

2017

# Corporate Social Responsibility in the Ghanaian Mining Industry

Frank Boateng  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

 Part of the [Accounting Commons](#)

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Management and Technology

This is to certify that the doctoral dissertation by

Frank Boateng

has been found to be complete and satisfactory in all respects,  
and that any and all revisions required by  
the review committee have been made.

## Review Committee

Dr. Mohammad Sharifzadeh, Committee Chairperson, Management Faculty

Dr. Walter McCollum, Committee Member, Management Faculty

Dr. Nikunja Swain, University Reviewer, Management Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University

2017

Abstract

Corporate Social Responsibility in the Ghanaian Mining Industry

by

Frank Boateng

MPhil, Kwame Nkrumah University of Science and Technology, 2015

FCMI, Chartered Management Institute, 2014

MBA, University of Leicester, 2009

BS, Central University Ghana, 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

February 2017

## Abstract

Gold mining communities in Ghana have experienced destruction of vegetation, water pollution, and soil contamination by activities of mining due to rapid growth and dependency on mining of natural resources within the catchment areas of the mining activities. These circumstances with repercussions of corruption and inefficient management of corporate social responsibility places organizational goals above the community and the nation. These setbacks necessitate the successful practice of corporate social responsibility to benefit stakeholders within mining communities. The purpose of this study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility to stakeholders. The research questions addressed whether a relationship existed between corporate social responsibility, environmental impact, community complaints, and the fiduciary responsibility to shareholders within gold mining companies in Ghana. Social exchange theory was the theoretical base of this quantitative correlational study, which included point-biserial and Spearman correlations to examine archival data from 10 active gold mining companies in Ghana. Results indicated a significant inverse relationship between community complaints and fiduciary responsibility, meaning that companies with positive report of community complaints tend to have lower fiduciary responsibility. Findings may inform policymakers, regulatory agencies, and mining organizations regarding the fiduciary effects of corporate social responsibility in the Ghanaian mining industry, and thereby influence positive business practices, living standards, and quality of life of Ghanaian citizens.

Corporate Social Responsibility in the Ghanaian Mining Industry

by

Frank Boateng

MPhil, Kwame Nkrumah University of Science and Technology, 2015

FCMI, Chartered Management Institute, 2014

MBA, University of Leicester, 2009

BS, Central University Ghana, 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

February 2017

## Dedication

This dissertation is dedicated to my wife, Rosemond; my children, Eunice, Gifty, Frank Jr., and Benedict; and my kid brother, Michael. Your support and encouragement were invaluable in the completion of my doctoral study.

## Acknowledgments

My first appreciation goes to the Almighty God for his faithfulness. Secondly, I would like to thank my father, Mr. Francis Obeng Boateng, my mother, Mrs. Esther Oduro Boateng, and my siblings for their love, care, and tremendous encouragement during my doctoral study. In addition, I would like to thank my dissertation committee for their assistance: Dr. Mohammad Sharifzadeh, my faculty mentor, dissertation committee chair, and methodologist; Dr. Walter McCollum, dissertation committee member and content expert; and Dr. Nikunja Swain, university research reviewer. My thanks also go to my family friends in Virginia Tech, Mr. and Mrs. Ansong Gyimah, for their love, support, and encouragement. Finally, I would like to thank my lovely wife, Rosemond Emma Boateng, for her endurance throughout my academic pursuits.

## Table of Contents

List of Tables .....	v
List of Figures.....	vi
Chapter 1: Introduction to the Study.....	1
Background.....	2
Problem Statement.....	5
Purpose of the Study.....	6
Research Questions and Hypotheses .....	6
Analysis for RQ1 .....	7
Analysis for RQ2 .....	8
Analysis for RQ3 .....	8
Operationalization of Hypothesized Variables.....	9
Theoretical Framework for the Study.....	10
Nature of the Study.....	11
Definitions.....	12
Assumptions.....	13
Scope and Delimitations .....	13
Limitations .....	14
Significance.....	15
Significance to Theory.....	15
Significance to Practice.....	16



