Corporate social responsibility in the mining sector

CORPORATE SOCIAL RESPONSIBILITY IN THE MINING SECTOR: CRITICAL ISSUES

ABSTRACT (139 words)

Companies worldwide have been placed under increasing pressure by stakeholders to perform business activities in a more socially responsible manner. This study investigates the corporate social responsibility (CSR) performance of selected mining companies listed on the Johannesburg Securities Exchange (JSE), namely: AngloGold Ashanti, Anglo Platinum, DRDGold, Gold Fields and Harmony Gold. The 2006 annual financial statements of each company were analysed by means of content analysis. The study is based on Carroll's (1979; 1991) CSR pyramid which consists of economic, legal, ethical and philanthropic responsibilities. CSR issues with an economic impact, such as HIV/AIDS, tend to be given priority by mining companies, whereas CSR issues related to empowerment receive less attention. It is recommended that mining companies focus more on health and safety issues and environmental issues which lie on the ethical and philanthropic levels of Carroll's CSR pyramid.

CORPORATE SOCIAL RESPONSIBILITY IN THE MINING SECTOR: CRITICAL ISSUES

Suzette Viviers* & Jean-Michel Boudler

Department of Business Management

Nelson Mandela Metropolitan University

Postal address:

PO Box 77000

Port Elizabeth

6031

Physical address:

South Campus, Main building 0520

University Way, Port Elizabeth

Email: suzette.viviers@nmmu.ac.za

Tel: 041 504 4062

Fax: 041 583 2644

CORPORATE SOCIAL RESPONSIBILITY IN THE MINING SECTOR: CRITICAL ISSUES

ABSTRACT

Companies worldwide have been placed under increasing pressure by stakeholders to perform business activities in a more socially responsible manner. This study investigates the corporate social responsibility (CSR) performance of selected mining companies listed on the Johannesburg Securities Exchange (JSE), namely: AngloGold Ashanti, Anglo Platinum, DRDGold, Gold Fields and Harmony Gold. The 2006 annual financial statements of each company were analysed by means of content analysis. The study is based on Carroll's (1979; 1991) CSR pyramid which consists of economic, legal, ethical and philanthropic responsibilities. CSR issues with an economic impact, such as HIV/AIDS, tend to be given priority by mining companies, whereas CSR issues related to empowerment receive less attention. It is recommended that mining companies focus more on health and safety issues and environmental issues which lie on the ethical and philanthropic levels of Carroll's CSR pyramid.

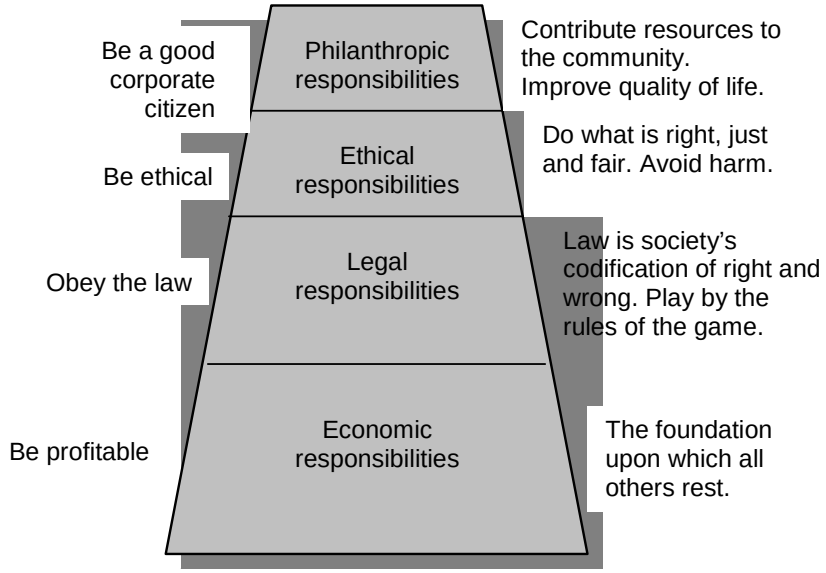
INTRODUCTION AND BACKGROUND TO STUDY

Corporate social responsibility (CSR) as a concept in modern society can be traced back to the mid-1950s when Bowen (1953: 6) formally stated that CSR refers to "the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society."

Although the concept of CSR has been in existence since the early fifties, it has developed over time from a mere option available to companies to a necessity because more and more laws have been established that restrict the ways in which business is conducted. These laws are established in order to diminish the negative impacts that companies inflict on the societies they serve.

According to Carroll (1979: 500; 1991: 48), the social responsibility of business incorporates the economic, legal, ethical, and discretionary (or philanthropic) expectations that society has of organisations at a given point in time. Carroll states that these four categories of CSR might be portrayed in the form of a pyramid as depicted in Figure 1 below.

FIGURE 1: THE PYRAMID OF CORPORATE SOCIAL RESPONSIBILITY



Economic responsibilities are based on the notion that companies exist to produce goods and services that customers desire and value and to earn a profit as a reward. Carroll (1979: 500) emphasises the fact that all other business roles are dependent on this fundamental assumption, hence economic responsibilities form the base of the pyramid.

Legal responsibilities refer to the obligations companies face as society expects of them to obey the law. They are represented as the second layer of the pyramid as legal responsibilities are seen to coexist with economic responsibilities in a free enterprise system (Carroll, 1991: 41).

