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## INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

“INTEGRATING CLEANER PRODUCTION INTO SUSTAINABILITY STRATEGIES”

## Analyzing Important Corporate Social Responsibility Activities with help of Analytical Hierarchy Process

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### Abstract

Corporate social responsibility (CSR) is a concept which industries use to improve their societal well-being through discretionary business practices and corporate resource contributions. It is a high profile notion perceived as deliberate by the production world in addition to being a well-known concept in academia and with its practitioners. CSR now gets increasing attention in global sourcing and supply chains. Indian SMEs have started adopting CSR activities recently to ensure their social responsibilities. But, Indian SMEs struggle to identify major CSR acts to improve their social standing. Because of this, this study's objective was fixed as identification of important CSR activities and categories for improving its performance aided by the analytical hierarchy process (AHP). This study was undertaken in 47 SMEs in Tamilnadu, South India. The results reveal employee satisfaction to be the most important CSR category followed by social activity rewards, society view and combined social activities to improve CSR performance.

**Keywords:** *Corporate social responsibility; analytical hierarchy process*

### 1. Introduction

Ethical sustainable business development is a common practice among small and medium enterprises (SME's) to gain a foothold in global markets. Enterprises have begun undertaking various acts to ensure quality environmental protection and health & safety certificates. Recently, Indian SME's also started getting involved in CSR activities. Earlier literature revealed that most CSR studies were focused on large enterprises and not SMEs (Turban/Greening 1997; Staples, 2004; Sen/Bhattacharya 2001). SMEs have an important role in the global market. In India there are various small scale industries involved in manufacturing and service fields, acting as suppliers for large scale industries (Example: Hyundai). Both government policies and customer pressure ensured that Indian SMEs became involved in CSR activities to develop business. But, adoption and maintenance of CSR activities in industry is not easy. Hence, industries need to know about every CSR activity, as only then can CSR performance be improved. But Indian SMEs are presently struggling to identify significant and various CSR activities. Industries must know which activity is least significance. They should also know the initiatives needed for consistent activity development that will not affect enterprise and social relationship. In 2007 a SHRM survey was conducted in USA, Australia, India, China, Canada Mexico and Brazil regarding CSR impact. For the above mentioned reasons, the study's objective was framed as identification of the most important CSR activity category/activities with the aid of AHP. The research was initiated with a questionnaire related to various factors and a survey conducted in various

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SMEs. This study helped to know and understand SMEs' contribution to society and their involvement in social responsibilities. From literature, seventeen CSR activities were collated, collected and grouped under 4 categories. The study was conducted in 47 industries from 5 different sectors in Tamilnadu, South India.

## 2. Related review

Recently, the term CSR, corporate strategic volunteerism, social marketing, and strategic philanthropy have forced their way into literature and multinational practices (Turban/Greening 1996). Staples (2004) mentions that CSR is considered a firm's responsibility to guard and develop social welfare through various business and social activities (Sen/Bhattacharya 2001, Turban/Greening 1996), ensuring equitable and sustainable benefits for all stakeholders. Progressively, more industries are involved in CSR initiatives which in turn helped them to earn success and ensure sustainable competitive benefits (Lichtenstein et al. 2004). Usually, CSR plays six roles in industry: Boosts brand image and reputation, Increases sales and customer loyalty, Reduces operating costs, Increases productivity and quality, Attracts and retains employees and Reduces regulatory oversight. Li et al. (2010) examined how country-level, industry-level, and firm-level factors affect the extent of corporate communication about CSR in Brazil, Russia, India, and China (BRIC), with help of data of about 105 largest MNCs from BRIC. They comment about CSR motives, processes, and stakeholder issues discussed in corporate communications. Ramesh and Goel (2012) pointed out that following CSR activities in Indian industries: 1. Community relations (donations, contribution to economically disadvantaged, support to job training); 2. Minorities and women (corporate hiring and promotion of women and minority employees, health care, child care, Geriatric care); 3. Employees (no lay-off plans, hiring and promoting disabled, work safety programs, cash profit sharing, good union relations, training and competency development); 4. Environmental (investments in R&D; development, processing and use of products and services which reduced environmental damage or that are environmentally safe, involvement with nuclear power); 5. Customer relations (quality management programs, customer satisfaction measures); 6. Ethical issues (defense contracts and weapons development, business with repressive regimes, alcohol gambling tobacco). There is an idea that important CSR issues are as relevant for SMEs as they are for MNCs. In India, CSR benefits were categorized under three perspectives: Company Benefits; Benefits to community and the general Public; Environmental Benefits.