Significance to Social Change .....	17
Summary .....	18
Chapter 2: Literature Review .....	19
Literature Search Strategy.....	20
Theoretical Foundation .....	20
Literature Review Related to Key Concepts and Variables.....	24
Corporate Social Responsibility .....	24
Corporate Social Responsibility and Fiduciary Responsibility .....	26
Corporate Social Responsibility in Ghana.....	27
Ghanaian Mining Industry .....	33
Corporate Social Responsibility and Fiduciary Responsibility in the Ghanaian Mining Industry .....	43
Summary and Conclusions .....	47
Chapter 3: Research Method.....	50
Research Design and Rationale .....	50
Methodology .....	52
Population .....	52
Sampling and Sampling Procedures .....	52
Procedures for Recruitment, Participation, and Data Collection.....	54
Operationalization of Variables .....	55
Corporate Social Responsibility .....	55

Environmental Performance .....	56
Community Complaints .....	56
Fiduciary Responsibility .....	57
Data Analysis Plan .....	57
Preanalysis Data Cleaning .....	58
Threats to Validity .....	60
Threats to External Validity .....	60
Threats to Internal Validity .....	60
Ethical Considerations .....	61
Summary and Conclusion .....	62
Chapter 4: Results .....	64
Preanalysis Data Cleaning .....	64
Descriptive Statistics .....	65
Frequencies and Percentages of Nominal Characteristics .....	65
Continuous Variables .....	66
Bivariate Analyses .....	67
Detailed Analysis .....	68
Ancillary Analysis .....	76
Multiple Linear Regression .....	76
Chapter Summary .....	81
Chapter 5: Discussions, Conclusions, and Recommendations .....	84

Interpretation of the Findings.....	85
Research Question 1 .....	85
Research Question 2 .....	88
Research Question 3 .....	89
Limitations of the Study.....	92
Recommendations.....	93
Implications.....	94
Implications for Mining Companies and Shareholders .....	94
Implications for the Ghanaian Government and Policymakers .....	96
Implications for Social Change.....	99
Conclusion .....	100
References.....	102

## List of Tables

Table 1. The AKOBEN Rating System .....	36
Table 2. Population Distribution of the Mining Companies in the Study .....	54
Table 3. Variable Description, Level of Measurement, and Responses .....	57
Table 4. Frequencies and Percentages for Nominal Characteristics .....	66
Table 5. Fiduciary Responsibility for Gold Mining Companies.....	67
Table 6. Means and Standard Deviations for Fiduciary Responsibility .....	67
Table 7. Chi-Square Analysis for Environmental Performance and Community Complaints .....	68
Table 8. Point-Biserial Correlation between Corporate Social Responsibility and Fiduciary Responsibility .....	71
Table 9. Spearman Correlation between Environmental Performance and Fiduciary Responsibility .....	73
Table 10. Point-Biserial Correlation between Community Complaints and Fiduciary Responsibility .....	76
Table 11. Variance Inflation Factors for Environmental Performance and Community Complaints .....	80
Table 12. Multiple Linear Regression with Environmental Performance and Community Complaints Predicting Fiduciary Responsibility .....	81
Table 13. Questions for assessing corporate social responsibility used by AKOBEN.....	87

## List of Figures

Figure 1. Scatterplot between corporate social responsibility and fiduciary responsibility. .....	69
Figure 2. Bar chart between corporate social responsibility and fiduciary responsibility.	70
Figure 3. Scatterplot between environmental performance and fiduciary responsibility.	72
Figure 4. Bar chart between corporate environmental performance and fiduciary responsibility. ....	72
Figure 5. Scatterplot between community complaints and fiduciary responsibility.....	74
Figure 6. Bar chart between community complaints and fiduciary responsibility. ....	75
Figure 7. Normal P-P plot to assess normality for regression on fiduciary responsibility. .....	77
Figure 8. Histogram of the residuals to assess normality for regression on fiduciary responsibility.....	78
Figure 9. Scatterplot of the standardized residuals on fiduciary responsibility.....	79

