

Role of Corporate Social Responsibility (CSR) Activities in Coal Mines in India with Special Reference to Singareni Collieries Company Limited

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Abstract:

Corporate social responsibility (CSR) is a self-regulating business model that helps a company be socially accountable—to itself, its stakeholders, and the public. By practicing corporate social responsibility, also called corporate citizenship, companies can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental. To engage in CSR means that, in the ordinary course of business, a company is operating in ways that enhances society and the environment, instead of contributing negatively to them.

Key words: Corporate social responsibility (CSR), self-regulating business model, company socially accountable to stakeholders, and the public

Introduction:

This study presents a framework to apply discrete choice theory to improve mining community engagement to improve productivity and corporate mining social responsibility. In addition, this paper establishes the main technical challenges to implement the developed framework, and presents methods to overcome the challenges for future research with a case study. The contribution of this research will transform mine sustainability in a fundamental way by facilitating the incorporation of effective community engagement.

Review of Literature

- Khare and Baruah (2011), Coke industry is one of the major coal utilization industries in northeast India. To assess the impact of coke oven burning high sulfur and volatile matter containing coal on ambient air quality, levels of SO₂, PM_{2.5} and trace metals were investigated.
- Yang, H.; Pollitt, M.G, (2009), The undesirable and uncontrollable variables are also considered in assessing the mine's performance. One of the studies incorporates both undesirable output and uncontrollable variables in performance assessment of Chinese coal-fired power plants by using data

envelopment analysis by Yang and Pollitt in 2009.

- Fang. H. Wu, J.Zeng.C. (2009); Coal efficiency has gained a great deal of attention from Chinese academics [9]. Therefore, Fang et al., in 2009, presented a comparative efficiency analysis report on Chinese and United States coal mining companies using Charnes, Cooper, and Rhodes (CCR) and Banker, Charnes, and Cooper (BCC) models in the advanced DEA linear programming.
- Dowarah et al. (2009) , Since coal mining and its utilization in coal based industries is associated with environmental issues, it is necessary to manage or mitigate its impact on environment or clean coal prior to its utilization. An attempt was made to achieve eco-restoration of a high sulfur containing coal mine overburden dumping site through primary and secondary ecological succession of native plant species in Tirap Collieries, Assam, India.
- MoEF in (2009), Power sector is the largest consumers of coal followed by iron, steel and cement segments in the last four decades. Other smaller consumers include fertilizer, textile (including jute and jute products), paper and the brick industry. Coal mining and its utilization is associated with substantial environmental challenges as it creates significant and often irreversible impacts upon the terrestrial and aquatic environment. Open cast or surface mining is dominant in India and it not only alters the nature of groundwater–surface water interactions but also contributes to major air pollutants to the atmosphere and results in dramatic changes in the landscape. Most coal mining districts in India have been declared as critically polluted areas (CPAs).
- Lei, T.; Ding, R.J (2008), some studies primarily focus on the coal resources, performance indicators, or selection of variables (inputs and outputs) for assessing performance. Lei and Riji in 2008 suggested an input-oriented efficiency assessment of coal mine safety. The result shows mines safety should lead to improved efficiency by effective utilization of funds and management resources.

Statement of the Problem:

The various key factors affecting productivity, namely the cycle of operations, manpower deployment, machine efficiency, material handling and management of manpower and corporate social responsibility has discussed. Further the study has focused on the coal mines management, Productivity, managerial and CSR activities in India.

Objectives:

1. To determine whether the village Infrastructure Facilities and Health Facilities provided under Corporate Social Responsibility (CSR) Initiatives have any impact on the villagers' way of living.
2. To suggest best practices of Productivity, managerial and CSR activities in Coal mines management.

Hypothesis:

1. There would be a positive impact of CSR contribution and its relevance in improving the infrastructure facilities in underground and opencast coal mining.

