

# PERCEPTION OF CORPORATES TOWARDS CLIMATE CHANGE

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## Abstract

Intergovernmental Panel on Climate Change (IPCC) Assessment Report has depicted that the world will be much warmer by the next century as compared to the pre-industrialization era. It has been forecasted that rising global warming levels can have devastating results which will be beyond any reparable capacity. The process of industrialization in the name of urbanization and modernization, is adding more negativity instead of leading us to a new world. If the impact of corporate activities with respect to climate and ecology is not considered, it may render all our previous efforts towards conservation of ecological balance as futile, whether it may be in the form of high level agreements such as Kyoto Protocol, Sustainable Development Goals, Paris Agreement 2015 of voluntary efforts such as the Nationally Determined Contributions. This paper aims to understand the need and concern of the corporate sector towards climate change. Stakeholder approach methodology was involved along with extracting data through questionnaires, active discussions, participatory models and secondary evidences.

**Keywords:** Climate Change, Climate Change Strategy, Evidence Based Decision Making.

## 1 Introduction

Empirical evidences and statistical models have been established to study the impact of anthropogenically induced emissions over the ecology of the concerned area. Unfortunately, a J Shaped rising curve has been witnessed in the last four decades depicting a gloomy picture of how human activities damage the environment specifically by the industrialized activities. With the advent of industrial revolution 4.0, the corporate sector, instead of becoming an eco-friendly IT hub, it is becoming an E-Waste Hub. With million tonnes of E-Waste being generated annually, the quantum of elements like arsenic, lead, mercury, cadmium is on the rise. Today some corporates have accumulated colossal net worth which is even more than the Gross Domestic Product (GDP) of some countries. Their actions affect not just a particular segment but entire global community. Unfortunately, these corporates have been amassing this wealth at the expense of society and ecology. Therefore an effort is needed to understand and interpret how their activities are affecting the society at large and how can their harmful actions be mitigated.

Much activism has been seen in this regard since the 19<sup>th</sup> century. Concepts of Corporate Social Responsibility (CSR) being imposed as a mandatory provisions in company laws is an appreciable step to make the large corporates understand the need to pay back to the society. With the incidents like ozone layer depleting at a rapid rate, arctic and Antarctic losing ice sheets, rare and endemic species becoming extinct, the world becoming a warmer place, immediate efforts are required to maintain and conserve ecology. Thus a new wave of preserving and reversing climate change should be witnessed.

In the light of the corporate world, I propose that the concept of Climate Change Strategy (CCS) be used for studying the corporate behavior, their impact on climate change and their willingness to adopt efficient technologies. CCS behaves like an index and provides a before and after effect statement providing companies a view point that how much proactive they were in dealing with climate change issues and what were the results obtained by them.

## 2 Objectives of the Study

The objectives of this study are to understand the concern of the corporate sector towards the aspects of climate change. Particular analysis has been made with respect to the Indian corporate sector to solve the below perspectives:

- To evaluate whether the respondents coming from the Indian corporate sector believe that their actions are aiding to the human induced climate change.
- To evaluate whether the Indian corporate sector understands the need to adopt a formal Climate Change Strategy (CCS)
- To evaluate whether the number of business organizations adopting CCS are rising or falling
- To evaluate whether the companies feel the requirement of having mandatory provisions for implementing CCS.

### 3 Literature Review

Human induced climate change is considered amongst the top ten global risks (Global Risk Report 2018, WEF, 2018) The irrecoverable damages caused by the anthropogenic interferences, for example rising temperatures, changes in rainfall patterns & sea-levels and frequent weather-specific disasters, are already posing huge threats to the lives and livelihoods more severely in the developing countries calling for urgent unprecedented cooperation at global level (World Bank, n.d.). While the shift from the Kyoto protocol to the Paris climate agreement reflects the global integrated efforts for emission reduction, the Millennium Development Goals (MDGs) have also given way to Sustainable Development Goals (SDGs) under the UN. These shifts in responsibilities towards all categories of countries instead of developed countries only confirm the transformation in commitments also from binding to non-binding. These responsibilities, therefore, have taken the shape of voluntary instead of mandatory commitments for climate conservation. IFC estimates that developing countries including India can meet the NDCs submitted under Paris Climate Agreement by means of not only policy reforms but of suitable conditions for business and innovative business practices which highlights the significant contributions corporate can make by virtue of having control over finances, innovation and other tools (Press Trust of India, 2017).