"Ethics are the moral values, beliefs, and rules that establish the right or appropriate ways in which one person or stakeholder group should interact and deal with another individual or stakeholder group" (Jones, 1995: 204). The legality of an action does not automatically make it ethical, for example during apartheid in South Africa companies could legally discriminate against women and black people in hiring and promotions. Such legal action is hardly ethical.

Ethical responsibilities concerns activities and practices that are expected or prohibited by members of society despite not being part of the law. These consist of standards, norms, or expectations from stakeholders that are viewed as fair, just, and in accordance to stakeholders' moral rights. Ethical responsibilities can be viewed as the third layer of the pyramid but are closely related to the legal responsibilities faced by companies. This is a result of society always

pushing the legal responsibility category to expand as ethics are the driving force behind the creation of new laws (Carroll, 1991: 41).

The apex of the pyramid is represented by the philanthropic or discretionary responsibilities of companies. These entail contributing time, effort and money towards good causes and humanitarian programmes such as donating funds to schools or environmentalist organisations. The distinct difference between ethical and philanthropic responsibilities is that the later is viewed as voluntary and firms not engaging in philanthropic activities are not deemed unethical despite society's expectation that companies should engage in such activities (Carroll, 1991: 42). In South Africa, the term Corporate Social Investment (CSI) embodies corporate activities aimed at contributing towards community development (Rockey, 2004: 1).

For the past 40 years, American and European companies have been placed under increasing pressure by various stakeholders to perform their business activities in a more socially responsible manner. This is also increasingly the case in South Africa.

PROBLEM STATEMENT AND RESEARCH OBJECTIVES

The purpose of this study was thus to conduct a literature and empirical investigation of the CSR performance of mining companies listed on the Johannesburg Securities Exchange (JSE). This sector was chosen as it contributes significantly to Gross Domestic Product and employment and also faces numerous CSR challenges such as HIV/AIDS and work-related fatalities. It is estimated that 24% of the national mining workforce is infected with HIV/AIDS and that an annual average of 200 fatalities occurs due to mining activities (Mathews, 2006; Van der Voude, 2006; Van der Voude & Ally, 2007).

To give effect to the problem statement, a number of research objectives were identified:

- to describe CSR within the South African context with particular emphasis on JSE-listed mining companies;
- to identify the population of JSE-listed mining companies;
- to select a sample of JSE-listed mining companies based on selected criteria;
- to collect and analyse primary, qualitative data by means of content analysis; and
- to provide some pertinent conclusions and recommendations.

RESEARCH DESIGN AND METHODOLOGY

In the following section details will be provided of the population and sample as well as the data collection and analysis methods employed in this phenomenological (qualitative) study.

Population and sample

The target population of this study consisted of 50 mining companies listed on the JSE. Five mining companies were selected for further investigation due to their ease of comparability in terms of annual production, available reserves and number of staff employed. The sample companies are AngloGold Ashanti, DRDGold, Gold Fields, Harmony Gold and Anglo Platinum.

The two largest producers in terms of volume for 2006 were AngloGold Ashanti (5.6 million ounces) followed by Gold Fields (4.1 million ounces). Anglo Platinum however exhibited the fastest growth rate in terms of volume produced with an increase of 12% in annual production. The two largest companies in terms of the size of their workforce were Anglo Platinum and AngloGold Ashanti. Table 1 highlights the five companies' financial performance over two financial years (2005 and 2006) in terms of return on equity (ROE), return on assets (ROA), the three year Beta and Dividends per Share (DPS).

TABLE 1: FINANCIAL PERFORMANCE PER COMPANY

	AngloGold Ashanti	Anglo Platinum	DRDGold	Gold Fields	Harmony	Average
ROE[(a)] (2005 Final)	4.70%	21.58%	-112.77%	1.55%	-13.84%	-19.76%
ROE[(a)] (2006 Final)	14.66%	41.59%	-11.22%	8.37%	-2.26%	10.22%
ROA[(b)] (2005 Final)	1.83%	16.62%	-6.29%	11.36%	1.71%	5.05%
ROA[(b)] (2006 Final)	5.78%	36.09%	-2.94%	14.63%	3.41%	11.39%
3-year Beta[(c)] (2005 Final)	1.13	1.66	1.28	1.41	1.95	1.486
3-year Beta[(c)] (2006 Final)	1.71	1.33	1.56	1.72	2.52	1.768
DPS (2005 Final)	232c	1180c	-	70c	-	494c
DPS (2006 Final)	450c	5300c	-	150c	-	1966.67c

(a) Return on Equity (ROE) = Net Profit After Tax / Equity

(b) Return on Assets (ROA) = Net Profit After Tax / Total Assets

(c) 3-year Beta coefficient using a Bayesian adjustment

Source: Profile's Stock Exchange Handbook: June 2007 – September 2007 (2007)

Judging from the financial results presented in Table 1, it is evident that Anglo Platinum is the best company to invest in by a large margin as it has the biggest ROE and ROA values for both 2005 and 2006, its Beta coefficient has declined to be even less volatile compared to the market and it has declared the biggest dividends in both years. AngloGold Ashanti would be second in terms of financial performance, although its Beta coefficient had the biggest increase. Gold Fields would come third while DRDGold and Harmony are by far the worst companies to invest in from a purely financial point of view.

Data collection

Primary data were retrieved from the 2006 annual financial reports sourced from the relevant corporate websites. In the case of AngloGold Ashanti, two additional reports were sourced, namely the Mineral Resources and Ore Reserves and the Report to Society, while for Anglo Platinum and Harmony, the Sustainable Development Report was also sourced. The Mineral Resources and Ore Reserves report, which indicates changes in resources and reserves from the previous year, was evaluated for completeness sake as the other companies all included a resources and reserves section in their annual reports. The annual reports of the two remaining companies, DRDGold and Gold Fields, each consisted of a single report.