Research Methodology:**Sources of data:**

This study has collected the data from both primary and secondary data. The primary data will be collected from the sample of 200 which consists of managers, staff and workers from both the in the underground and opencast coal mining through a well structured questionnaire covering with the Productivity and managerial factors contribution in the coal mines management and CSR activities.

Secondary data were collected from different government ministries, institutions, departments, reports, publications, circulars and government websites of both of the case study countries respectively and other reliable international institutions (sources) reports and publications and individual reports and publications.

Area of the study:

The purpose of this research chosen the Singareni Collieries Company Limited and chosen two mines each in underground and opencast coal mining of the Singareni Collieries Company Limited (SCCL). They are:

- Koyagudem **Opencast coal** mine –Bhadradi kothagudem.
- Manuguru **Opencast –IV** coal mine- Rajupeta(Vi) Manuguru (M) Bhadradi kothagudem (Dist).
- Kakatiya khani -1 &1A **Underground** coal mine – Bhupalapally.
- Shanthikhani **Underground** coal mine – Bellampally.

Techniques Used:

For a researcher to come out with thorough and scientifically valid analysis of his survey to be used to draw a sound conclusion, statistical analysis tools that range from simple to sophisticated scientific one assume a major role. The study has covered the percentage, ratios frequency distribution, growth rates and statistical tools/techniques such as descriptive statistics, Regression, Correlation, ANOVA, T-test, Factor Analysis and Cronbach's alpha wherever they needed.

Data Analysis:**CSR impact on Coal Mines: Singareni Collieries Company Limited**

The social responsibility of corporate mining has been challenged by a significant socio-political risk from local communities. These issues reduce shareholder value by increasing costs and decreasing the market perception of corporate social responsibility. Community engagement is the process of understanding the behavior and interests of a group of targeted mining communities through surveys and

data analysis, with the purpose of incorporating mining community acceptance into the mining sustainability. While mining organizations have discussed community engagement to varying degrees, there are three main shortcomings in current studies, as concluded in the authors' previous research.

This study presents a framework to apply discrete choice theory to improve mining community engagement to improve productivity and corporate mining social responsibility. In addition, this paper establishes the main technical challenges to implement the developed framework, and presents methods to overcome the challenges for future research with a case study.

The contribution of this research will transform mine sustainability in a fundamental way by facilitating the incorporation of effective community engagement. This will lead to more sustainable mines that local communities support.

Table 1 Employee CSR: Singareni Collieries Company Limited

| Items | Correlation | p-value |
|--|---------------|--------------|
| Employee CSR | | |
| Health care and assistance to employees | .486** | 0.000 |
| Subsidized lunch/refreshments to employees | .580** | 0.000 |
| Credit for education/housing | .585** | 0.000 |
| Bonus/ ESOPs | .657** | 0.000 |
| Finance for higher education | .658** | 0.000 |
| Training and development | .679** | 0.000 |
| Recreational facilities | .592** | 0.000 |
| Collective bargaining | .733** | 0.000 |
| Work-life balance policies | .566** | 0.000 |
| Formal worker representation in decision making | .636** | 0.000 |

Source: Compiled from the field survey

Table 1 shows the correlation coefficient and p-value for each measure of CSR. As shown, the p-values are less than 0.05 and the correlation coefficients are significant at $\alpha = 0.05$, so it can be said that the measures are consistent and valid to measure what it was set for. Internal consistency of the questionnaire was measured using correlation coefficients between each variable of CSR and the aggregate CSR. All the above factors has significant impact on improving CSR benefits to community.

Table 2 Community CSR: Singareni Collieries Company Limited

| Community CSR | Correlation | p-value |
|---------------------------------------|-------------|---------|
| Contribution to religious charities | .380** | 0.000 |
| Partnership with NGOs | .526** | 0.000 |
| Sponsorship of sports activities | .518** | 0.000 |
| Employee volunteering | .615** | 0.000 |
| Education initiatives | .622** | 0.000 |
| Contribution to Disaster relief funds | .636** | 0.000 |
| Community health initiatives | .710** | 0.000 |
| Promotion of art and culture | .578** | 0.000 |
| Contribution to rural development | .679** | 0.000 |

Source: Compiled from the field survey

Table 2 indicates that the implantation of Community CSR contribution towards Community health initiatives, Promotion of art and culture and Contribution to rural development. All the above factors has significant impact on improving CSR benefits to community.

