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barriers to satisfactory adherence to corporate social responsibly in junior mining companies

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Abstract

Development economists and planners have provided various reasons for regulating mining activities that are carried out by South African junior mining companies over the past several decades. The main motivation is the need to promote sustainable development in local communities in which poverty and unemployment are alleviated without causing harm to the general environment and vulnerable communities. Efforts have been made to encourage junior mining companies to embrace guidelines of corporate social responsibility (CSR) in South African junior mining companies. The survey was carried out in 6 South African junior mining companies by gathering data from 439 participants who work in the mines. Additional information was gathered as part of the survey by conducting interviews with 12 participants who are responsible for administrative and managerial functions in the mines. The study revealed that 52% of the 439 employees working in the 6 junior mines followed the basic principles of CSR, and that compliance with CSR principles was dependent upon three factors. The first such factor was the production of products to local markets by following CSR principles. The second factor was investing in local communities. The third factor was the practice of good deeds in which assistance is provided to needy people and communities by junior mining companies.

Keywords

Sustainable development, Awareness about corporate social responsibility, Poverty alleviation, Responsible mining activities

Introduction and background to study

South African junior mining companies play a valuable role in the alleviation

of poverty and unemployment in poorly developed communities. Over the past several decades, various development economists and planners have provided various reasons for regulating mining activities that are carried out by South African junior mining companies over the past several decades. The survey by Dhar, Harymawan and Sarkar (2022:1-3) has highlighted the harmful consequences of failure to embrace corporate social responsibility (CSR) principles in mining communities. The damages caused by irresponsible mining activities are environmental, developmental and health related.

The main motivation is the need to promote sustainable development in local communities in which poverty and unemployment are alleviated without causing harm to the general environment and vulnerable communities. Efforts have been made to encourage junior mining companies to embrace guidelines of corporate social responsibility (CSR) in South African junior mining companies. The survey was carried out in 6 South African junior mining companies by gathering data from 439 participants who work in the mines. Additional information was gathered as part of the survey by conducting interviews with 12 participants who are responsible for administrative and managerial functions in the mines. Mining activities that are carried out by junior South African mining companies are highly valuable for alleviating poverty and creating livelihoods. However, such mining activities must be carried out in a responsible manner. It is necessary to ensure responsible mining in all South African junior mining companies. To this end, the South African Government has a policy of promoting CSR guidelines as part of its initiative to promote responsible mining activities in all communities.

This community-based survey was carried out in 6 South African junior mining companies. These mining companies were Li Coal Resources, Ingwenya Mineral Processing, A. M. Thabazimbi Mine, Assen Iron Ore Mine (PTY) Ltd, Waterfall Resources and Boipelo Mining. The survey was planned and carried out with a view to examine the extent to which the 6 junior mines were committed to foster satisfactory awareness and compliance with CSR principles on a day-to-day basis. The survey entailed gathering quantitative and qualitative data on factors that affect levels of awareness and compliance with CSR principles (Ma et al., 2021).

April and Govender (2022:90-103) have conducted a survey in which they have shown that junior mining companies look up to large mining companies on a day-to-day basis in terms of fostering good conduct of business, respect for the environment and responsible mining in local communities. The authors have shown that trends and developments that occur in large mining enterprises influence trends and developments that occur in junior mining companies. Several local studies have shown that irresponsible mining activities in South African mines often cause environmental harm and pollution in host communities in which mining activities are carried out on a daily basis, and that it has become necessary to actively promote compliance with the practice of responsible mining (Worku, 2017; Maleejane, 2020; Maleejane, 2022; Magidi & Hlungwani, 2022; Baniya, Guragain, & Subedi, 2021; Gharde, Sharma, & Kandasubramanian, 2020).

Literature review

The survey by Healy (2022:128-139) indicates that failure to follow CSR guidelines promotes environmental injustice in local communities that host junior mining companies. The survey by Junior, Franks and Arbelaez-Ruiz (2022:206-213) shows that significant harm arises from political conflicts, tribal wars and poverty in African countries. Illegal mining activities often lead to the death of people. They also lead to the destruction of natural habitat and wildlife. The authors have shown that illegal mining activities are often a result of inability to restore law and order by promoting corporate social responsibility among people who own mineral and mining rights.

The survey by Calzada Olvera (2022:35-51) indicates that CSR principles are helpful for promoting innovation economics in the mining industry. The mining industry as a whole is facing declining mineral deposits. It has become essential to innovate mining processes. In this regard, CSR is highly helpful. Innovation is essential for transforming traditional mining processes so that efficiency and profitability can be enhanced. The use of innovative technologies in the mining sector has lowered harm to the environment. A key area of benefit of CSR is that start-up companies that are knowledge-based have become popular with investors and national governments.

The research work by April and Govender (2022:90-103) indicates that people who work in junior mines need assistance in terms of mastering lifelong skills in mining engineering and mineral processing in order to sustain their livelihoods. This shows that the adoption and promotion of CSR guidelines is highly valuable for enabling poorly skilled mining employees to acquire valuable artisan and vocational skills that are essential in junior mining companies. Lack of knowledge and understanding leads to environmental damage and harm.

The research work by Arhin, Erdiaw-Kwasie and Abunyewah (2022:1-15) indicates that livelihood capital influences resilience. Junior mining companies are closely associated with people and communities in which capital and skills are in short supply. It is the role of local and national governments to fill the gap by offering incentives and motivation to private investors.