Climate change issues have deep association with society, corporate and governance. Fulfilling these non binding commitments is dependent on the voluntariness of the corporate to adopt sustainable practices manifesting latent proactivity. India, being a responsible party to these international forums cannot let its corporate be perpetually reluctant as their contributions in carbon footprint will go a long way in helping Indian government achieve these commitments. The global commitments under NDCs and SDGs compels Indian government to solicit higher corporate support based on their voluntary adoption of climate conservation practices by displaying proactivity as the political compulsions of governments restrict them from enacting tougher regulations.

The emergence of climate change strategy (CCS) and reactivity is a recent phenomenon which reflects different corporate approaches of either acting beyond compliance of the laws to ensure climate conservation or their mere compliance (Moreno & Reyes, 2013). CCS represents the corporate behavior displayed by corporate through adopting practices of pollution prevention and providing managerial support to climate (Menguc, Auh, & Ozanne, 2010). CCS can be construed to be culmination of the corporate efforts under the influence of the consciousness for climate conservation (Hunt & Auster, 1990). Researchers have made efforts to classify the climate strategies on the basis of degree of practices ranging from passivity to proactivity through reactivity following a behavioral pattern continuum (Buisse & Verbeke, 2003; Henriques & Sadorsky, 1999; Hunt & Auster, 1990; Murillo-Luna, Garces-Ayerbe, & Rivera-Torres, 2008; Roome, 1992; Winsemius & Guntram, 1992).

Freeman has suggested that a firm may have multiple stakeholders such as customers, suppliers, managers, communities, shareholders, workers, unions etc., influencing their performance (Freeman, 1984, p. 46). The stakeholders' continuous demand and pressure growth for fulfillment of their needs has urged corporate to integrate their issues in decision making process and strategies in collation with environment upgradation (Hart, 1995; Kassinis & Vafeas, 2006).

Companies globally have tried to integrate their climate strategies in their core strategy for negating the consequences of irreversible climatic damages, in recent times. It is imperative for every single person on the earth to preserve the integrity of mother earth. The havoc created by the disturbance in environment affects the corporates most. Consequently, it affects the entire society as the corporates have a positive relationship with the societal change. The stakeholders pressurize the corporates to adopt climate conservation strategy. Barnett (2007) argues that CCS can enhance corporate financial performance through suitable positioning amongst stakeholders while the studies of Kolk & Pinkse (2004, 2005, 2007) posit that competitive

advantage through effective climate proactive reputation can be gained by the corporates. And the society as a whole build the negative image of big polluters.

#### 4 Data Collection

The endeavor was to collect data from diverse range of sources so as to represent multifaceted views. The intended participants were to be identified from different segments and components of the Indian industry. They were identified using probability based sampling strategy. Selected sample represented diverse categories constituting Customers, Suppliers, Buyers, Sellers, Investor, Business houses, Bankers, Corporate Employees (from middle and upper level management), Corporate Employees (from lower level management), Media personnel, Management students, NGO Activists and Regulatory Authority/working in such capacity in a Regulatory Body. Based on their profiles, they were considered to be informed and responsible respondents. They were provided with a questionnaire to be replied within a flexible period of 5-months period of July 2019 - November, 2019.

The questionnaire was bifurcated into two parts. The first required demographic details such as gender, age, current employment, education and the second part tried to record the perceptions of the respondents towards climate change.

Out of a total of 1,200 invited applications, we recorded a response rate of 45.83% by receiving 550 responses. 24 responses were considered defective. Therefore sample comprising of 526 (a response rate of 43.83%) usable responses were used for this research.

#### 5 Research Methodology

Once the sample was collected a combination of descriptive and analytical approach were deployed. Quantitative measurements in the form of mean, frequency distribution, standard deviation, skewness and kurtosis were utilized along with t-test and Analysis of Variance (ANOVA) tools to study the data. The mean of each response at individual level was awarded on a 5 point scale. Score ranged from 1 indicating No Possibility or 0 concurrence and 5 indicting 100% concurrence. Skewness and kurtosis reported the presence of extreme values in the data and the tilting of variables to a particular side. Adequate efforts were taken so as to obtain true and fair results.

