

# Role of CSR on environmental sustainability with respect to manufacturing industries in Chennai: employees' perspective

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## ABSTRACT

**Aim:** In today's business world, where CSR is vital responsibility of organisations, many studies have contributed its importance, where as its role on environmental sustainability does not have adequate studies with respect to manufacturing industries in Chennai. So, the purpose of the paper is to examine the role of CSR on environmental sustainability of the manufacturing firms. The independent variable is CSR, and the factors considered are CSR to community, CSR to environment, CSR to consumers and CSR to employees. The dependent variable is Environmental Sustainability which is considered as univariable.

**Research design:** Data was collected from 100 respondents from manufacturing firms in Chennai through a structured questionnaire adapted from Farooq et al., (2014); and Turker, (2009) scale. The data was collected using simple random sampling technique. The collected data was analysed using SPSS software the statistical tools used were descriptive statistics, correlation and regression.

**Findings:** The findings of the study indicated that there is a strong relationship between the factors of CSR and Environmental sustainability. Among the CSR factors, we have gained CSR to consumers scored high mean scores (3.7680). CSR to community was higher correlated with environmental sustainability. The regression analysis shows that that there is 60% variance( $r=0.600$ ) which indicates that CSR is predicting 60% of environmental sustainability.

**Practical implications and limitations:** This study suggests important guidelines for the future researchers to understand the impact of CSR activities and the environmental sustainability development for the manufacturing firms in Chennai. The study also recommends extended study to the other cities in India and the financial impact of the environmentally sustainable development of the companies which can be examined in the future studies.

**Keywords:** CSR to community; CSR to environment; CSR to consumer; CSR to employees; Environmental sustainability; Manufacturing industries.

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## 1.0 Introduction

Corporate Social Responsibility has become one of the most researched topics in the business world. In the advent of re-defining the process of business, the question of what is the contribution from a corporate to the society has risen. Firms are starting to invest in CSR activities not only as a part of the Government regulation but also as a part of business process. Bowen was the first to coin the term in his book titled "Social responsibilities of Business" in 1953, he defines CSR as "CSR refers to the obligations of businessmen to pursue those policies... which are desirable in terms of the objectives and values of our society". (1)

Corporate social responsibility as the name indicates is the social responsibility of the corporate towards the society in return of the resources that the corporate obtains from the society.

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Due to the advent of environmental damage, the focus of the international organisations like the United Nations, has turned towards environmental sustainability. Robert Goodland in 1995 defined the concept of Environmental sustainability as, “Environmental sustainability is the maintenance of natural capital”. (2)

With the advent of changes in technology, CSR as a practise also has been subject to numerous changes. Now the definition of CSR has changed to include Environmental sustainability. It has now become mandatory for the firms to promote environment while carrying out their business. The companies have now begun to focus on sustainable development for the purpose of success, innovation and profitability. (3)

CSR in manufacturing industries is an emerging topic of study. As the manufacturing industries in their day to day operations to business, become a cause of environmental damage and pollution, CSR is seen as a way for the manufacturing industries to reduce the damage made by them to increase long term performance and stakeholder trust. (4)

The corporates are promoted to focus on Environmental Sustainability development as a part of their CSR. The biggest challenge of Corporate Social Responsibility is Environmental sustainability (5). More focused is placed on the manufacturing industries as manufacturing industries are one of the major causes of environmental damage. In manufacturing industries where, high operational performance is required, the importance of CSR implementation in an uncertain and competitive market environment is highlighted. (6,7) The CSR activities towards environmental sustainability in manufacturing industries is a developing field of study. “As the manufacturing firms create a lot of pollution, for that green innovation is needed for the firms to reduce their pollution effects for the firms pursuing CSR strategies this can increase profits, and the company can have a competitive advantage.” (8,9,10). Manufacturing industries are researching various means by which they can promote environmental sustainability.

This study investigates the role of CSR on environmental sustainability with the respect to manufacturing firms from the perspective of the employees.

## **2.0 Objective**

The objective of the study is to examine the role of CSR on environmental sustainability with respect to manufacturing industries in Chennai: employees’ perspective.