Table 3 Environment CSR: Singareni Collieries Company Limited

| Environment CSR | Correlation | p- value |
|--|-------------|----------|
| Explicit environment policy | .831** | 0.000 |
| Use renewable sources of energy | .669** | 0.000 |
| Recycling and treatment of waste | .729** | 0.000 |
| Environment/pollution protection systems | .786** | 0.000 |
| Environmental awareness through messages | .745** | 0.000 |
| Policy of substitution of hazardous material | .855** | 0.000 |
| Voluntary information about environmental management | .777** | 0.000 |
| Environmental emergency plan | .819** | 0.000 |

Source: Compiled from the field survey

Table 3 shows that the implantation of Environment CSR contribution towards Explicit environment policy, Environment/pollution protection systems, Environmental awareness through messages. All the above factors has significant impact on improving CSR benefits to community.

Table 4 Customer and Supplier CSR: Singareni Collieries Company Limited

| Customer and Supplier CSR | Correlation | p-value |
|--|-------------|---------|
| Consumer education and product labelling | .791** | 0.000 |
| Restrictions on use of child labour at supplier's facilities | .748** | 0.000 |
| Tenders and standards for suppliers | .720** | 0.000 |
| Grievance handling mechanism for consumer complaints | .895** | 0.000 |
| Voluntary standards for advertising | .603** | 0.000 |

Source: Compiled from the field survey

Table 4 shows that the implantation of Customer and Supplier CSR contribution towards Consumer education and product labeling, Restrictions on use of child labour at supplier's Facilities, Grievance handling mechanism for consumer complaints etc. All the above factors has significant impact on improving CSR benefits to community.

Reliability of the research

The reliability of an instrument is the measure of consistency. The less variation an instrument produces in repeated measurements of an attribute, the higher is its reliability. The Cronbach's Coefficient alpha can be applied to measure the consistency of the questionnaire. This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's Coefficient alpha is between 0.00 and +1. The higher the value the greater the consistency among the measures.

Table 5 CSR measures and key factors:

| CSR measures | No. Of items | Cronbach's coefficient alpha |
|-------------------------------|--------------|------------------------------|
| Employee CSR | 11 | 0.816 |
| Customer and Supplier CSR | 5 | 0.890 |
| Community CSR | 9 | 0.875 |
| Environment CSR | 9 | 0.630 |
| Managerial perceptions of CSR | 17 | 0.879 |
| Motivations for CSR | 8 | 0.710 |

Cronbach's Coefficient alpha

Source: Compiled from the field survey

Since all the variables of CSR were uniformly measured on a 5 point Likert scale, it was decided to average the scores of the four measures of CSR into an aggregate score, namely the Aggregate CSR. This was considered as the comprehensive measure of CSR activities of the firm towards various stakeholders namely, employees, customers and suppliers, community and CSR.

Aggregation of all the CSR measures were made on the basis of the confirmatory factor analysis (CFA) carried out on the four dimensions of CSR. The Goodness of Fit (GFI) index indicated a score of 0.91 which is above the recommended criterion of 0.90 suggesting the fit of the model.

Impact of Corporate Social Responsibility on coal mines CSR performance

Descriptive statistics shows that the mean Aggregate CSR for Companies under study was 3.27, the minimum aggregate CSR score was 1.90, the maximum aggregate CSR score was 4.36.