#### 6 Research analysis

The sample size reflected different sets of data. The following tables highlight the type of component of the sample size which was researched upon:

**Table I: Gender Profile**

Gender	Responses (N)	Percentage
Male	350	66.54%
Female	176	34.46%
<b>Total</b>	<b>526</b>	<b>100%</b>

**Table II: Age Profile**

Category	Responses (N)	Percentage (%)
Below 18 Years	15	2.86%
18-29 Years	112	21.29%
30-44 Years	210	39.92%
45-59 Years	167	31.75%
60 Years and above	22	4.18%
<b>Total</b>	<b>526</b>	<b>100%</b>

**Table III: Educational Profile**

Highest Education	Responses (N)	Percentage
PhD & Above	56	10.65%
Post Graduate	290	55.13%
Graduate	170	32.32%
10th Standard	10	1.90%
Below 10th Standard	0	0.00%
<b>Total</b>	<b>526</b>	<b>100%</b>

**Table IV: Respondents category**

Category	Responses (N)	Percentage
Customer/Buyer	112	21.29%
Supplier/Seller	26	4.94%
Investor	35	6.65%
Owner of a Business	48	9.13%
Lender/Banker/FI	40	7.60%
Empl. (Mgmt)	130	24.71%
Empl. (NonMgmt)	43	8.17%
Student of HEI	40	7.60%
Media	16	3.04%
NGO Activist	20	3.80%
Regulatory Authority	16	3.07%
<b>Total</b>	<b>526</b>	<b>100%</b>

### Whether Indian companies are responsible for anthropogenically induced climate change

The first research question asked the respondents about their views regarding the actions of Indian companies. Whether those actions are causing climate change or not. Their responses were later compared with those of the reports prepared by IPCC, United Nations Environment Program and Ministry of Environment, Forests and Climate Change. Mean levels ( $M$ ) higher than three ( $M > 3$ ) reflect consonance while mean levels less than three ( $M < 3$ ) reflect dissonance. Mean level equal to three ( $M = 3$ ) reflects neutral reaction with no skewness to either side. The mean level of responses of all the respondents ( $M=3.79$ ) shows that the respondents believe that they are responsible for human induced climate change.

**Table V: Views towards climate change**

Respondents (N)	Mean	Std. Dev.	Min.	Max.	Skewness	Kurtosis
526	3.79	0.53	1	5	-1.14	1.17

With statistical analysis, it was discovered that this opinion does not vary on the basis of the gender, age category and highest education of the respondents. The F-ratio (which is the ratio of the inter group estimate to the intra group estimate) has a p-value of not less than 0.05 which reflects that there is a statistically insignificant difference between the mean levels of opinions on the basis of gender and age category. Insignificant differences are also found in the perceived opinion of the stakeholders based on their highest education as the t-test statistics had a p-value of not less than 0.05.

### Whether Indian companies require adoption of formal Climate Change Strategy

The next question was asked to evaluate whether the respondents suo-moto believe that they require adoption of Climate Change Strategy (CCS) as a part of their operational structure. Mean levels ( $M$ ) higher than three ( $M > 3$ ) reflect consonance while mean levels less than three ( $M < 3$ ) reflect dissonance. Mean



level equal to three ( $M = 3$ ) reflects neutral reaction with no skewness to either side. The mean level of responses of all the respondents ( $M=4.03$ ) shows that the respondents believe that they require to adopt a formal CCS

**Table VI: Adoption of CCS**

Respondents (N)	Mean	Std. Dev.	Min.	Max.	Skewness	Kurtosis
526	4.03	1.184	1	5	-0.805	-0.441

With statistical analysis, it was discovered that this opinion does not vary on the basis of the gender, age category and highest education of the respondents. The F-ratio (which is the ratio of the inter group estimate to the intra group estimate) has a p-value of not less than 0.05 which reflects that there is a statistically insignificant difference between the mean levels of opinions on the basis of gender and highest education. However, some differences were reported in the views of the respondents based on age category since the t-test statistics had a p-value of less than 0.05.

