward Freeman, focused Companies respond to the needs of stakeholders, customers, employees, communities, etc. (Arora and Puranik 2004) CSR thus helps to define the contribution of a company beyond economic value and creating employment, and weighs this contribution against the damage done by the company through its products and processes.(Ruchi Tewari)

Recent CSR initiatives in India

During 2014, 216 companied engaged CSR Initiatives, during 2013 only 115 companies only engaged CSR activities. Tata Global Beverages spent 7.4% of Profit After Tax. JaiPrakash Associates spent 7.3% of PAT during 2013-14. Reliance industries spent totally 711 crores during 2013-14. 86% of the companies spent more only for Education, 80% of the companies spent for Healthcare and Only 1% of companies spent for Militants. 26% of the companies spent for Bio-Diversity activities. Tata power spent 31.10 crores during 2014-15 (Act of Mashir established during 1975) for Education, Environmental Protection, Women Empowerment, Personality enrichment and Resource maintenance. Tata Steel spent 171.46 crores for the 500 villages of Odissa, Jhargand and Satthiskar for the Education, Healthcare, Livelihood and cultural development activities. It also exercise the plan of MANSI from 2009 in Jhargand state and also reduced Child Death rate in that state. Tata Chemicals spent 2.93% of PAT amounted to 12.96 crores for environmental protection activities. Also creating awareness to protect Yale and Big size fish varieties. Tata Motors spent 18.62 crores for the year 2015 under CSR Committee of CG. Also started LEAF association for Learning, Earning and Promotion of Drivers through this training centre and also create initiatives for Personality

enrichment activities. Mahindra and Mahindra limited spent 83.24 crores during 2015 for Education, Healthcare and environmental protection activities. Livelihood training programs provided to economically and socially background peoples. Under the scheme of HARIYALI planted over 79,000 trees and 4340 toilets were constructed in 11 states. Under the scheme of NANKI KALI, provided notebook and other stationeries to 11 lakhs economically background women students. Jubliant Life Sciences limited initiates for Primary education, health promotional activites, Self employment programs etc. Bharat Petroleum limited allotted 76 crores but spent only 33.95 crores during 2015 for Education, Healthcare and Rural development activities. Under PONT scheme, water resource management activities. GAIL spent 71.89 crores for the development of economically background 500 students of IIT/NIT for the tuition and hostel fee. GAIL also provided training programs to rural youth through GAIL Institute of Skills. Infosys spent 243 crores during 2015 through Infosys Foundation for Nutritious Food, Education and Healthcare activities, Protection of India Art and Cultural activities, Providing Computer training programs to the rural youth etc. Also provides Mid day food along with Aksya Pathra scheme of Various states in India.

CSR Initiatives provided by BRR 100 listed selected companies of Power Generation Industry in India.

NHPC Ltd: List of activities in which expenditure has been incurred during the selected years were Education and Vocational Training, Healthcare, Social and Physical Infrastructure,

Community development and Livelihood Support. **NTPC Ltd:** Areas of CSR Activities: Education and awareness creation, Vocational Training and skill up gradation, Health and Sanitation, Conducting Medical Camps, Activities for physically challenged, Women empowerment, Roads and Infra development, Drinking Water, Animal Health and Sports and Culture. **Areas of SD Activity:** Tree Plantation, Stack SPM Reduction, Installation of Bio-Methanation Plant and Environmental Studies. **Power Grid Corporation:** List of activities in which expenditure has been incurred were Healthcare, Infrastructure, Skill Development, Plantation and Education. **Reliance Power Ltd:** Education for children through provision of Schools, scholarships, study Material for the meritorious, Healthcare and sanitation, Vocational training and provision of self employment opportunities, Development of local infrastructure through Housing colonies, Community Centre, Roads etc, Improving water and environmental conditions of the local communities, Provision of financial support for the old, disabled and underprivileged. **Tata Power Ltd:** Tata Power's 5 thrust areas for Corporate Social Responsibility are carried out through its Community Relations (CR) Department and Tata

Power Community Development Trust (TPCDT). These thrust areas are: Augmenting Rural Primary Education System, Building and Strengthening Healthcare Facilities, Enhancing Programs on Livelihood for Rural Youth, Building Social Capital and Infrastructure and Nurturing Sustainability for Inclusive Growth.