Data analysis

The data were analysed by means of content analysis. Krippendorff (2004:18) defines content analysis as "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use." Krippendorff (2004:20) outlines the following advantages of content analysis by stating that it:

- looks directly at communication via texts or transcripts, and hence gets at the central aspect of social interaction;
- can allow for both quantitative and qualitative operations;
- is an unobtrusive means of analysing interactions; and
- provides insight into complex models of human thought and language use.

A number of disadvantages of content analysis is also highlighted, namely that it:

- can be extremely time consuming;
- is often devoid of theoretical base, or attempts too liberally to draw meaningful inferences about the relationships and impacts implied in a study;
- is inherently reductive, particularly when dealing with complex texts;

- tends too often to simply consist of word counts;
- can be difficult to automate or computerise.

These disadvantages where however not experienced in this research as an electronic search function was used on electronic source documents. In this research a sound theoretical base was also used and care taken to ensure the reliability, validity and generalisability of the findings.

The first step in conducting content analysis on the annual reports of the five mining companies was to identify which keywords to be searched for in the annual reports. Keywords were identified based on an extensive literature review conducted on CSR issues in the local mining sector. These keywords were divided into six categories, namely empowerment, HIV/AIDS, health and safety, environmental impact, training and education and "others" (consisting of keywords that did not belong in any of the other five categories).

A search was performed with Adobe Reader 7.0 using its search tool. The results returned had to match the exact word or phrase searched, "case sensitivity" was disabled while "whole words only" was enabled. An Excel workbook was then created consisting of individual worksheets for each company, as well as an additional summative worksheet.

LITERATURE REVIEW

The main issues faced by the mining sector can be grouped into three main categories, namely economic empowerment, health and safety, and environmental impact. These and other issues will now be discussed.

Economic empowerment

Black Economic Empowerment (BEE) as a concept has been criticised for enriching a small black elite that have close ties to the ruling party, the African National Congress (ANC), while leaving most poor black South Africans unaffected. Such criticism has been answered by the government as it launched a Broad Based Black Economic Empowerment (BBBEE) initiative in 2003 in order to benefit more than a few small groups of politically-connected black elite. Where Narrow Based BEE only aimed at ownership and management issues, the goal of BBBEE is to spread wealth across as wide a spectrum of South African society as possible (Wikipedia, 2007a).

The Broad-Based Socio-Economic Empowerment Charter, developed by stakeholders in the South African mining sector, was the first of its kind in the country. Its vision is to "create a sector that will proudly reflect the promise of a non-racial South Africa" and aims to transform the resource sector by 15% by the year 2009 and 26% by 2014.

Economic empowerment falls under the legal and ethical category of Carroll's pyramid. If the legal requirements are not met within the deadlines set by the South African government, the economic aspect of the pyramid might suffer as a consequence in terms of an increase in fines and decreased capital contribution by socially responsible investors. Also, if more blacks are employed, they will be better empowered to contribute to the economy by spending and saving. From this point of view it would be ethical for companies to engage in BBBEE.

Health and safety

Four health and safety related issues are addressed in this section, namely HIV/AIDS, work-related fatalities, noise-induced hearing loss and silicosis.

HIV/AIDS

It is estimated that 38.6 million people are now living with the disease worldwide. In January 2006 the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organisation (WHO) estimated that AIDS has killed more than 25 million people worldwide since it was first discovered on June 5, 1981, which ranks AIDS as one of the most destructive diseases in recorded history (UNAIDS, 2006). Sub-Saharan Africa, where many JSE-listed mining companies operate, is still by far the worst affected region, with an estimated 21.6 to 27.4 million people currently living with HIV which represents more than 64% of the infected population worldwide (UNAIDS, 2006).

South Africa's HIV/AIDS infection rate is estimated to be between 11% and 12% which negatively impacts the efficiency and productivity of its labour force. South Africa's mining sector has the highest infection rate in the economy (Davenport, 2006). The incidence of HIV/AIDS among mining workers averages 24% (Mathews, 2006).

A 2005 survey conducted by the South African Business Coalition on HIV/AIDS indicated that 55% percent of mines surveyed reported that profitability has already been negatively affected

by HIV/AIDS. The largest impact was due to reduced labour productivity and increased worker absenteeism (Mawson, 2005).

According to Carroll's pyramid, HIV/AIDS lies mainly on the discretionary level as most funds donated in South Africa are used to combat the epidemic. However, it has a large impact on the economic level of the pyramid as mining companies experience major costs related to the disease. The issue also lies on the ethical level of the pyramid as it would be unethical for anyone to blatantly ignore the disease and the impact it has on the country.

Work-related fatalities

At the Mine Health and Safety Council Summit in 2003, business, labour and government agreed to reduce fatalities in the mining sector (due to injuries and diseases) to zero by the year 2013 (Zim, 2007). The number of fatalities in the mining sector in 2005 was 202 compared to 246 in 2004 (Mathews, 2006). In 2006 the number of fatalities only slightly increased as 199 workers lost their lives (Zim, 2007). Most underground fatalities result from rock falls while at surface level machinery and transportation are the main causes of fatalities (Mathews, 2006).