Martins, de Matos Rodrigues, de Oliveira, Ribeiro, dos Santos Barros and Schwartz (2022:1-13) have highlighted the significant harm caused to the natural environment in the Amazon due to illegal mining activities and irresponsible leadership. CSR guidelines are a proven and tested method of protecting vulnerable communities and the natural environment from irresponsible mining activities. The authors have shown the need for strict enforcement of the law and accountability to local communities in which mining activities are carried out.

The work done by Bezzola, Gunther, Brugger and Lefoll (2022:1-12) indicates that illegal mining activities and irresponsible leadership result in considerable harm to livelihoods and vulnerable communities in poorly developed

communities. Environmental mismanagement, pollution, corruption, failure to collect and dispose of waste properly, contamination of drinking water, and the illegal dumping of toxic waste are common examples of harm caused by illegal mining activities. The work done by Worku (2017) in Mpumalanga Province, South Africa has found that awareness education is valuable for encouraging host communities to work closely with junior mining companies. The study has also shown that giving out rewards and incentives to companies that empower host communities is useful.

The survey by Dauda (2022:1-10) indicates that the approval of social licences to operate (SLOs) must be scrutinised carefully in Sub-Saharan African countries to protect vulnerable communities and the natural environment from abuse and exploitation. The research by Verrier, Smith, Yahyaei, Ziemski, Forbes, Witt and Azadi (2022:1-11) indicates that political commitment from local communities is essential for promoting CSR in host communities, and that significant harm is caused to host communities and the natural environment by irresponsible mining companies.

Objective of study

The research work was carried out to identify barriers to satisfactory adherence to responsible mining and CSR in 6 South African junior mining companies. These mining companies were Li Coal Resources, Ingwenya Mineral Processing, A. M. Thabazimbi Mine, Assen Iron Ore Mine (PTY) Ltd, Waterfall Resources and Boipelo Mining. The survey was planned and carried out with a view to examine the extent to which the 6 junior mines were committed to foster satisfactory awareness and compliance with CSR principles on a day-to-day basis. The survey entailed gathering quantitative and qualitative data on factors that affect levels of awareness and compliance with CSR principles.

Methods of data analysis

The extent to which the 439 participants of study adhered to CSR guidelines was measured by using an index introduced by Hilson, Hilson and Dauda (2019:340-352). This index is similar to an index introduced by Amor-Esteban, Galindo-Villardón and Garcia-Sanchez (2020: 1914-1936). Various univariate, bivariate and multivariate techniques of estimation were used for identifying influential variables.

Results of study

Out of the 439 participants of research, 96.58% of them (424) demonstrated satisfactory adherence to CSR guidelines. The remaining 3.42% participants (15) failed to demonstrate satisfactory adherence. These estimates compare favourably with estimates obtained previously by Worku (2017) and Dube and Maroun (2017).

Estimates from bivariate analysis (Westfall and Arias, 2020) showed that the following 5 variables were significantly related to satisfactory adherence to CSR guidelines. The first such variable was the production of goods, services and products without causing harm to the environment. The second such variable was the culture of reaching out to needy local community members at times of difficulty. The third such variable was promoting awareness about doing good to local communities. The fourth such variable was acknowledgement as a good company by members of host communities. The fifth such variable was doing business with mining companies who support needy people on a regular basis.

Estimates based on odds ratios (Hosmer and Lemeshow, 2013) showed that the following 3 variables were significantly related to satisfactory adherence to CSR guidelines. The first such variable was the production of goods, services and products without causing harm to the environment. The second such variable was the culture of reaching out to needy local community members at times of difficulty. The third such variable was promoting awareness about doing good to local communities.

Table 1 shows regression estimates obtained from structural equations modelling (Mueller & Hancock, 2018). The reliability of estimates was ensured by using commonly used diagnostic tests (Montgomery, Peck & Vining, 2021).

Table 1: Regression estimates from structural equations modelling (n=439)

Predictor variable	Coefficient	Z-Statistic	P-value	OIM Std. Error
The production of goods, services and products without causing harm to the environment	3.33	6.46	0.0000	0.0108
Helping out needy local people and communities at times of difficulty	2.91	5.94	0.0000	0.0114
Fostering good deeds in which assistance is provided to needy local people and communities	2.62	4.93	0.0000	0.0259
Regression constant	2.53	4.61	0.0027	1.1884

Various statistical diagnostic tests (Montgomery, Peck and Vining, 2021).

Mueller and Hancock, 2018; Westfall and Arias, 2020) were performed to confirm the adequacy of the fitted structural equations model. Examples of such diagnostic tests were the Akaike Information Criterion (AIC), the Bayesian Information Criterion (BIC), the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI), the Adjusted Goodnees-of-fit Index (AGFI), the Standardised Root Mean Square Error of Approximation (SRMSEA), and the Coefficient of Determination (CD). All these tests confirmed that the fitted model was adequate.

Conclusion

The study has found that it is highly beneficial for junior mining companies

to follow and foster CSR on a daily basis. The most feasible manner in which this goal can be achieved is by working with local communities on a daily basis. Local communities must be actively involved in the planning and execution of all plans that are meant for the people. Community based projects and initiatives must taken CSR principles into account. The main benefits are protecting the environment from harm, alleviating poverty, creating jobs, and protecting the livelihood of people. The survey has shown the benefits of providing rewards and economic incentives to junior mines that work closely with local communities and invest in infrastructural development.

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