
A Case Study on Corporate Environmentalism as Experienced in West Bengal, India

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ABSTRACT:

Corporate environmentalism is the environmental consciousness of corporates which is a key factor in sustainable development. All over the world corporates, attitude is changing from passive to active corporate environmentalism. This article attempts to find out the position of India in case of corporate environmentalism with respect to West Bengal. This article reveals in West Bengal corporate environmentalism is in positive notion but not uniformly accepted in every corporate house. The article deals with integrated steel industries, sponge iron factory, cement industries and thermal power plant. Through GAP analysis method, it has established that among all the studied industries maximum GAP observed in thermal power plant and minimum in the integrated steel industry.

KEY WORDS: CORPORATE ENVIRONMENTALISM, SUSTAINABLE DEVELOPMENT, WEST BENGAL, GAP ANALYSIS

1 INTRODUCTION:

Environmentalism is the ethical and political perspective that places the health, harmony, and integrity of natural environment (Sunderlin 2003). Corporate environmentalism is the thought and practices of corporates or industries towards systematic environmental favourable actions that go beyond the law. It is a set of practices for industries with orientation and strategies for the betterment of the environment (Banerjee et al., 2002). Hoffman (2001) wrote in 'Heresy to Dogma' about the origination of corporate environmentalism. According to him, the concept of corporate environmentalism evolved during 1960 to 1970, called "Industrial environmentalism" period in Europe. The concept emerged from the chemical industry in the early 1960s. This attitude is highly controlled by corporate ethics and these ethics influence corporate behaviour in formulating EMS. Banerjee (2002) defined corporate environmentalism as recognition of the legitimacy and importance of the biophysical environment in the formulation of organization strategy, and the integration of environmental issues into the strategic planning process an entire organization. Corporate environmentalism (CEVM) contains two themes: environmental orientation and environmental strategy. The first theme involves the firms' attitude towards the environmental problem that arising along the value chain. The value chain is here described as all activities conducted, from development and manufacturing to consumption and service. The later theme reflects the integration of environmental aspects in firm's strategic process (S. B. Banerjee, 2002). Literature study reveals that industries are shifting from passive to active corporate environmentalism and most of the countries of the world are rushing for industrial development and India is also following the trend.

West Bengal (WB) of India is also in the same notion which has a positive impetus to the industrial growth along with betterment of the socio-economic condition of the state. Similarly, the government must be concerned for sustainable development. The increasing levels of pollution raise a question how much these industries are intended for environmental protection? A comprehensive study of corporate environmentalism is essential to gauge the depth of environmental ethics of corporate. It is the backbone of the corporate attitudes towards environmental restoration. The main objective of this article is to find out the CEVM in a different type of industries of WB and find the GAP, depending on Importance –Performance Analysis.

This study is important because of the Socio-economic and environmental aspects as the proper mapping of the situation are essential for the government to formulate the actual strategy and fill the lacunae of the system. Moreover, it helps industries to adopt the proper methodology for their financial gain and sustainable development.

2. RESEARCH METHODOLOGY

Research methodology for selection of the sampling units, the framing of questionnaire and techniques for collection of primary data discussed.

2.1 SAMPLE SELECTION & STUDY AREA

During the pilot survey, a list of grossly polluting units in West Bengal received from the Annual Report of West Bengal Pollution Control Board (WBPCB), 2007 – 2008(WBPCB, 2008). It was reported in that Annual Report of WBPCB that there are total 463 numbers of grossly polluting units in West Bengal. Among all of them only 4 types of Industry i.e.- Steel industry, sponge iron, thermal power plant, cement industry studied in details. Major concentrations of those studied industries were seen in Burdwan, Bankura, Purulia, Birbhum, Kolkata, Hooghly, Howrah and Medinipur districts. It was considered that units in these eight districts are sufficient to represent the units in West Bengal. These eight districts covered 394 (i.e. about 81.00%) number of total grossly polluting units in West Bengal (refer table 2.1).