Gond et al. (2012) analyzed CSR influence on employees, integrated social identity theory and social exchange theory in a new framework. According to Barnett (2007: 798-801) CSR is a form of corporate investment characterized by dual orientation towards improvement of social welfare and stakeholder relations. Korschun et al. (2011) extended prior research by examining when and how CSR improved employee's relations with customers. They also developed a model linking CSR activities to one of marketing's most central constructs, customer orientation of frontline employees with the help of 534 customer-contact employees from multiple companies in the hospitality and retail sectors. Ali et al. (2010) analyzed CSR's multifaceted influence on an employee's organizational loyalty and organizational performance through a study conducted with 371 professionals working in different sectors of Pakistan. Udomthanasansakul (2011) explored factors pressurising CSR in SMEs in Chiang Mai, northern Thailand aided by a hypotheses based on a conceptual model that inferred relationships between key factors. Kemp et al. (2012) analysed engaging internal organizational aspects of 'accountability' for CSR in mining by challenging the current 'audit culture.' He also investigated the regulations in corporate social performance. Van der Heijden et al. (2010) described and analyzed how company members make sense of CSR and focused on organizational processes for structuring CSR in practice: How CSR sense-making processes work in companies and whether it is possible to discern process strategies.

## 3. Research Highlights

In this paper

- Common CSR activities are identified through extensive literature and

- An AHP based framework was developed to identify important CSR activities to improve CSR performance in Indian SMEs.

#### 4. Research gap and Problem description

Majority of CSR research analyses financial performance, consumer behavior and its effects on environment, for instance (Ali et al. 2010). However, there is less research on identifying important CSR activities in Indian SMEs. Jenkins (2004) pointed out that research mainly focused on large enterprises, rather than on SMEs and as a result, use of CSR concepts of enterprise application to SMEs may not work due to differences in structure and operation between large enterprises and SMEs. It is important to analyse CSR activities in Indian SMEs. The objective of this research is identification of important CSR category and activities in Indian SMEs using AHP. Even a slight CSR performance improvement in SMEs leads to great improvement in society which holds hands with all large scale enterprises and public sector units. Keeping in mind views of various SMEs from the power hub (Tamilnadu) of South India, where many SMEs are involved in manufacturing of different kind of products, CSR activities and CSR categories are given below:

Employee Satisfaction (ES)

Considering Wages revisions (ES1); Improving Work acknowledgments (ES2); Giving top priority to Health and safety issues (ES3); Improving peaceful and pollution free work nature (ES4); Society view (ES5)

Marketing Competition (MC)

Improving Market value (MC1); Community view (MC2); Quality products (MC3); Improving customer service (MC4); Ethical business practice (MC5)

Supplier Commitment (SC)

Eco friendly purchase (SC1); Combined social activities (SC2); Periodic audit (SC3); Age of supplier relation (SC4)

Economic Impact (EI)

Improving Social economic status (EI1); Funds from NGOs (EI2); Social activity rewards (EI3)

(References: Stancu et al, 2011; Bennett, 2005; Turban/Greening 1996; Staples, 2004; Li et al., 2010; Lichtenstein et al., 2004; Gond et al., 2012)

#### 5. Solution methodology

This paper uses AHP approach to identify important CSR activities and their categories.

##### 5.1 Overview of AHP

Analytic Hierarchy Process (AHP) is a widely used and well recognized decision support approach in business industries (Haq and Kannan, 2006). Saaty (1980) states that AHP is a clear mathematical structure of consistent matrices and their associated right Eigen vector's ability to generate true/approximate weights. AHP methodology compares criteria, or alternatives with regard to a criterion, in a natural, pair wise mode (Saaty 1980). For more details about AHP, kindly refer Borade et al (2012). Three steps of AHP methodology are used in this study: (1) identifying CSR activities and structuring a AHP model for prioritization, (2) constructing a questionnaire and collecting data, and (3) determining normalized weights for every CSR category and specific CSR activity. Experts' judgments are obtained from SMEs of different sectors like automobile, electrical and electronics, textiles & apparel, power plant and chemical.