Work-related fatalities lie on the ethical level of Carroll's pyramid as any efforts not taken to reduce the loss of lives can be regarded as unethical. However, compared to HIV/AIDS, it has a much smaller impact on the economic category of the pyramid. The number of annual deaths arising from work-related fatalities is much lower than the number of deaths occurring as a result of HIV/AIDS. Health and safety issues also lie on the legal level of Carroll's pyramid as mining companies have to comply with the Mine Health and Safety Act (No 29 of 1996).

Noise-induced hearing loss

Noise-induced hearing loss (NIHL) is a disorder that results from exposure to high-intensity sounds, especially over a long period of time. NIHL is a preventable disorder that affects people of all ages and demographics (Wikipedia, 2007b). At the Mine Health and Safety Council Summit in 2003, the mining sector agreed to reduce hearing loss among occupationally-exposed individuals to less than 10% by December 2008 and to zero by the year 2013.

NIHL, although not fatal, lies on the ethical level of Carroll's pyramid as it has a dramatic impact on the lives of the miners affected by it. It also lies on the legal level of the pyramid as health issue are controlled by the Mine Health and Safety Act (No 29 of 1996).

Silicosis

Silicosis is a disabling, and sometimes fatal lung disease. It is caused by the inhalation of dust containing respirable crystalline silica (Department of Labour, 2006). It is irreversible and, moreover, the disease progresses even when exposure stops (WHO - silicosis fact sheet, 2000). At the Mine Health and Safety Council Summit in 2003, the mining sector agreed that, by December 2008, 95% of all exposure measurement results should be below the occupational exposure limit for respirable crystalline silica of $0.1mg/m^3$.

Similarly to NIHL, silicosis lies on the ethical level of Carroll's pyramid but unlike NIHL, silicosis increases the chances of an individual dying. Silicosis thus also lies on the legal level of Carroll's CSR pyramid.

Environmental impact

Mining activities alone contribute to more than 60% of South Africa's total industrial greenhouse gas emissions, the majority of which comes from the burning of fossil fuels or the use of electricity to smelt or refine ore. Coal mines produce the largest single source of greenhouse gas emissions in the mining sector by releasing methane into the environment, but significant amounts of other greenhouse gases are also generated by other kinds of mining activities.

Acid mine drainage (AMD) has been described as the largest single environmental problem facing the mining sector as it is persistent and costly, and has a tendency to be a liability for mines long after they stop their operations (Naidoo, 2007). AMD results from mining activities exposing water to elements such as iron, sulphates, manganese, mercury, zinc, copper and nickel. Mines pump this water out to dewater underground mining operations. This water may then be released into the unpolluted groundwater used, through boreholes, for agriculture and for human and animal consumption. Polluted water from mines can (and does) also end up in rivers and streams (Bezuidenhout, 2007).

Air and water pollution lie on the legal, ethical and discretionary levels of Carroll's pyramid. Companies that do not respect the law regarding environmental regulations face severe fines which might have an impact on the economic level of a company. However, since most companies in the mining sector are large scale entities, these fines do not have a dramatic impact

on their profitability. Perhaps larger fines are needed in order to combat effectively the pollution created by the sector.

Other issues

Training and education

Most sectors in the South African economy have established a SETA (Sector Education and Training Authority) in order to enhance the development of skills of employees working in the sector and to those wanting to be employed in the sector. The Mining Qualifications Authority (MQA) is a registered SETA for the mining and minerals sector in terms of the Skills Development Act (No 97 of 1998). Mining companies also provide in-house training and development and provide bursaries to employees and their families to further their education at various tertiary educational institutions.

Training and education lies on the economic, legal and ethical levels of Carroll's pyramid. With respect to the economic level, one would expect a positive correlation between a well-trained work force and mine profitability in such a labour-intensive sector. Training and education lies on the legal level as the MQA is the registered SETA for the sector implementing various elements of the Skills Development Act (No 97 of 1998). It also lies on the ethical level of the pyramid as it would be unethical to prevent workers from furthering their education and skills development. On the other hand it is ethical to educate and train members of surrounding communities and providing bursaries for example.

Global Reporting Initiative

The Global Reporting Initiative (GRI) is the world's most widely used framework for sustainability reporting. Its vision is for the reporting on economic, environmental, and social performance by all organisations to be as routine and as comparable as financial reporting. This vision is accomplished by developing, continuously improving and building capacity around the use of a Sustainability Reporting Framework, of which the Sustainability Reporting Guidelines form the core (Global Reporting Initiative, 2007).

The GRI Reporting Framework lies on the ethical and philanthropic levels of Carroll's pyramid as no laws are in place to force compliance. It is largely a sign of good ethics from registered companies as well as an act of good faith to go beyond the basic accounting principles as

required by law. As will be indicated later, several of the large mining companies in South Africa are signatories of the GRI guidelines.

Table 2 summarises each CSR issue in terms of Carroll's pyramid.