TABLE-2.1
SELECTION OF SAMPLE

SL NO	TYPE OF INDUSTRY (1)	TOTAL NUMBER (2)	50% OF COLUMN NUMBER (3)
1	INTEGRATED STEEL INDUSTRY	3	2
2	SPONGE IRON	56	28
3	THERMAL POWERPLANT	11	6
4	<i>CEMENT</i>	<i>11</i>	6
	TOTAL	81	42

2.2 COLLECTION OF PRIMARY DATA

The primary data generated by the help of the questionnaire. A questionnaire was developed to study the implementation of environmental management practices for the different selected industry. The questionnaire included 30 specific environment strategies selected from literature and suggestion of the two environmentalists. The environmental experts from selected industry were asked to indicate, on a 5-point Likert scale, the level of importance and performance of each item in evaluating and

Implementing various environmental strategies as shown below:

Importance: 1 = not important,

5 = very important.

ENVIRONMENTAL MANAGEMENT STRATEGIES/PRACTICES IN SELECTED INDUSTRY TYPE:

Parameter NO.	MANAGEMENT OF THIS INDUSTRY THOUGHT IMPORTANCE OF THE ENVIRONMENTAL PARAMETERS ARE
1	Conserving resources (raw materials, energy, water, etc.).
2	Implementing pollution prevention/clean technologies and promoting environmental innovation.
3	Robust system for ensuring legal compliance.
4	Assessing environmental impacts.
5	Reducing emissions, discharges, and noise attenuation.
6	Identifying EPIs and its benchmarking with best practices.
8	Improving measurement, data collection, communication, documentation, and IT enabled services.
9	Implementing Environmental Management System (EMS) and Improving
10	Environmental Audits.
11	Developing new products using Eco-design and Design for Environment.
12	Promoting green procurement and green marketing.
13	Conducting environmental cost accounting.
14	Developing environmental knowledge and skill development through training.
15	Promoting research and development.
16	Improving complaint handling system.
17	Reducing spillages, leakages and wastages, and improving housekeeping.
18	Conducting effective operation and maintenance of pollution control systems.
19	Enhancing solid waste utilization and improving recycling.
20	Conducting environmental risk assessment and environmental emergency plans.
21	Reducing environmental impacts during transportation, packaging, and dispatch.
22	Improving hazardous and toxic release management.
23	Developing green belt.
24	Formulating clear objectives and long-term environmental plans.
25	Earmarking well-defined environmental responsibilities.
26	Deploying full-time employees for environmental management.
27	Conducting periodic elaboration of environmental reports.
28	Incorporating environmental criteria in supplier selection.
29	Considering design for disassembly, reusability and recyclability.
30	Improving communications with external and internal agencies.

Before sending the questionnaire and starting the survey, a statistical analysis has been done to determine the number of the study unit. After determining the type of industry from 8 different districts, specific sample units were selected using the random number table (Gupta, 2002). For sample selection out of this 5type of

industry 50% sample has been taken. The samples are segregated in table-2.1. The process of sampling may be called random sampling without replacement. The sample of 43 units covered 4 types of industry to be taken. Among all these types of industries, some are listed in pollution control board and some are not grossly polluting units. For the unavailability of data, the study has to reject the many questionnaires. The study concentrated only in 42unit (*i.e. - Integrated Steel Industry-2, Sponge Iron-28, Thermal Power Plant-6, Cement-6*).

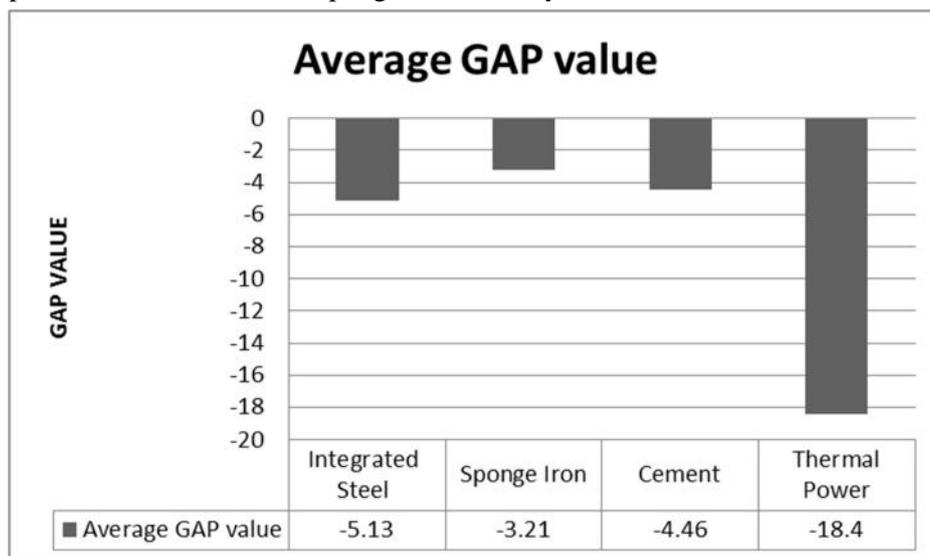
2.3 GAP ANALYSIS:

The GAP analysis is a concept, where the deviation from commitment used to be measured. The questionnaire which was made for the collection of data on selected environmental parameters as well as circulated to the Management people for the collection of the information on how much importance they are giving to the selected parameters. That same questionnaire was circulated to the localities of the selected place to collect their opinions for corporate performance on the selected parameters. It is also known as Importance-performance analysis. It has been used as a tool for developing and evaluating customer service and marketing strategy, operations strategy, computer and IS/IT operations, assessing human resource management policies, and strategies and better allocating organizational resources. IPA was introduced by Martilla, J.A. and James, (1977) as a framework for understanding customer satisfaction as a function of both expectations related to key attributes (importance) and judgments about their performance (performance). The R. Kumar Singh et al. used the same method to measure the importance-performance analysis in the steel industry (Singhet al. 2008). $GAP = (\text{Mean of Performance of a parameter} - \text{Mean of Importance of a parameter})$ i.e. $GAP = (MP - MI)$

When GAP is positive then it can be concluded that corporate is giving focus to those particular parameters and if it is negative, it requires the special attention.

3.RESULT & ANALYSIS:

The table 3.1 and graph 1 show that although the average or cumulative effects of corporate environmentalism have a negative impact on society where every industry follows their own practices. the sponge iron industry shows least deviation from their commitment to performance, followed by cement, integrated steel industry and most Gap persist in the thermal power plant. So, from these two tables and Graph show that in studied four types of industries the largest contribution in environmental pollution has thermal power plant, then integrated steel plant, cement and least in sponge iron industry.