Review of Literature

According to Kunal Basu, author and academician in his article stated society does not exist for business, but business exists for society. Smart people are challenged not to make more profit but to solve society's problems. Investors recognize and appreciate companies getting into social activities. Richa Gautam et al. (2010) examined India's top 500 companies view, and conduct their CSR, identifies key CSR practices and maps these against GRI standards and used content analysis technique to access CSR practices of companies operating in India, a list of 500 companies taken by Karmayog from Dun Bradstreet's 2006 edition of India's top 500 companies. Karmayog measured based on the reported aspects against the 18 GRI social aspects which are globally accepted, and scored various levels of CSR activity rating with special provisions, rated these companies on a '0-5' scale based on information from the company's website and latest annual report. The authors concluded that during 2007, out of 500 companies. 229 companies got a '0' rating and thus were filtered out for not showing any CSR activity or producing cigarettes/tobacco products and liquor. The end result being that all activities undertaken in the name of CSR are mainly philanthropy or an extension of philanthropy. Ruchi Tewari (2010) examined the contribution of CSR of the Information and Technology sector in India. The author has chosen 25 companies as sample- the top 5 companies according to their market standing in five sectors into consideration – Cement, Steel, Oil, Banking and IT and applied the comparative analysis to find the sector that is involved most in the CSR initiative and the dimensions classified as Community development, Environmental management and workplace management and analyzed by applying CSR ratings by Karmayog to the respective company which belongs to that industry, their disclosures in websites or annual reports, the budget allocation and activities coverage as variables and applied cumulative ranking of the five sectors on the selected four parameters and concluded that IT sector distinctly as a champion in not only adopting CSR but also in managing it. Sumanta Dutta et al. (2011) stated that corporate all around the globe wants to consider applying a corporate sustainability plan by addressing their 'Triple Bottom Line Reporting' which includes paying close attention to their economic(financial factors), environmental (risk and requirement factors) and social (human factors) issues and attempted to highlight how the TBLR implementation is taking place in India in that direction with special reference GRI initiative as well as

Karmayog rating by selecting 30 Indian companies under the GRI status as on 2010 and compared Karmayog ratings for the year 2007 and 2009 of selected 500 companies and concluded that CSR in reality is the alignment of business operations with social values and the reporting initiative in India is in a premature stage by showed the result that 128 companies scored 0 level, 147 companies at level1, 146 companies at level2, 66 companies at level 3, 13 companies at level4 and no a company under the level 5 and resulted that there is considerable improvement in the status level 0 from 2007 to 2009. Md. Abdul Rouf (2011) conducted a exploratory study in Bangladesh and examined the relationship between corporate attributes and firm-specific factors and corporate social responsibility disclosures. The author concluded that a positive association between proportion of independent directors and CSR disclosures, and size of the firm does not affect the level of corporate social responsibility disclosures. Control variables suggest that Board Leadership Structure, Board Audit Committee and Percentage Return on Equity are positively associated with company's CSR disclosure and higher proportion of independent non executive directors on a board is positively related to the level of CSR disclosure but the extent of CSR disclosure is negatively related for firm's size. Yaghoub Alavi Matin et al. (2011) examined the relationship between CSR and the financial performance of companies manufacturing pharmaceutical products. In this research the variables of CSR includes Working Conditions, environment, business behavior, social and local community and corporate governance. Financial performance variables are Return on Assets. (Net Profit/ Total Assets), Size of firms based on Number of employees and the firm's risk. Risk measured based on debts/ total assets. The authors concluded that there is no positive relationship between CSR and any of its dimensions with firm financial performance. Moreover, there is a positive relationship between firm size and firm risk and firm financial performance. Dr. R.S.Ramesh et al (2012) studied the ITC-e-CHOUPAL model, Hyundai Motors 'Go Green' project and Tata Motors-Train the drivers scheme as case study and compared the CSR initiatives and measured the social performance of the selected companies through the rating levels of Indian Companies for the period of four years from 2007 to 2010 which measured by KARMAYOG, an NGO, who measures the CSR activities of Indian companies and ranking by Five Levels (0 to 5).The authors also stated that, most Indian companies feel that CSR was only possible if profitability was high and concluded that there is a need today for Indian companies to re-examine their CSR interventions and determine their effectiveness through "think globally and act locally" (Alessandro,2003) Babalola et al (2012) examined the relationship between CSR and Firm's Profitability in Nigeria, and the study employs econometric method in formulating a regression model based on the financial theories on the connection between

corporate social performance and firm financial profitability and findings show that the sample firms invested less than Ten percent of their annual profit to social responsibility and 85% of the respondents said that there is an awareness of CSR in Nigeria but without significant actions. Babita Gundu(2015) studied the corporate social performance of selected four companies in India according to sustainability reporting guidelines of GRI for the period of three years from 2010-11 to 2012-13 and ranked on the basis of CSR activities and CSR expenditure. and showed the comparative analysis and concluded that highest profit making company is not necessarily be the most responsible company in relation to social performance.