Consistency check for pair-wise comparison matrix

The consistency ratio is calculated according to the following steps (Haq and Kannan, 2006):

1. Calculate the eigenvector or the relative weights and  $\lambda_{Max}$  for each matrix of order n
2. Compute consistency index for each matrix of order n by the formulae:  
 $CI = (\lambda_{max} - n) / (n - 1)$  (1)
3. The consistency ratio is then calculated using the formulae:  
 $CR = CI/RI$  (2)

## 6. Application of proposed model

### 6.1 Developing the questionnaire

Questionnaires were prepared based on earlier literature. The respondent industries' demographic profiles are explained in the following section. The research was conducted in 47 industries in Tamilnadu, South India. Industry profiles were summarized based on its respondent industry's category (tabulated in Table 2).

**Table 1: Profile of the respondent Indian industries**

Industry	Total	Percentage
Chemical	5	10.63
Textiles & Apparel	6	12.76
Electrical/electronics	9	19.14
Auto components	21	44.68
Power plant	6	12.76
Total	47	100

Prioritization of CSR activities is conducted on two levels. Initially, CSR categories were ranked. Next, specific CSR activities were ranked. An improved nine-point scale assigned relative weights to pair-wised comparisons between categories and specific barriers as shown in Table 3.

**Table 2: Scale of preference between two elements (Saaty, 1980)**

Preference weights/Level of importance	Definition	Explanation
<b>1</b>	Equally preferred	Two activities contribute equally to the objective
<b>3</b>	Moderately	Experience and judgment slightly favor one activity over another
<b>5</b>	Strongly	Experience and judgment strongly or essentially favor one activity over another
<b>7</b>	Very strongly	An activity is strongly favored one activity over another and its dominance demonstrated in practice
<b>9</b>	Extremely	The evidence favoring one activity over another is of the highest degree possible of affirmation
<b>2,4,6,8</b>	Intermediate values	Used to represent compromise between preferences listed above
<b>Reciprocals</b>	Reciprocals for inverse comparison	

## 6.2 Data collection

Identification of important CSR activities to improve SMEs performance was done using AHP technique. From literature seventeen CSR activities are summarized in section 4.

The identified seventeen CSR activities are sent to related industrial experts in the corresponding 69 industries and they are requested to give their ratings according to Saaty's nine point scale. After 2 months, 47 responses were received having a response rate is 68.11%. As per Malhotra and Grover (1998) more than 20% responses is suitable for research. The pair wise comparison matrix for CSR category is shown in Table 3 and the detailed AHP weight in Table 4.

**Table 3 Pair wise comparison matrix for CSR category activity**

	ES	MC	SC	EI
ES	1	2.34	0.73	2.34
MC	0.4274	1	1.23	0.87
SC	1.3699	0.813	1	1.12
EI	0.4274	1.1494	0.8929	1

**Table 4 AHP weights for CSR Category**

CSR category Sorted weight value

ES 0.3443

SC 0.2573

MC 0.2002

EI 0.1981

Weights = 0.3443, 0.2002, 0.2573, 0.1981

Total CR = 0.0813

Max eigen value = 4.2195; CI = 0.0732; RI = 0.9

**Table 5 Local and global weights of all CSR categories and specific CSR activities**

CSR Category	Relative weights using AHP	Activities	Relative weights using AHP	Global weights using AHP	Rank
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ES	0.3443	ES1	0.1818	0.0625	7
		ES2	0.2118	0.0729	4
		ES3	0.1473	0.0507	10
		ES4	0.1897	0.0653	5
		ES5	0.2694	0.0927	2
MC	0.2002	MC1	0.2112	0.0422	14
		MC2	0.2108	0.0422	14
		MC3	0.1861	0.0372	15
		MC4	0.2351	0.0470	12
		MC5	0.1568	0.0313	16
SC	0.2573	SC1	0.1904	0.0489	11
		SC2	0.3301	0.0849	3
		SC3	0.2273	0.0584	8
		SC4	0.2523	0.0649	6
EI	0.1981	EI1	0.2359	0.0467	13
		EI2	0.2687	0.0532	9
		EI3	0.4953	0.0981	1