GRAPH-1 INDUSTRY WISE AVERAGE GAP

Table 3.1
INDUSTRY WISE GAP ANALYSIS

SL NO	CORPORATE ENVIRONMENTALISM PARAMETERS ABBREVIATED FORM	GAP IN STEEL INDUSTRY			GAP IN SPONGE IRON INDUSTRY			GAP IN CEMENT INDUSTRY			GAP IN THERMAL POWER INDUSTRY			
		MP	MI	GAP	MP	MI	GAP	MP	MI	GAP	MP	MI	GAP	
1	P-1	3	4	-1	1.72	2.13	-0.4	1.33	1.33	0.00	0.95	1.6	-0.7	-0.5167
2	P-2	4	5	-1	1.58	1.93	-0.3	2.19	2.33	-0.15	0.95	2.4	-1.4	-0.7356
3	P-3	3	3	0	1	1.07	-0.1	1.17	1.17	0.00	1	2.4	-1.4	-0.3667
4	P-4	3.5	3.5	0	0.97	1.13	-0.2	1.86	2	-0.14	0.72	1.6	-0.9	-0.2942
5	P-5	4	4	0	1.8	1.8	0	2	2	0.00	1.8	2	-0.2	-0.05
6	P-6	3.63	4	-0.4	1	1	0	2.86	3	-0.14	1	1	0	-0.1288
7	P-7	3	3	0	1.15	1	0.15	3.17	3.17	0.00	1.44	2	-0.6	-0.1033
8	P-8	2	4	-2	1.57	1.93	-0.4	1.5	1.5	0.00	0.9	2.2	-1.3	-0.9167
9	P-9	2	2	0	0.92	1	-0.1	2	2	0.00	0.75	1	-0.3	-0.0833
10	P-10	2	2	0	0.93	1	-0.1	1.81	2	-0.19	0.8	1	-0.2	-0.1146
11	P-11	1	1	0	1.07	1.27	-0.2	1.24	1	0.24	0.8	1	-0.2	-0.0396
12	P-12	1	1	0	0.92	1	-0.1	1.24	1	0.24	0.75	1	-0.3	-0.0229
13	P-13	2.5	3	-0.5	1.33	1.6	-0.3	1.91	2	-0.09	1	2	-1	-0.4646
14	P-14	3	3	0	1	1	0	1.93	2	-0.07	1	2	-1	-0.2683
15	P-15	3	3	0	2.02	2.13	-0.1	1.43	1.33	0.09	1.67	2	-0.3	-0.0867
16	P-16	3.5	3.5	0	1.82	1.93	-0.1	2.79	2.83	-0.04	1.67	2.4	-0.7	-0.22
17	P-17	4	4	0	1.49	1.47	0.02	2.13	2.17	-0.04	1.67	1.6	0.07	0.01333
18	P-18	3	3	0	1.22	1	0.22	1.81	3	-1.19	1.67	2.4	-0.7	-0.4246
19	P-19	2.75	3	-0.3	1.4	1.6	-0.2	1.24	2	-0.76	1	1.6	-0.6	-0.4521
20	P-20	1.5	1.5	0	0.93	1	-0.1	2.5	2.5	0.00	0.78	2.2	-1.4	-0.374
21	P-21	2	2	0	1.8	2.13	-0.3	2	2	0.00	1	1.6	-0.6	-0.2333
22	P-22	3	3	0	1.03	1.07	-0.04	3	3	0.00	0.9	1	-0.1	-0.0333
23	P-23	3	3	0	0.99	1	-0.01	1.81	3	-1.19	0.98	1	-0	-0.3046
24	P-24	2	2	0	1.33	1	0.33	1.24	3	-1.76	2	4	-2	-0.8563
25	P-25	2	2	0	3.07	3.13	-0.1	2	2	0.00	3	3	0	-0.0167
26	P-26	3	3	0	1.33	1.53	-0.2	2	2	0.00	1	2	-1	-0.3
27	P-27	1	1	0	1.8	2.13	-0.3	2.5	2.5	0.00	1	2	-1	-0.3333
28	P-28	2	2	0	1.56	1.53	0.02	1.81	1.33	0.47	1.67	1.4	0.27	0.19208
29	P-29	2	2	0	1.33	1.53	-0.2	1.24	1.5	-0.26	1	1	0	-0.1146
30	P-30	2	2	0	1.63	2.13	-0.5	1.5	1.5	0.00	0.5	1	-0.5	-0.25
Industry Wise average GAP		-5.13			-3.21			-4.46			-18.4			

From the 3.1 – the GAP value of four different industries are taken together for reliability test through SPSS-16 version. The Alpha value of the Reliability analysis is 0.415 (Refer Table 3.2).

TABLE 3.2
RELIABILITY STATISTICS

CRONBACH'S ALPHA	N OF ITEMS
.415	4

It shows that the internal consistency of the value is very less. The result shows poor internal consistency may be due to the information collected from the locality and corporates that have some biased answers or may be influenced by others and due to that internal consistency of their feedback is not reliable. It indicates sample number must be increased from the selected study areas. Simultaneously, it also indicates that industry to industry opinion and operation differ, so the solution must be unique for an individual problem. It indicates the application of a universal or general model might call a big failure in the system.

On the other hand, the MP and MI value for individual industry have been taken for reliability test in SPSS 16 version and result displayed in Table 3.3.

Table-3.3		
RELIABILITY STATISTICS IN BETWEEN MP AND MI VALUE		
TYPE OF INDUSTRY	CRONBACH'S ALPHA	N OF ITEMS
Integrated Steel Industry	0.972	2
Sponge Iron	0.937	2
Cement industry	0.819	2
Thermal Power Plant	0.749	2

The reliability statistics show, that Alpha value of integrated steel industry, sponge iron, cement industry and thermal power plant are respectively 0.972, 0.937, 0.819 and 0.749. The consistencies of reliability statistics are highly acceptable and excellent for the integrated steel industry and sponge iron industry. Whereas in cement industry it is good and for a thermal power plant it is acceptable. From these two tables, it can be concluded that although MP& MI values are highly consistent whereas industry to industry the GAP values are inconsistent because the different industries give different priorities to different parameters.