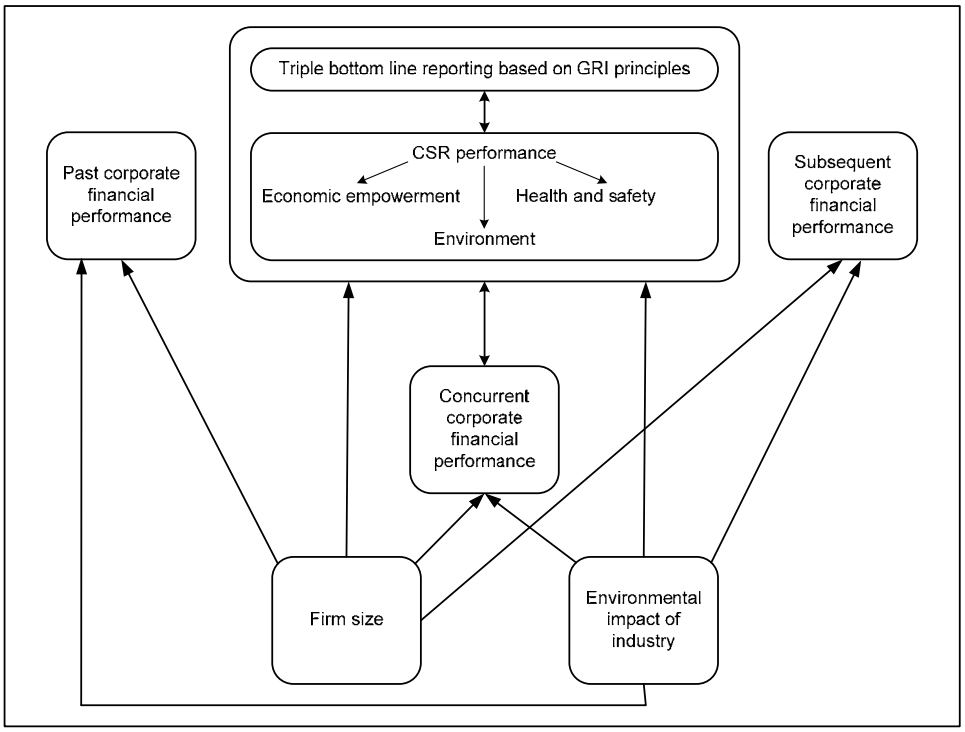
TABLE 2: CSR ISSUES IN TERMS OF CARROLL'S PYRAMID

	ECONOMIC	LEGAL	ETHICAL	PHILANTHROPIC
ECONOMIC EMPOWERMENT		X	X	
HIV/AIDS	X		X	X
HEALTH AND SAFETY		X	X	
ENVIRONMENTAL IMPACT		X	X	X
TRAINING AND EDUCATION	X	X	X	
GRI			X	X

Source: Researcher's own construction

There has not been conclusive evidence provided by recent studies on whether or not CSR activities increase companies' financial performance. A UK study which analysed the relationship between economic performance, CSR performance and disclosure, revealed that a weak relationship existing between the three elements (Balabanis, Phillips & Lyall, 1998:35). The complex interaction between corporate financial performance (which can be divided into past, concurrent and subsequent financial performance), CSR performance and triple bottom line reporting is depicted in Figure 2. The results of the study showed that past financial performance can explain variations in some elements of CSR performance. CSR disclosure (triple bottom line reporting) was found to be positively associated with concurrent financial performance. Also, a combination of high CSR performance and high disclosure was found to have positive effects on firms' overall profitability.

FIGURE 2: THE NEXUS OF RELATIONSHIPS BETWEEN CORPORATE FINANCIAL PERFORMANCE, CSR PERFORMANCE AND TRIPLE BOTTOM LINE REPORTING



Source: Adapted from Balabanis *et al.* (1998:35); contextualised for CSR issues in the South African mining sector

Hillman and Keim (2001:125) found evidence that if CSR activities are directly related to primary stakeholders such as employees, customers and suppliers, such investments benefit stakeholders and create additional wealth for shareholders. Participating in social issues (which are not directly related to primary stakeholders, such as the local community) however negatively impacted on the firm's ability to create shareholder wealth.

EMPIRICAL RESULTS

A summary sheet, as presented in Table 3, was produced based on the findings of the company-specific results. The results from this summary sheet indicate that a total of 1646 keywords were found over the five companies' combined page total of 1613 which makes up an average keywords-per-page ratio of 1.02. AngloGold Ashanti, Anglo Platinum, Gold Fields and Harmony were all above this average (1.04; 1.13; 1.24; 1.03 respectively) while only DRDGold was below the average (0.46). DRDGold's low keywords-per-page ratio could be a result of its comparatively smaller size and its non-compliance with GRI principles.

TABLE 3: SUMMARISED WORD COUNT

	AngloGold Ashanti	Anglo Platinum	DRDGold	Gold Fields	Harmony	Total
BEE	37	30	15	11	21	114
BBBEE	0	0	0	0	2	2
EMPOWERMENT TOTAL	**37**	**30**	**15**	**11**	**23**	**116**
HIV	110	47	8	50	50	265
AIDS	92	40	6	40	55	233
HIV/AIDS	72	14	6	29	42	163
HIV/AIDS TOTAL	**274**	**101**	**20**	**119**	**147**	**661**
fatalities	17	25	9	15	12	78
occupational fatalities	3	0	0	0	0	3
diseases	60	10	5	25	22	122
occupational diseases	7	0	2	1	12	22
lung diseases	12	6	2	0	0	20
occupational lung disease	33	0	4	0	0	37
silicosis	47	3	1	4	11	66
noise-induced hearing loss	18	12	7	4	7	48
HEALTH AND SAFETY TOTAL	**197**	**56**	**30**	**49**	**64**	**396**
environmental protection	7	0	0	2	0	9
environmental impact	7	8	0	11	8	34
pollution	19	11	6	0	15	51
water pollution	0	0	2	0	0	2
acid mine drainage	0	0	0	0	0	0
air pollution	1	4	0	0	0	5
carbon dioxide	4	17	0	1	0	22
greenhouse gas	7	5	0	4	0	16
global warming	1	0	0	0	0	1
climate change	9	4	0	0	0	13
contamination	7	5	1	1	2	16
conservation	9	8	3	3	5	28
waste management	4	3	0	1	1	9
ENVIRONMENTAL IMPACT TOTAL	**75**	**65**	**12**	**23**	**31**	**206**
skills development	4	8	2	6	10	30
bursary	9	16	0	4	8	37
scholarship	3	0	0	7	0	10
socio-economic development	0	10	0	1	3	14
community training	0	0	0	0	0	0
community upliftment	0	0	0	0	0	0
community development	2	7	0	16	0	25
community involvement	0	2	0	1	0	3
TRAINING AND EDUCATION TOTAL	**18**	**43**	**2**	**35**	**21**	**119**
global reporting initiative	32	43	0	20	27	122
charity	0	0	0	0	1	1
donation	11	4	0	3	7	25
OTHERS TOTAL	**43**	**47**	**0**	**23**	**35**	**148**
GRAND TOTAL	**644**	**342**	**79**	**260**	**321**	**1646**
Keywords per page ratio	**1.04**	**1.13**	**0.46**	**1.24**	**1.03**	**1.02**