Research Gap of the Study

In India Karmayog ratings were furnished from the period of 2007 to 2010 only. Through the review of Literatures CSR-CFP studies examined favorable relationship between CSR – CFP and few studies concluded negative relationship and other few studies are inconclusive. Studies were carried out to understand the relationship between CSR-CFP using empirical, exploratory and other methods of case studies and content analysis. Few studies examined the valuation methods of companies based on Asset, Yield and Manpower (Human Resources) with the variables of Economic Value Added, Return on Equity and Return on Assets. No much prior studies reviewed with standard costing techniques..

Limitation of the study

Under Power Generation industry only FIVE companies were furnished BRR in their annual report. They are NHPC Limited, NTPC Limited, PowerGrid Corporation, Reliance Power Limited and Tata Power Limited only. These companies only were selected for this study for the period of 2009-10 to 2014 -15.

Objectives of the study

- 1.To study the nature of CSR initiative disclosure through BRR in their annual report of the selected companies.
- 2.To calculate CSR Cost variances of selected companies
- 3.To examine the financial determinant factors of CSR initiatives of selected companies.

Methodology

The present study is mainly based on the secondary data and the data is collected from the annual reports of selected companies and websites of moneycontrol.com, BSE.com etc for the period of six years, which ended on 31st March. The period of the study is 2009-10 to 2014-15. For the analysis descriptive statistics, Student t test, Chi square test and Correlation coefficient analysis have been used. Total Income and PAT (Profit after Tax) were treated as financial determinant variables.(Jain Neeta et al, Md Abdur Rouf (2011), Yaghoub Alavi Matin et al.2011, Babalola 2012 and Babita Gundu 2015). Total Asset was used as control variables. Actual amount spent by the selected companies on various CSR activities were compared with CSR Budget, CSR Recovery through Standard Costing Technique.

Null Hypothesis

1. That there is no any significant difference between the CSR variances of selected companies.
2. That there is no any significant relationship between CSR Actual, Budget and Recovery of selected companies.
3. That there is no any significant association between Total Asset and CSR Actual contribution
4. That there is no any significant association between Total Income and CSR Actual contribution.
5. That there is no any significant association between Profit after Tax and CSR Actual contribution.

Analysis and Interpretation

Table 1 – Descriptive Statistics of selected Variables

Variables	Mean	Standard Deviation	Skewness	
			Statistics	Std Error
CSR Actual Expenses	44.71	55.43	2.160	0.580
CSR Budget	63.45	74.44	1.470	0.580
CSR Recovery	78.80	81.54	1.304	0.580
CSR Cost Variance	37.08	46.89	1.982	0.580
CSR Budget Variance	24.18	28.23	2.075	0.580
CSR Volume Variance	21.28	30.06	1.422	0.580
Total Assets	62,670.83	45,435.57	0.778	0.427
Total Revenue	18,748.34	24,451.30	1.585	0.427
Profit After Tax	3,223.21	3,979.80	0.846	0.427

Table -2 CSR Contribution and Variance Analysis for Power Generation Industry in India

Company Name	year	CSR Contribution			Variance Analysis		
		Budget	Actual	Recovery	CSRCV	CSR BV	CSR VV
NHPC Ltd	2012-13	40.65	52.24	42.48	9.76(A)	11.59(A)	01.83(F)
	2013-14	48.58	31.88	19.57	12.31(A)	16.70(F)	29.01(A)
	2014-15	46.85	15.73	46.96	31.23(F)	31.12(F)	0.11(F)
NTPC Ltd	2012-13	180.36	79.53	252.38	172.85(F)	100.83(F)	72.02(F)
	2013-14	206.30	128.39	219.49	91.10(F)	77.91(F)	13.19(F)
	2014-15	218.78	205.18	205.81	0.63(F)	13.60(F)	12.97(A)
Powergrid Corp	2012-13	0.60	21.75	84.68	62.93(F)	21.15(A)	84.08(F)
	2013-14	15.22	21.66	89.94	68.28(F)	06.44(A)	74.72(F)
	2014-15	79.90	47.42	99.58	52.16(F)	32.48(F)	19.68(F)
Reliance Power	2012-13	15.40	10.70	20.22	09.52(F)	04.70(F)	04.82(F)
	2013-14	17.59	07.91	20.52	12.61(F)	09.68(F)	02.93(F)
	2014-15	19.35	20.98	20.56	0.42(A)	01.63(A)	1.21(F)
Tata Power	2012-13	20.39	07.88	20.49	12.61(F)	12.51(F)	0.10(F)
	2013-14	20.90	15.26	19.08	3.82(F)	05.64(F)	01.82(A)
	2014-15	20.99	04.26	20.28	16.02(F)	16.73(F)	0.71(A)
Total					511.27(F)	281.09(F)	230.18(F)