From result and reliability statistics value, it is clear that the GAP persists in the industry to industry. Corporate environmentalism is influenced by culture, practices of a particular place. Following the above result, this hypothesis is formulated.

3.1) Testing of Hypotheses:-

Statistical hypothesis testing is very important to draw any conclusions. In the context of statistical analysis, null hypothesis and alternative hypothesis are widely applicable. It helps to compare two different opinions and to choose superior one. As analysis proceeds on the assumption and results show that both methods are equally good, and then this assumption is termed as the null hypothesis. Generally, in hypothesis testing the decision making proceed on the basis of the null hypothesis, keeping the alternative hypothesis in view (Kumar, 2005).

3.1.a) Testing of Hypotheses:-

Null Hypothesis: $H_1 = \mu_1$ (The Corporates Environmentalism Performance is influenced by Corporate environmental ethics.)

Alternative Hypothesis: $H_0 = \mu_0$ (The Corporates Environmentalism does not influence the corporate performance for environmental protection.)

To analysis and select the hypothesis the SPSS-16 version is used and a Students T-test has done. It compares two averages (means) and tells if they are dissimilar from each other. It also tells about the significance of the difference. The mean for each of the two groups is explained in the “Group Statistics” section. This output shows that the average difference between the performances of corporate environmentalism follower is 60.8261 and is 43.3750, for non-follower in the table- 3.1.a. It also indicates the sample numbers are 23 and 8 respectively.

T-TEST GROUPS=MI (2) /MISSING=ANALYSIS /VARIABLES=MP/CRITERIA=CI (.9500).

TABLE -3.1.a FOR GROUP STATISTICS

	MI	N	Mean	Std. Deviation	Std. Error Mean
performer OF CEVM	>= 2.00	23	60.8261	8.96281	1.86888
	< 2.00	8	43.3750	12.12951	4.28843

TABLE -3.1.b FOR INDEPENDENT SAMPLES TEST

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
performers OF CEVM	Equal variances assumed	.247	.623	4.329	29	.000	17.45109	4.03119	9.20638	25.69579
	Equal variances not assumed			3.730	9.799	.004	17.45109	4.67796	6.99887	27.90331

Using an alpha level of .05, an independent-samples t-test was conducted to evaluate, whether the average percentage of corporates environmentalism differed significantly as a function of whether MP was in a low performance or high-performance condition. The test was significant, $t(29) = 4.32, p < .05, d = .62$. The 95% confidence interval for the average percentage of MI ranged from 9.20 to 25.70. An examination of the group means to indicate that Performer of CEVM in the Mean Importance (MI ≥ 2) condition ($M = 60.820, SD = 8.96$) (on average) is significantly more than the corporates performer of CEVM in the Mean Importance (MI < 2) is ($M = 43.37, SD = 12.13$). Whereas in reference to **the table -3.1.b** for independent samples test, the Levene's Test for Equality of Variances shows significance (sig.) value is 0.623 which is greater than alpha level 0.05. Therefore, the equal variances assumed data are accepted.

The independent sample test signifies that p-value is .000 if equal variance assumed, which is highly significant. Even, if consider the next value, where equal variances not assumed then also p-value is .004. In both the cases at 95% confidence level, the p-value should be $< .05$ to accept the null hypothesis-(The Corporates Environmentalism Performance is influenced by Corporate environmental ethics) and reject the alternative. In this case, as p-value is less than .05 so, the Null hypothesis must be accepted and Alternative hypothesis rejected.

3.2. a)

Null Hypothesis: $H_2 = \mu_2$ (The Corporate should encourage the Zero GAP)

Alternative Hypothesis: $H_0 > \mu_0$ (The Corporate should move from the Zero GAP.)

TTEST GROUPS=AVERAGEGAP

(0.0)/MISSING=ANALYSIS/VARIABLES=MISTEEL MISSIRON MICEMENT MITHERMALPLAN T/CRITERIA=CI(.9500).