As indicated in Table 4, the category that is most represented in all of the evaluated reports is HIV/AIDS with a 40.16% occurrence followed by health and safety with 24.06%, environmental impact 12.52%, the “others” category with 8.99% followed by training and

education which amounted to 7.23% and the least represented category was empowerment with 7.05%.

TABLE 4: CATEGORICAL SUMMARY

	AngloGold Ashanti	Anglo Platinum	DRDGold	Gold Fields	Harmony	Overall
Empowerment	5.75%	8.77%	18.99%	4.23%	7.17%	7.05%
HIV/AIDS	42.55%	29.53%	25.32%	45.77%	45.79%	40.16%
Health and safety	30.59%	16.37%	37.97%	18.85%	19.94%	24.06%
Environmental Impact	11.65%	19.01%	15.19%	8.85%	9.66%	12.52%
Training and education	2.80%	12.57%	2.53%	13.46%	6.54%	7.23%
Others	6.68%	13.74%	0.00%	8.85%	10.90%	8.99%
Total	100	100	100	100	100	100

The fact that HIV/AIDS is the most addressed topic along with health and safety can be attributed to the direct costs these issues inflict on the companies' profits.

Although the impact health and safety issues have in comparison to HIV/AIDS is smaller therefore health and safety issues lie more on the ethical than economic level of Carroll's CSR pyramid for large mining companies. It is no surprise that the economic needs of companies are taken care of first since unprofitable companies cannot possibly redistribute their earnings to address issues such as making donations to the poor which lies on the highest level of Carroll's CSR pyramid. This is confirmed as the third most-occurring category, environmental impact, lies on the legal, ethical and discretionary level of the pyramid but not on the economic level.

The last three remaining categories are represented each with less than ten percent of all keywords covered and lie mostly on the legal, ethical and discretionary levels of Carroll's pyramid. It is alarming to discover that training and education has such a low priority as one would expect that trained employees result in a more productive labour force and this would have a positive impact on productivity. However, judging strictly from the results in table 3, it is apparent that training and education are largely ignored by DRDGold. R3.15 million has been spent on skills development and training for 2006 and a provisional accreditation from the MQA was received for training in mining (DRDGold Annual Report, 2006:60). This finding clearly illustrates one of the shortcomings of content analysis as a data reduction technique as R3.15 million represents a significant contribution to the training and education issue. Perhaps the

prevalence of HIV/AIDS among mine workers is discouraging mining companies to invest in their human capital further than is necessary.

As shown in Table 5, DRDGold had the least amount of keywords per category for all six categories apart from the empowerment category where Gold Fields scored the lowest. This can be attributed to the fact that both of these companies only have a single annual report. DRDGold, having the least number of pages, has the lowest keywords per page ratio while Gold Fields, having the second least amount of pages, has the highest keywords per page ratio. AngloGold Ashanti has the most keywords per category for all the categories apart from training and education and "others" where Anglo Platinum scored the highest.

TABLE 5: FREQUENCY PER CATEGORY AND COMPANY

	AngloGold Ashanti	Anglo Platinum	DRDGold	Gold Fields	Harmony	Average
Empowerment	37	30	15	11	23	20.2
HIV/AIDS	274	101	20	119	147	107.2
Health and safety	197	56	30	49	64	68.2
Environmental Impact	75	65	12	23	31	37
Training and education	18	43	2	35	21	20
Others	43	47	0	23	35	23.6
Total	644	342	79	260	321	329.2
Number of pages	617	304	170	209	313	322.6

A direct link between financial performance and CSR is not evident although as the financial performance of a company improves it also tends to increase the company's involvement in CSR activities and the reverse occurs when the financial performance of the company decreases. This is to be expected as a company in a comfortable position has slack funds and can choose to tackle various CSR issues while a cash-strapped company does not have the same opportunities to participate in CSR activities. As pointed out earlier DRDGold had the weakest financial performance and it is therefore not surprising that this firm also ranks lowest in terms of CSR performance.

From the empirical analysis the most significant finding is that issues with an economic impact are treated with priority by the companies, with a tendency for issues lying above the economic level of Carroll's CSR pyramid being of secondary concern. From the empirical results it seems that, to a certain degree, the companies support Friedman (1970:126) and his view that "There is

one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game". The evaluated companies also tend to redistribute their wealth to stakeholders once the financial well-being of the company has been taken care of. The three highest scoring companies in terms of keywords-per-page ratio, AngloGold Ashanti, AngloGold and Gold Fields, are also the best financial performers but this could be attributed to their larger sizes in relation to Harmony and to DRDGold especially.