## **3.0 Literature review**

For the purpose of this study, CSR has been analysed from the aspects of CSR to community, CSR to environment, CSR to consumers and CSR to employees towards its impact on environmental sustainability.

### **3.1 CSR to community**

Adewuyi and Olowookere (2010) examined the impact of CSR activities on sustainable community development for cement Industry in Nigeria Africa, the results indicated that there is a significant relationship between CSR activities and sustainable community development. The CSR activities of the cement industry led to the improvement in the sectors of health, education and electricity. (13)

Velva et al., (2003) analysed the impact of sustainable community development on environmental sustainability development for pharmaceutical companies following the Global Reporting Initiative. The results indicated that there is a strong relationship between sustainable community development and environmental sustainability development. (14)

H1a: CSR to community has a significant positive impact on environmental sustainability

### **3.2 CSR to environment**

Reinhardt et al.,(2008) examined the impact of CSR activities on environment protection of manufacturing companies in USA. The results indicated that there is a significant positive relationship between CSR activities and environment protection. (15)

Woźniak et al., (2020) analysed the impact of CSR environmental activities on environmental sustainability development in the mining area of Zloczew municipality in Poland. The results indicated a significant relationship between CSR environmental activities on environmentally sustainable development. (16)

H1b: CSR to environment has a significant positive impact on environmental sustainability

### **3.3 CSR to consumers**

Ramasamy and Yeung (2009), analysed the corporate social responsibility activities from consumer's perspective in China. The results indicated that economic responsibility activities by the companies are given more weightage by the consumers while considering corporate social responsibility activities. (17)

Fabinyi and Liu (2014) examined the role of consumer-oriented CSR on environmental sustainability development in seafood manufacturing companies in Beijing, China. The results indicated that there is a significant relationship between consumer-oriented CSR and environmental sustainability. (18)

H1c: CSR to consumers has a significant positive impact on environmental sustainability

### **3.4 CSR to employees**

Ali et al., (2020), analysed the impact of CSR implementation on the employee performance in the manufacturing industries in the country of Pakistan. The study also analysed the intervening role of Employee Engagement (EE). The results indicated that CSR implementation has a significant relationship with the employee performance and the Employee engagement partially mediates CSR and employee performance. (19)

Farooq et al., (2019) examined the impact of employee participation in the CSR activities of the company with environmentally sustainable development. The results indicated a significant positive relationship between employee participation in CSR activities and Environmental Sustainability development. (20)

H1d: CSR to employees has a significant positive impact on environmental sustainability

### **3.5 Environmental sustainability**

Orlitzky et., al (2011) analysed the impact of voluntary CSR activities on environmental sustainability. The results indicated that voluntary CSR activities in a company has a positive significant influence on environmental sustainability. (21)

Babiak and Trendafilova (2011) examined the diffusion of environmentally sustainable CSR activities in a company and the motivation to perform those activities and indicated that strategic motive was the primary reason for adopting of environmentally sustainable CSR activities. (22)

H0: There is no significant relationship between CSR and environmental sustainability

## **4.0 Research methodology**

The variables of the study were measured through questionnaire adapted from the survey of Farooq et al., (2014) (10); Turker, (2009) (11) for CSR and Bansal (2005) (23) for Environmentally

sustainable development.

The questionnaire was distributed to employees engaged in CSR of 30 manufacturing firms in Chennai, using simple random sampling technique. The initial number of respondents were 120 but after testing for validity of the responses 100 responses were deemed to be fit for the study.

## 5.0 Analysis and interpretation

### 5.1 Descriptive statistics

The questionnaire is designed from these research articles and their standard deviation are given below:

Corporate Social Responsibility (CSR) (Farooq et al., 2014; Turker, 2009)	
CSR is measured to what extent do you agree or disagree with the following statements on a 7-point Likert-scale (7–Strongly Agree, 1–Strongly Disagree)	
CSR to Community (CSRComm)	
CSRComm1-Our organization gives adequate financial contributions to charities	0.66142
CSRComm2- Our organization supports the non-governmental organizations working in the problematic areas	0.56237
CSRComm3- Our organization contributes to the campaigns and projects that promote the well-being of the society	0.75852
CSR to Environment (CSREnv)	
CSREnv1- Our organization participates to the activities which aim to protect and improve the quality of the natural environment	0.68785
CSREnv2- Our organization makes investment to create a better life for the future generations	0.89188
CSREnv3-Our organization implements special programs to minimize its negative impact on the natural environment	0.75015
CSREnv4- Our organization targets a sustainable growth which considers to the future generations	0.30151
CSR to Consumer (CSRCons)	
CSRCons1-Our organization protects consumer rights beyond the legal requirements	0.30151
CSRCons2-Our organization provides full and accurate information about its products to its customers	0.49686
CSRCons3-Customer satisfaction is highly important for our organization	0.65905
CSR to Employees (CSREmp)	
CSREmp1- Our organization encourages its employees to participate to the voluntary activities	0.71092
CSREmp2-Our organizational policies encourage the employees to develop their skills and careers.	0.7321
CSREmp3-The management of our organization primarily concerns with employee's needs and wants.	0.69126
CSREmp4-Our organization implements flexible policies to provide a good work and life balance for its employees	0.665284
CSREmp5-The managerial decisions related with the employees are usually fair	0.66901
CSREmp6-Our organization supports employees who want to acquire additional education	0.62356
Environmentally Sustainable Development (ESD) (Bansal, 2005)	
Environmental Sustainability Development (Envsus) is measured to what extent do you agree or disagree with the following statements on a 7-point Likert-scale (7–Strongly Agree, 1–Strongly Disagree)	
Envsus1- Our organization manufactured products that have a less environmentally harmful impact than in previous years or than its competitors	0.782
Envsus2- Our organization manufactured products with less environmentally damaging inputs than in previous years or than its competitors	0.747
Envsus3- Our organization handled or stored toxic waste responsibly	0.57654
Envsus4- Our organization reduced waste by streamlining processes.	0.47869
Envsus5- Our organization reduced likelihood of environmental accidents through process improvements	0.85628
Envsus6- Our organization reduced environmental impacts of production processes or eliminated environmentally damaging processes	0.67841

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Csrcommunity	100	2.00	4.20	3.5860	.46732
Csrenvironment	100	2.00	4.20	3.4280	.56068
Csrconsumer	100	3.00	4.20	3.7680	.28101
Csremmployee	100	1.80	4.20	3.5560	.47104
Environmentsustainability	100	2.80	4.20	3.6560	.32793
Valid N (listwise)	100				

It can be seen from the descriptive statistics that CSR to consumers are given a higher weightage by the employees as compared to other aspects of CSR. Higher ratings are given for the questions concerning the consumer protection which the employees feel that their companies are implementing

## 5.2 Correlation analysis

Then, correlation analysis is done to find the impact of the independent variables on Environmental sustainability

### 5.2.1 CSR to community

H1a: CSR to community has a significant positive impact on Environmental sustainability

Independent variable	Dependent variable	Significance level	Correlation co-efficient
CSR to community	Environmental sustainability Development	0.00	0.572**

From the correlation analysis, it can be concluded that CSR to community has a positive significant impact on Environmental sustainability for 57.2%, at 1% level of significance. Hence, H1a is accepted.

### 5.2.2 CSR to Environment

H1b: CSR to Environment has a significant positive impact on Environmental sustainability

Independent variable	Dependent variable	Significance level	Correlation co-efficient
CSR to Environment	Environmental sustainability Development	0.00	0.510**

From the correlation analysis, it can be concluded that CSR to environment has a positive significant impact on Environmental sustainability for 51% at 1% level of significance. Hence, H1b is accepted.

### 5.2.3 CSR to consumer

H1c: CSR to consumer has a significant positive impact on Environmental sustainability

Independent variable	Dependent variable	Significance level	Correlation co-efficient
CSR to Consumer	Environmental sustainability Development	0.00	0.331**

From the correlation analysis, it can be concluded that CSR to consumer has a positive significant impact on Environmental sustainability for 33% at 1% level of significance. Hence, H1c is accepted.