TABLE -3.2.a.i FOR GROUP STATISTICS

	AVERAGEGAP	N	MEAN	STD. DEVIATION	STD. ERROR MEAN
MI-STEEL	>= .00	3	2.5000	1.32288	.76376
	< .00	28	2.7321	1.01363	.19156
MI-SSIRON	>= .00	3	1.5111	.03849	.02222
	< .00	28	1.5071	.55817	.10548
MI-CEMENT	>= .00	3	1.8333	.44096	.25459
	< .00	28	2.0952	.65957	.12465
MI-THERMALPLANT	>= .00	3	1.4667	.11547	.06667
	< .00	28	1.8000	.72623	.13724

TABLE -3.2.a.ii FOR INDEPENDENT SAMPLES TEST

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MI steel	Equal variances assumed	.262	.613	-.368	29	.715	-.23214	.63053	-1.52172	1.05743
	Equal variances not assumed			-.295	2.259	.793	-.23214	.78742	-3.27395	2.80967
MI SSIRON	Equal variances assumed	6.737	.015	.012	29	.990	.00397	.32724	-.66531	.67325
	Equal variances not assumed			.037	28.687	.971	.00397	.10780	-.21661	.22455
MI CEMENT	Equal variances assumed	.735	.398	-.666	29	.510	-.26190	.39297	-1.06562	.54181
	Equal variances not assumed			-.924	3.061	.422	-.26190	.28346	-1.15397	.63016
MI THERMALPLANT	Equal variances assumed	3.588	.068	-.782	29	.440	-.33333	.42609	-1.20479	.53812
	Equal variances not assumed			-2.185	23.547	.039	-.33333	.15258	-.64856	-.01810

T-TEST GROUPS=average gap(0.0)/MISSING=ANALYSIS /VARIABLES=MP steel MPSSIRON MPCEMENT MPTPPLANT/CRITERIA=CI(.9500).

TABLE -3.2.a.iii FOR GROUP STATISTICS					
	Averagegap	N	Mean	Std. Deviation	Std. Error Mean
MPsteel	>= .00	3	2.5000	1.3228757	.7637626
	< .00	28	2.5491	.8554964	.1616736
MPSSIRON	>= .00	3	1.6156	.16317	.09421
	< .00	28	1.3813	.47640	.09003
MPCEMENT	>= .00	3	2.1450	.34620	.19988
	< .00	28	1.9024	.57685	.10901
MPTPPLANT	>= .00	3	1.4467	.38682	.22333
	< .00	28	1.1439	.51669	.09765

TABLE -3.2.a.iv INDEPENDENT SAMPLES TEST

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MPsteel	Equal variances assumed	1.072	.309	-.090	29	.929	-.0491071	.5440674	-1.1618499	1.0636356
	Equal variances not assumed			-.063	2.183	.955	-.0491071	.7806867	-3.1522988	3.0540845
MPSSIRON	Equal variances assumed	1.719	.200	.835	29	.410	.23425	.28046	-.33937	.80786
	Equal variances not assumed			1.798	6.895	.116	.23425	.13031	-.07484	.54333
MPCEMENT	Equal variances assumed	.948	.338	.708	29	.485	.24262	.34261	-.45810	.94334
	Equal variances not assumed			1.066	3.345	.357	.24262	.22767	-.44145	.92669
MPTPPLANT	Equal variances assumed	.139	.712	.979	29	.335	.30274	.30909	-.32943	.93490

TABLE -3.2.a.iv INDEPENDENT SAMPLES TEST

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MPsteel	Equal variances assumed	1.072	.309	-.090	29	.929	-.0491071	.5440674	-1.1618499	1.0636356
	Equal variances not assumed			-.063	2.183	.955	-.0491071	.7806867	-3.1522988	3.0540845
MPSSIRON	Equal variances assumed	1.719	.200	.835	29	.410	.23425	.28046	-.33937	.80786
	Equal variances not assumed			1.798	6.895	.116	.23425	.13031	-.07484	.54333
MPCEMENT	Equal variances assumed	.948	.338	.708	29	.485	.24262	.34261	-.45810	.94334
	Equal variances not assumed			1.066	3.345	.357	.24262	.22767	-.44145	.92669
MPTPPLANT	Equal variances assumed	.139	.712	.979	29	.335	.30274	.30909	-.32943	.93490
	Equal variances not assumed			1.242	2.830	.307	.30274	.24375	-.50000	1.10548