These findings seem to support prior research conducted by Balabanis *et al.* (1998:35) that financial sound companies are more likely to engage in CSR activities than struggling companies. They are also more likely to report on their CSR activities to improve subsequent financial performance.

DRDGold was by far the smallest of the five companies investigated and had weak financial and CSR performance. Their weak CSR performance was partly due to their non-compliance with the GRI principles.

The research findings of also seem to support Hillman and Keim's (2001:135) research as the CSR categories that have been the most represented tend to have a large economic cost to the companies and deal with primary stakeholders.

RECOMMENDATIONS AND MANAGERIAL IMPLICATIONS

The local mining sector, which faces many CSR issues, cannot simply ignore these issues as doing so it risks being scrutinised by various stakeholders. In recent years institutional investors across the globe in particular have become more critical in terms of their selection criteria and ownership policies. More emphasis is being placed on environmental, social and corporate governance consideration as cognisance is taken of the impact that these factors can have on future profitability (United Nations Principles for Responsible Investment, 2006; Mainstreaming Responsible Investment, 2005). This international development should not be overlooked by mining companies.

Four out of the five mining companies evaluated in this study are constituents of the FTSE/JSE Socially Responsible Investment (SRI) index for 2006 (FTSE/JSE SRI Index, 2006). DRDGold was the only company not to feature, a fact not too surprising as it was also the only company

not to adhere to the GRI principles. Although participation in the index is voluntary it does however show that a company is committed to improving its CSR standing. Participation in the index is thus strongly recommended to all mining companies. It is encouraging to note that Anglo American plc, BHP Billiton plc, Exxaro Resources Ltd, Impala Platinum Holdings Ltd, Merafe Resources Ltd and Northam Platinum Ltd are also constituents of the index.

Consumer groups across the globe are also becoming more concerned about issues relating to corporate citizenship (Solomon, Solomon & Norton, 2002:4; Guay, Doh, & Sinclair, 2004:125). A non-governmental organisation called No-Dirty-Gold (2007) for example highlights the rights of local communities "to determine their own futures - not to have it decided for them by corporations". By including local communities into mining activities, mining companies can contribute towards the well-being of the community members by means of training, education and employment.

Due to their size, mining companies are increasingly expected to make positive contributions to society. From the results of this study, it seems as if issues that impact the economic performance of the company are given first priority and those with lesser economic impact follow. This results in issues such as empowerment being scarcely represented and HIV/AIDS being the main social focus. If more balance was present across all issues, then maybe the deadlines for empowerment, as set out in the Mining Charter, could be reached within the allocated time.

Despite being given the second-most attention in this study, health and safety, particularly work-related fatalities within the gold mining sector, needs to see a greater improvement in order to reach the deadlines set for the end of 2008 by the sector at the Mine Health and Safety Council Summit in 2003. So far up to 2007, not enough has been achieved to reach these deadlines as many rock falls continue to be regularly reported by the media. Therefore it is recommended that mining companies regard each issue with a more balanced level of importance regardless of their impact on profitability, for example increasing the level of education among workers despite the fact that there is a high chance that a substantial number of trained employees may pass away due to HIV/AIDS or other illnesses.

It is recommended that mining companies increase their focus on economic empowerment and training and education, as well as make a better effort to reduce work-related fatalities. This

might prove costly at first but might prove profitable once considerable investments have been made in these areas. It will also improve their standing with internal and external stakeholders.

In summary it can be said that although this sector faces numerous CSR challenges, and although it possesses adequate financial resources, a mindset shift is required to encourage mining companies to pay more attention to Carroll's ethical and philanthropic responsibilities.

FUTURE RESEARCH

The scope of the study can be extended to the various other types of mining activities. Comparisons could, for example, be made between companies that mine precious metals, basic metals, and coal. Additionally, increasing the sample size from five companies would increase the accuracy of the empirical results. Other sectors could also be analysed to investigate their CSR activities.

This study merely consisted of a word count and it is thus suggested that a follow-up study focuses on a rich, in-depth identification into context in which the keywords were used by the companies in their annual financial statements.

This study only focused on six categories of CSR and it is possible that other categories not covered here might have been represented by the companies. Therefore it is recommended that a number of additional issues be included in future research. Some examples could include the conditions of the residences made available to workers, the manner in which female employees are treated in the mining sector and the issues associated with mine dumps and the dust the communities surrounding these dumps are forced to live with.

REFERENCES

Balabanis, G., Phillips, H.C. and Lyall, J. 1998. Corporate social responsibility and economic performance in the top British companies: are they linked? European Business Review, (98)1: 25-44.

Bezuidenhout, G. 2007. Mine-water treatment study proposes new solution. Mining Weekly. Available: http://www.MiningWeekly.co.za/article.php?a_id=107482 [accessed 29 July 2007].

Bowen, H.R. 1953. Social Responsibilities of the Businessman. New York: Harper & Row.

Carroll, A.B. 1979. A three-dimensional model of corporate performance. Academy of Management Review, (4)4: 497-505.

Carroll, A.B. 1991. The pyramid of corporate social responsibility: towards the moral management of organisational stakeholders. Business Horizons, (34): 39-48.

Collis, J. and Hussey, R. 2003. Business Research. 2nd Edition. Palgrave: MacMillan.