### The trend in number of companies adopting CCS is rising or falling

The next question inquired whether the Indian corporate sector is adhering to the climate change preservation framework and protocols or the companies are not adopting them. Mean levels ( $M$ ) higher than three ( $M > 3$ ) reflect consonance while mean levels less than three ( $M < 3$ ) reflect dissonance. Mean level equal to three ( $M = 3$ ) reflects neutral reaction with no skewness to either side. The mean level of responses of all the respondents ( $M=3.10$ ) shows that the number of companies adopting CCS are more or less the same. Therefore any major variation is not witnessed in the number of companies adopting climate change strategy.

**Table VIII: CCS Trends**

Respondents (N)	Mean	Std. Dev.	Min.	Max.	Skewness	Kurtosis
526	3.10	0.813	1	5	-0.346	-0.079

With statistical analysis, it was discovered that this opinion does not vary on the basis of the gender, age category and highest education of the respondents. The F-ratio (which is the ratio of the inter group estimate to the intra group estimate) has a p-value of not less than 0.05 which reflects that there is a statistically insignificant difference between the mean levels of opinions on the basis of gender and age category. Insignificant differences are also found in the perceived opinion of the stakeholders based on their highest education as the t-test statistics had a p-value of not less than 0.05.

### The need of stern regulatory scenario

The next research question obtained information about the views of the respondents regarding the enforcement of stern climate protection laws. This was further aided by a specific question about the requirements of Corporate Social Responsibility under the Indian Companies Act, 2013. Mean levels ( $M$ ) higher than three ( $M > 3$ ) reflect consonance while mean levels less than three ( $M < 3$ ) reflect dissonance. Mean level equal to three ( $M = 3$ ) reflects neutral reaction with no skewness to either side. The mean level of responses of all the respondents ( $M=1.37$ ) shows the unwillingness of most of the respondents towards a regulatory mechanism to guide them what should be done and what should not be.

**Table VII: Requirement of regulatory framework**

Respondents (N)	Mean	Std. Dev.	Min.	Max.	Skewness	Kurtosis
526	1.37	0.56	1	5	0.04	-0.634

With statistical analysis, it was discovered that this opinion does not vary on the basis of the gender, age category and highest education of the respondents. The F-ratio (which is the ratio of the inter group estimate to the intra group estimate) has a p-value of not less than 0.05 which reflects that there is a

statistically insignificant difference between the mean levels of opinions on the basis of gender and highest education. However, some differences were reported in the views of the respondents based on age category since the t-test statistics had a p-value of less than 0.05.

## 7 Research Conclusion

This research aimed at understanding the concerns of the corporate sector towards the climate change scenario. The study was able to provide solutions to the questions such as whether the corporate sector assumes its responsibility towards the environment or not. A thoroughly created survey was done to document the opinion of the industry. A mean level of 3.79 was recorded along with standard deviation of 0.53 highlighting that Indian Corporate response has been close to neutral and they are not eagerly accepting that these factors are inducing climate change neither they absolutely denying that their efforts cannot lead to climate change. However if talked about in a wider context, the corporate sector acknowledges that their activities are linked to human induced environmental degradation. The mandatory provisions of Corporate Social Responsibility as prescribed under Section 135 of the Indian Companies Act, 2013 has aided in the process of making the stakeholders realize their responsibilities. Analyzing results about whether the companies require adoption of formal Climate Change Strategy (CCS), mean level of 4.03 report that the respondents heavily believe that they require a formalized CCS. However they believe in voluntary efforts rather than being pressurized under a mandatory regulation. Since the present research is based on a reflective sample size out of a total population it is plausible that the present research may not be able to generate a generalized view point of the entire Indian corporate sector. The research being exploratory requires to be affirmed with other corresponding studies. By increasing sample size and by involving higher number of participants, new results can be expected. These limitations thus pave the path for future researches.

It can be concluded that inclusive growth in a sustainable manner is imperative for ensuring faster and sustained economic growth. The Indian corporate sector believes that climate change is real and climate change is here.

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