The “Group Statistics” section in table- 3.2.a.ii indicates that the output shows the average difference between the mean importance given to company with corporate environmentalism follower in steel industry is 2.5 and with the industry with low corporate environmental management importance is 2.732, for non-follower mean is slightly high. The corporate environmentalism follower mean in sponge iron industry is 1.511 and with the industry with low corporate environmental management importance mean is 1.50, for follower in mean is slightly high. The corporate environmentalism follower mean in cement industry is 1.8333 and with the industry with low corporate environmental management importance is 2.0952, for non-follower mean is slightly high. The corporate environmentalism followers in thermal power plant industry is 1.4467 and with the industry with low corporate environmental management importance is 1.8000, for non-follower mean is slightly high. It also indicates the sample numbers are 3 and 28 for each cases.

The “Group Statistics” section in table- 3.2.a.iii indicates that output has average difference between the mean importance given to company with corporate environmentalism follower in steel industry is 2.5 and with the industry with low corporate environmental management importance is 2.54, for non-follower the mean is slightly high. The corporate environmentalism follower in sponge iron industry is 1.615 and with the industry with low corporate environmental management importance is 1.38, for follower in mean is slightly high. The

corporate environmentalism follower in cement industry is 2.145 and with the industry with low corporate environmental management importance is 1.9024, for follower in mean is slightly high. The corporate environmentalism follower in thermal power plant industry is 1.4467 and with the industry with low corporate environmental management importance is 1.1424, for follower in mean is slightly high. It also indicates the sample numbers are 3 and 28 respectively.

Table -3.2.a.ii indicates for independent sample test indicates in Levens Test for equality of variance test shows significance value is greater than 0.05 integrated steel industries, cement industries and thermal power industries equal variances assumed for study and in sponge iron industry significance is <0.05 , so the equal variances are not assumed values are considered for study. The confidence level is 95%, so in every respect the p value must be less than <0.05 to accept null hypothesis. Using an alpha level of .05, the independent-samples *t* test was conducted to evaluate, whether the average percentage of corporates environmentalism differed significantly as a function of whether MP were in a low performance or high performance condition. The test was significant in integrated steel industry, $t(29) = -.3682, p > .05, d = .613$. The 95% confidence interval for the average percentage of MI ranged from -1.521 to 1.057. An examination of the group means indicate that importance of CEVM in the Mean Importance (MI \geq 0) condition ($M = 2.5, SD = 1.322$) (on average) is significantly more than the CEVM in the Mean Importance (MI $<$ 0) is ($M = 2.732, SD = 1.01363$). Similarly, the test was significant in cement industry, $t(29) = -.666, p > .05, d = .398$. The 95% confidence interval for the average percentage of MI ranged from

-1.06562 to 0.54181. An examination of the group means indicate that importance of CEVM in the Mean Importance (MI \geq 0) condition ($M = 1.8, SD = .44096$) (on average) is significantly more than the CEVM in the Mean Importance (MI $<$ 0) is ($M = 2.0952, SD = .65957$). In the same way for thermal power plant, $t(29) = -.782, p > .05, d = .068$. The 95% confidence interval for the average percentage of MI ranged from -1.20479 to 0.53812. An examination of the group means indicate that importance of CEVM in the Mean Importance (MI \geq 0) condition ($M = 1.466, SD = .11547$) (on average) is significantly more than the CEVM in the Mean Importance (MI $<$ 0) is ($M = 1.80, SD = .72623$). On the other hand, for sponge iron industry, $t(28.68) = -.037, p < .05, d = .015$. The 95% confidence interval for the average percentage of MI ranged from -2.1661 to 0.22455. An examination of the group means indicate that importance of CEVM in the Mean Importance (MI \geq 0) condition ($M = 1.5111, SD = .03849$) (on average) is significantly more than the CEVM in the Mean Importance (MI $<$ 0) is ($M = 1.50, SD = .55817$). Levene's Test for Equality of Variances shows that significance (sig.) value is 0.015 which is less than alpha level 0.05. Therefore, the 'Equal Variances Not Assumed' data are accepted.