Davenport, J. 2006. HIV/AIDS education and training needed to improve productivity. Mining Weekly. Available: http://www.MiningWeekly.co.za/article.php?a_id=84727 [accessed 29 July 2007].

Department of Labour. 2006. What Workers and Employers Should Know About Silicosis? Available: http://www.Labour.gov.za/download/10944/Useful%20Document%20-%20OHS%20-%20What%20workers%20and%20employers%20should%20know%20about%20Silicosis.pdf [accessed 29 July 2007].

DRDGold Annual Report. 2006. Annual Report 2006. Available: http://www.DRDGold.com/ir/files/annual/ar_2006/files/DRDGOLD_AR06.pdf [accessed 5 April 2007].

Friedman, M. 1970. The social responsibility of business is to increase its profits. New York Times Magazine, 13 September: 122-126.

FTSE/JSE SRI Index. 2006. SRI Index Constituents for 2006. Available: http://www.JSE.co.za/sri/2006_constituents.jsp [accessed 24 November 2007].

Global Reporting Initiative. 2007. What We Do. Available: http://www.GlobalReporting.org/aboutGRI/whatwedo [accessed 29 July 2007].

Gold Fields Annual Report. 2006. 2006 Annual report 2006. Available: http://www.GoldFields.co.za/reports/annual_report_2006/pdfs/GoldFields_AnnualReportF2006.pdf [accessed 5 April 2007].

Guay, T., Doh, J.P. and Sinclair, G. 2004. Non-governmental organizations, shareholder activism and socially responsible investments: ethical, strategic and governance implications. Journal of Business Ethics, (52)1: 125-139.

Hillman, A.J. and Keim, G.D. 2001. Shareholder value, stakeholder management, and social issues: what's the bottom line? Strategic Management Journal, (22): 125-139.

Jones, G. R. 1995. Organizational Theory: Text and Cases. Massachusetts: Addison-Wesley.

Krippendorff, K. 2004. Content Analysis: An Introduction to Its Methodology. 2nd Edition. California: Sage.

Mainstreaming Responsible Investment. 2005. World Economic Forum. Available: http://www.WEForum.org/pdf/mri.pdf [accessed 1 April 2007].

Mathews, C. 2006. Fatality-free mining far off even as fewer workers pay with their lives. Business Day. Available: http://www.BusinessDay.co.za/Articles/TarkArticle.aspx?ID=2080761 [accessed 29 July 2007].

Mawson, N. 2005. Mining worst affected by AIDS – survey. Mining Weekly. Available: http://www.MiningWeekly.co.za/article.php?a_id=78330 [accessed 29 July 2007].

Mine Health and Safety Act (No 29 of 1996). 1996. Available: http://www.polity.org.za/attachment.php?aa_id=3031 [accessed 5 April 2007].

Naidoo, M. 2007. Mine water to alleviate predicted water supply stresses. Mining Weekly. Available: http://www.MiningWeekly.co.za/article.php?a_id=107469 [accessed 29 July 2007].

No-Dirty-Gold. 2007. About us. Available: http://www.NoDirtyGold.org [accessed 5 September 2007].

Profile's Stock Exchange Handbook: June 2007 – September 2007. 2007. Johannesburg: Profile Media.

Rockey, V. 2004. The Corporate Social Investment Handbook. 7th Edition. Cape Town: Trialogue.

Skills Development Act (No 97 of 1998). 1998. Available: http://www.polity.org.za/attachment.php?aa_id=3387 [accessed 29 July 2007].

Solomon, J., Solomon, A. and Norton, S. 2002. Socially responsible investment in the UK: drivers and current issues. Journal of General Management, (27)3: 1-13.

UNAIDS. 2006. Annex 2: HIV/AIDS Estimates and Data 2005. Available: http://data.unaids.org/pub/GlobalReport/2006/2006_GR_ANN2_en.pdf [accessed 29 July 2007].

United Nations Principles for Responsible Investment. 2006. Available: http://www.UNPRI.org [accessed 1 April 2007].

Van der Voude, S. 2006. Statistics in Achieving the Occupational Safety Milestones. Available: http://www.bullion.org.za/Departments/Safety&SusDevl/ohs/Employer%20OHS%20Summit%202006/Pres3_SvdWouder.ppt [accessed 29 July 2007].

Van der Voude, S. and Ally, I. 2007. Safety Performance 2006: Progress to Zero Harm? Available: http://www.bullion.org.za/Departments/Safety&SusDevl/Employer%20Summit%202007/Safety%20performance%202007%20presentation%20only%20-%2030%20May%2007.ppt [accessed 29 July 2007].

WHO - Silicosis Fact Sheet. 2000. World Health Organisation. Available: http://www.WHO.int/mediacentre/factsheets/fs238/en [accessed 29 July 2007].

Wikipedia. 2007a. Broad Based Black Economic Empowerment. Available: http://en.Wikipedia.org/wiki/Broad_Based_Black_Economic_Empowerment [accessed 29 July 2007].

Wikipedia. 2007b. Noise-Induced Hearing Loss. Available: http://en.Wikipedia.org/wiki/Noise-induced_hearing_loss [accessed 29 July 2007].

Zim, L. 2007. The Mining Sector's Firm Commitment To Health And Safety. Presentation delivered at the 3rd Chamber of Mines Health and Safety Summit. Available: http://www.bullion.org.za/MediaReleases/Health%20&%20safety%20summit%2007.pdf [accessed 29 July 2007].