Table 6 Corporate Social Responsibility on coal mines CSR performance

| CSR Variables | Mean | t-value | p-value |
|---|-------|---------|---------|
| Employee CSR | 3.317 | 50.503 | 0.000 |
| Customer & Supplier CSR | 3.33 | 47.935 | 0.000 |
| Community CSR | 3.327 | 47.566 | 0.000 |
| Environment CSR | 3.461 | 42.206 | 0.000 |
| The value of critical t value at df= 103 and significant level 0.05 equal 2.0 | | | |

Source: Compiled from the field survey

Socially responsible businesses take a lot of effort to provide a meaningful and conducive work environment where the employees can realize their potential. Some of the practices include empowerment of employees, involvement of employees in the decision making process, a better work- life balance, opportunities for leisure, training and development and also job security. There is increasing evidence that these practices have a great influence in improving employer-employee relationships and a high quality of work life leads to increased profits through greater innovation, committed and skilful employees.

CSR towards employees is usually portrayed by the companies through policies on a) training and development; b) communication and consultation; c) health and safety ; d) work-life balance; e) equality and diversity; f) employee benefits. In this study the quality of life of employees is related to the prospects of individuals working in companies. The most important aspect of Employee CSR is the various employee protection programs such as health insurance and medical benefits such as maternity leave for women. Other aspects include benefits such as sponsoring of higher education of employees, training and development opportunities, recreation and sports facilities. In short, the policies of the companies should be such as to create a working environment where employees feel secure.

Table 7 Employee CSR – T test

| Statements | Mean | t-value | p-value |
|--|------|---------|---------|
| Health care and assistance to employees | 4.06 | 26.288 | 0.000 |
| Subsidized lunch/refreshments to employees | 3.47 | 15.388 | 0.000 |
| Credit for education/housing | 3.16 | 12.150 | 0.000 |
| Bonus/ ESOPs | 3.40 | 17.239 | 0.000 |
| Finance for higher education | 3.22 | 13.329 | 0.000 |
| Training and development | 3.83 | 20.769 | 0.000 |
| Recreational facilities | 3.35 | 13.562 | 0.000 |
| Collective bargaining | 3.80 | 19.980 | 0.000 |
| Work-life balance policies | 3.13 | 9.057 | 0.000 |

| | | | |
|---|------|--------|-------|
| Formal worker representation indecision | 3.36 | 12.818 | 0.000 |
| The value of critical t value at df= 103 and significant level 0.05 equal 2.0 | | | |

Source: Compiled from the field survey

The operational excellence, where customers expect the best services at the lowest prices. Second is product leadership where customers want the best products. The third is customer intimacy where the firm identifies its customers and makes every effort to know them in detail.

Table 8 Measures of Community CSR

| Measures of Community CSR | Mean | t-value | p-value |
|---|------|---------|---------|
| Contribution to religious charities | 2.68 | 12.203 | 0.000 |
| Partnership with NGOs | 3.36 | 27.496 | 0.000 |
| Sponsorship of sports activities | 3.0 | 21.375 | 0.000 |
| Employee volunteering | 3.43 | 33.751 | 0.000 |
| Education initiatives | 3.62 | 33.983 | 0.000 |
| Contribution to Disaster relief funds | 3.42 | 30.233 | 0.000 |
| Community health initiatives | 3.64 | 35.463 | 0.000 |
| Promotion of art and culture | 3.14 | 24.896 | 0.000 |
| Contribution to rural development | 3.66 | 32.141 | 0.00 |
| The value of critical t value at df= 103 and significant level 0.05 equal 2.0 | | | |

Source: Compiled from the field survey

A factor analysis was conducted which revealed three factors that explained nearly 61% of the variance. The KMO result of this data was 0.708 and the Barlett's test was significant.

Findings and suggestions

The study found that there is a positive relationship between CSR investments and organizational profitability. So it was recommended that the management should formulate and implement CSR initiatives in consultation with its stakeholders and further recommended the following:

- CSR should be considered as an vital part of business strategies and business decisions.
- Company should comprise a standing committee to take care of CSR projects and their implementation.
- Companies must incorporate the stakeholders from formulation to implementation of CSR programs.
- Companies should be unwrapping and stretchy in their approach while attending to the social issues.
- CSR should be tactically conducted devoid of endangering its very survival of business and should never over shadow its financial performance.

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