(CSRCV – CSR Cost Variance, CSR BV – CSR Budget Variance, CSR VV – CSR Volume Variance) F is favourable and A is Adverse.

Table-3 : One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
CSR Cost Variance	3.062	14	.008	37.08333	11.1111	63.0556
CSR Budget Variance	3.317	14	.005	24.18067	8.5432	39.8182
CSR Volume Variance	2.741	14	.016	21.28000	4.6281	37.9319

Table 3 shows that the variance analysis of CSR actual expenditure, CSR Budget and CSR recovery of the selected companies belongs to Power Generation industry were significantly different and hence null hypothesis 1 has been

rejected and author stated that the CSR Variances were significant and very high in Power generation industry in India.

Table -4 Correlation coefficient of selected variables

Variable		CSR Actual	CSR Budget
CSR Budget	Correlation	0.917	
	Significant	0.000	
CSR Recovery	Correlation	0.807	0.911
	Significant	0.000	0.000

Table -4 showed that the correlation coefficient between CSR actual expenses and CSR budget and CSR recovery are significant at 0.01 levels. Hence hypothesis 2 is rejected and author conclude that there is positive and significant relationship exists between the CSR Actual, Budget and Recovery.

Table 5: Chi-Square Tests

	Variables	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	Total Asset	12.375	16	0.718
	Total Income	21.000	16	0.179
	PAT	22.464	12	0.033
Likelihood Ratio	Total Asset	15.415	16	0.494
	Total Income	20.960	16	0.180
	PAT	23.536	12	0.024
Linear-by-Linear Association	Total Asset	6.903	1	0.009
	Total Income	9.780	1	0.002
	PAT	10.830	1	0.001
N of Valid Cases		15		

Table 5 showed that the Pearson Chi Square calculated value of total Asset is 12.375, is lesser than the table value 26.30 at degrees of freedom 16, so author accepted the null hypothesis- 3 and concluded that there is no any significant association between total asset and CSR contributions of the selected company. Pearson Chi Square calculated value of total income is 21.00, which is lesser than the table value 26.30 at degrees of freedom 16, so author accepted the null

hypothesis- 4 and concluded that there is no any significant association between total income and CSR contributions of the selected company. The Pearson Chi Square calculated value PAT is 22.46 is greater than the table value 21.00 at degrees of freedom 12, so author rejected the null hypothesis-5 and concluded that there is significant (at 5% level) association between PAT and CSR contributions of the selected companies of Indian power generation industry.

Table 6 “Total Asset, Total Income, PAT – CSR Actual” Cross Tabulation

Count		CSR Actual (in crores)					Total
		Less than 20	Between 21-40	Between 41-60	Between 61-80	Above 80	
Total Asset	Less than 20000	1	0	0	0	0	1
	Between 20001-40000	2	1	0	0	0	3
	Between 40001-60000	2	1	1	0	0	4
	Between 60001-80000	0	1	0	0	0	1
	Above 80000	0	2	1	1	2	6
	Total	5	5	2	1	2	15

Total Income	Lessthan 5000	2	1	0	0	0	3
	Between 5001-15000	3	2	1	0	0	6
	Between 15001-20000	0	1	1	0	0	2
	Between 20001-25000	0	1	0	0	0	1
	Above 25000	0	0	0	1	2	3
	Total	5	5	2	1	2	15
Profit After Tax	Less than 2000	4	3	0	0	0	7
	Between 2001-4000	1	0	1	0	0	2
	Between 4001-6000	0	2	1	0	0	3
	Above 6000	0	0	0	1	2	3
	Total	5	5	2	1	2	15

Conclusion

From the findings, the author conclude that CSR actual expenses, CSR budget and CSR recovery of the selected companies in Indian Power Generation industry has significant relationship at 1% level. Pearson Chi Square statistic proved that PAT has significant relationship with CSR actual expenditure. Author used only limited variables for this study and at the same time the frequency in which the data is available should be borne in mind. For better research in future various financial variables to be kept in mind and to be included.

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