#### 5.2.4 CSR to employees

H1d: CSR to employees has a significant positive impact on Environmental Sustainability development

Independent variable	Dependent variable	Significance level	Correlation co-efficient
CSR to Employees	Environmental sustainability Development	0.00	0.422**

From the correlation analysis, it can be concluded that CSR to Employees has a positive significant impact on Environmental sustainability for 42.2% at 1% level of significance. Hence, H1d is accepted.

### 5.3 Regression analysis

Regression analysis was done to determine the variance of the model and how much CSR predicts environmental sustainability.

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.666 <sup>a</sup>	.444	.440	.29520

a. Predictors: (Constant), EMPL, CONS, Community, ENV

The regression analysis shows that there is 60% variance ( $r=0.600$ ) which indicates that CSR is predicting 60% of environmental sustainability. The employees perceive that CSR predicts 60% of environmental sustainability.

## 6.0 Discussion

Thus, based on the analysis, it can be concluded that all the aspects of CSR have a significant positive impact on environmental sustainability. The results are related to the previous study of Shahazad et al., (2019) further strengthening their study.

Among the factors, CSR to community has the highest positive impact on environmental sustainable development. The employees perceive the contribution made towards the society. The employees feel that the activities provided by the manufacturing companies to the local community such as local Clean up initiative, Water resources development, Youth environmental awareness initiative, and promoting anti plastic initiatives have a higher impact on environmental sustainability which the companies should carry on to promote environmental sustainability. This supports the study of Velva et al., (2003).

Even though CSR to consumers has the highest mean, it is the lowest correlated with environmental sustainability as the employees feel that by focusing on consumer development, Environmental sustainability will not be given much importance which can be seen as an area of improvement for the companies. The companies can promote consumer development by promoting activities such as Green production which will reduce the cost for the consumers and promote environmental sustainability, producing durable products with lesser wastage that increases the

durability for the consumers and reduces wastage for the environment and coming with smaller initiatives like rewarding discounts for the consumers for avoiding plastic bags. This is in contrast to the study of Fabinyi and Liu (2014).

In the regression analysis, it is found that from the perspective of the employees, CSR predicts 60% of environmental sustainability. Thus, when the companies provide CSR to community by providing services and help improve the local community, promote environmental development through activities providing loan to the farmer background employees, saving farm lands CSR to employees by improving employee welfare with the activities such as, educating the employees on environmental sustainability, offering incentives to employees for taking public transportation, rewarding employees for engaging in activities that promote the environment like recycling. CSR to consumers by promoting consumer development with activities like providing loyalty points for the consumers for recycling the products, CSR to environment with activities like conservation of the local environment, pollution level reduction initiatives, planting of trees around the factory area and avoiding the usage of paper. There will be an increase in environmental sustainability development by 60%. The result is supported by the study of Olitzky et., al (2011).

Thus, with the aspects of CSR, the companies can carry out environmental sustainability activities like green manufacturing initiatives, re-using scape products to avoid wastage.

## **7.0 Conclusion**

The author examined the relationship between role of CSR on environmental sustainability with respect to manufacturing industries in Chennai and concluded that CSR activities make the industries cautious about environment and promote environment sustainability which is the need of the hour.

## **8.0 Practical implication**

There is not much studies showing the impact of CSR on environmental sustainability in Chennai. This paper removes that barrier for the researchers trying to analyse the impact of the aspects of CSR on environmental sustainability the study will be useful for the researcher to understand the role of CSR on environmental sustainability. The corporates will be able to identify the activities that promote environmental sustainability. The study also reveals the awareness of the CSR activities of the firm among the employees. Based on the ratings provided the corporates can identify how much awareness the employees have about the CSR activities. The study also indicates the aspects of CSR the researcher can focus upon when examining the CSR activities of companies in Chennai.

## **9.0 Limitations**

The study only focuses on the Chennai City. The study takes into account only the perspective of the employees. The study only analyses the four aspects of CSR community, employees, consumers and environment.

## **10.0 Suggestions and Recommendations**

The study can be further extended with a bigger number of respondents and adding variables like CSR regulations, financial impact. The future studies can include any other aspect to measure CSR. The study pertains only to the manufacturing industries in Chennai, the study can be further



expanded to agricultural, garments, chemicals and engineering industries.

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