Table -3.2.a.iv indicates for independent sample test indicates in Leven's Test for equality of variance test shows significance value is greater than 0.05 integrated steel industries, cement industries and thermal power plant and sponge iron industries, so equal variances assumed for study and in sponge iron industry significance is <0.05 , so 'THE EQUAL VARIANCES ARE NOT ASSUMED' values are considered for study. The confidence level is 95%, so in every respect the p value must be less than <0.05 to accept null hypothesis. Using an alpha level of .05, an independent-samples *t* test was conducted to evaluate, whether the average percentage of corporates environmentalism performance differed significantly as a function of whether MP were in a low performance or high performance condition. The test was significant in integrated steel industry, $t(29) = -.090, p > .05, d = .309$. The 95% confidence interval for the average percentage of MP ranged from -1.161 to 1.063. An examination of the group means indicate that Performance of CEVM in the Mean Performance (MP \geq 0) condition ($M = 2.5, SD = 1.322$) (on average) is significantly less than the CEVM in the Mean Performance (MP $<$ 0) is ($M = 2.54, SD = .8555$). Similarly, the test was significant in cement industry, $t(29) = 0.708, p > .05, d = .338$. The 95% confidence interval for the average percentage of MP is ranged from -.45810 to 0.94334. An examination of the group means indicate that Performance of CEVM in the Mean Performance (MP \geq 0) condition ($M = 2.14, SD = .346$) (on average) is significantly more than the CEVM in the Mean Performance (MP $<$ 0) is ($M = 1.9024, SD = .576$). In the same way for thermal power plant, $t(29) = .979, p > .05, d = .712$. The 95% confidence interval for the average percentage of MP ranged from -.32943 to 0.93490. An examination of the group means indicate that Performance of CEVM in the Mean Performance (MP \geq 0) condition ($M = 1.466, SD = .38682$) is significantly more than the

CEVM in the Mean Performance ($MP < 0$) is ($M = 1.14, SD = .51669$). In sponge iron industry, $t(29) = .835, p > .05, d = .200$. The 95% confidence interval for the average percentage of MP ranged from $-.33937$ to 0.80786 . An examination of the group means indicate that Performance of CEVM in the Mean Performance ($MP \geq 0$) condition ($M = 1.616, SD = .16317$) is significantly more than the CEVM in the Mean Performance ($MP < 0$) is ($M = 1.38, SD = .47460$).

The result shows p value in every case is higher than .05, except MI p value of thermal power plant it is .039 if equal variances not considered. Table 4.5.2.vii also shows the negative trends in maximum from MI to MP in thermal power plant, so their approach towards zero growth might be encouraged. **Statistically, the Null hypothesis must be rejected and Alternative hypothesis must be accepted.** It says, zero differences is not satisfactory, we have to move towards positive changes for holistic growth of the society.

4. Conclusion:

In reference to the above discussion, it is clear that industries are indulging towards environmental conservation. Among the studied 30 parameters, only three are positive irrespective of all studied industries. These parameters are 17, 28 & 31. They are conducting effective operation and maintenance of pollution control systems, considering design for disassembly, reusability and recyclability, Conserving flora and fauna respectively.

Corporate social responsibility is the compulsory activity for all corporates and corporate environmentalism is a part of it but all over the world no standard rules or guideline are defined. So by compulsion, many of them are adopting corporate environmentalism but they are setting the parameter as per their choice and pollution continued.

The above study indicates; the GAP persists from negative to zero to positive among the variables studied industries. This diversity indicates that some of them are sceptical to adopt environmental measures whereas some of them are gladly accepting the concept of corporate environmentalism. An immediate attention is required to restructure the CEVM and its' standardization requires the following:-

- An expert advisory committee should be created by the central ministry to prepare a guideline or Pro-forma for the corporate environmentalism.
- The commitment must be achieved by the all corporate.
- A standard parameters should be maintained by all corporate for corporate environmentalism.

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