## 7. Results and Discussion

Recently, financial, political, and social factors are important to improve business developments, all of which have impacts and subsequent affects on businesses. Members of society are becoming increasingly aware of the consequences of environmental, social and ethical issues (Udomthanasansakul, 2011). Ali et al. (2010) mention that primary issue for corporations is sustainable growth, especially in an era of global recession. Latest CSR research stressed upon corporations to assign substantial resources for community welfare.

### 7.1 Priorities of CSR categories

Table 4 shows that employee satisfaction (ES) is of foremost priority among the four CSR categories. Second, third and fourth places are occupied by Supplier Commitment (SC), Marketing Competition (MC) and Economic Impact (EI), respectively. Category results show that employee satisfaction is the most important activity to increase CSR performance. Every action of industry improvement is started from employees' involvement; consequently, this category occupies the first position.

### 7.2 Priorities of CSR activities

CSR activity priorities are shown in Table 5 which reveals that overall ranking is based on the global AHP weight values. Global weight is obtained by multiplication of relative CSR category values weight with relative weights of each CSR activity. The result of each CSR activity is discussed in the following section.

#### 7.2.1 Employee Satisfaction (ES)

Under this category five CSR activities are present. Considering Wages revisions (ES1) is 7th place overall. It is inferred that employees wage revisions give notable impact to CSR. Improving Work acknowledgments (ES2) activity occupies 4th place. It is stated that employees are expected to acknowledge their work. Health and safety issues (ES3) gets 10th priority overall. Improving peaceful and pollution free work environment (ES4) is at fifth place and Society view (ES5) at second place.

#### 7.2.2 Marketing Competition (MC)

All five CSR activities under this category get low ranks. From Indian SMEs perspective, Marketing Competition pressurizes improved CSR performance. Improving Market value (MC1) and Community view (MC2) are placed at 14th. Quality products (MC3) and Improving customer service (MC4) activities occupy 15th and 12th place respectively. Ethical business practice (MC5) gets last priority

among the seventeen CSR activities. It is evident that industries do not concentrate much on Ethical business practices.

### **7.2.3 Supplier Commitment (SC)**

Four CSR activities are listed under this category. Eco friendly purchase (SC1) activity ranks 11th, and Periodic audit (SC3), Age of supplier relation (SC4) activities obtain 8th and 6th places respectively. But, combined social activities (SC2) obtains third place and it is inferred that social activities do not depend on a single industry, rather they depend on combined activities with suppliers and vendors of industries.

### **7.2.4 Economic Impact (EI)**

In this category, Social activity rewards (EI3) activity gets first priority among seventeen CSR activities. It reveals that rewards from NGO and government provide tremendous motivation to improve CSR performance in industries. Improving Social economic status (EI1) and Funds from NGO (EI2) activities get 13th and 9th places respectively. In this research, identification of important CSR activities has been discussed from the Indian SMEs point of view.

## **8. Conclusion**

From extensive data analysis of CSR activities in the Indian SMEs, one comes to the following conclusions. Prioritization of CSR activities for Indian SMEs is a difficult process, requiring more analysis and co-operation at all levels of the workforce, from employees to top management. This paper has attempted to provide a benchmarking model to make things easier and trim down complexities of identification of important CSR activities for Indian SMEs towards CSR performance improvement. Our explorative paper was able to find CSR activities playing a major role in improvement of CSR performance. From literature, seventeen CSR activities are collected and categorized under four heads. All CSR activities do not give equal impact so, SMEs need to identify which CSR activity plays a major role. With the help of AHP approach we ranked CSR category and CSR activities out of seventeen activities. From AHP results, it is evident that, employee satisfaction (ES) category is the leading CSR category and Social activity rewards, Society view and combined social activities are the top three CSR activities among seventeen CSR activities. This paper helped prioritize important CSR activities during improvement of CSR performance based on experts' judgments by AHP.

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