## Chapter 1: Introduction to the Study

Since 2000, mining operations in Ghana have drastically expanded, resulting in pressures to provide an appropriate infrastructure for responsible expansion (Amponsah-Tawiah & Dartey-Baah, 2011; Lawson & Bentil, 2014). Ghana is considered a leader among African countries with regard to mineral rights and wealth distribution, but the communities affected by expanding streams of revenue are also affected by mismanagement and corruption (Hilson, 2013). The policy of redistribution of wealth allows citizens and government officials to become stakeholders in the organizations and corporations that take advantage of Ghana's mineral wealth, including the revenue from precious metal extraction. The nationalistic policy of directly compensating communities affected by mining activities fails to reach all of the people deserving that compensation (Adimazoya, 2013). Through corporate social responsibility, the mining industry may maintain its exemplary status among African countries (Abugre, 2014).

The purpose of the present study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders, particularly within mining companies operating in Ghana. Examining these relationships helped to explain the connections between corporate social responsibility and the ability to maintain corporate responsibility (Usman & Amran, 2015). I introduce the study in this chapter by discussing the relevant background and the problem addressed in the study. Next, I present the purpose and nature of the study, as well as the theoretical framework,

definitions of key words, and parameters of the study. I conclude the chapter with a discussion of the study's significance.

### **Background**

Mining operations in Ghana have grown 290% since 2000 and account for 6% of the gross domestic product (Armah et al., 2011; Hilson, 2013; Lawson & Bentil, 2014). Legislators made provisions to attract investment in mineral extraction in Ghana, enticing foreign companies to explore the hidden wealth beneath the soil (Adimozoya, 2013; Armah et al., 2011). According to Adimozoya (2013) and Lawson and Bentil (2014), of the 180 companies prospecting for minerals in Ghana, 37 are engaged in extracting minerals such as gold and diamonds.

The rapid expansion of the mining industry resulted in several consequences for Ghanaian citizens. For example, the increased pressure to mine Ghana's minerals has degraded the environment an estimated \$730 million and eliminated many livelihoods for local residents (Lawson & Bentil, 2014). Lawson and Bentil (2014) investigated the mining industry in Ghana and the effect it had on the communities and individuals in two communities in the Asutifi District. The qualitative data indicated that members of the affected communities felt helpless, confused, and uninformed regarding the damage to their environment. Lawson and Bentil concluded that these individuals needed to be more involved with the initiation of mining in their areas, and that increased communication and transparent information about the influence of the mining industry on individuals and communities was necessary.

The environmental and social influence of mining necessitated a core requisite policy of reimbursing Ghanaian citizens (Abugre, 2014; Hilson, 2013). One example of a policy intended to meet these needs is the direct compensation of communities affected by the mining industry (Adimazoya, 2013). However, because of corruption and mismanagement, these resources often fail to reach those individuals who are most in need of the redistribution of wealth (Adimazoya, 2013; Hilson, 2013). As Stapenhurst and Pelizzo (2012) noted, the Ghanaian Parliament is a primary actor in reducing corruption in favor of democracy, but additional measures are required to maintain responsible mining expansion (Abugre, 2014). To maintain competition and the sustainability of the industry, organizations must maintain their fiduciary responsibilities to their shareholders by maintaining a profit (Garriga & Mele, 2004; Mishra & Modi, 2016).

Understanding corporate social responsibility and its relationship to fiduciary responsibility may provide a method of maintaining appropriate behavior from mining industries (Wilson, 2015). Corporate social responsibility involves the self-regulatory function whereby a business maintains ethical and legal business practices (Acquier, Gond, & Pasquero, 2011; Garriga & Mele, 2004). These practices evolve and shift to meet the different requirements of a specific business context (Carroll, 2015). Although the primary goals of a corporation are to create wealth for stakeholders, improve stakeholder value, and achieve positive economic results, corporate social responsibility indicates that companies may also act for the betterment of the environment or society if



appropriate cultural and organizational behaviors are maintained within an organization (Garriga & Mele, 2004).

To maintain and promote these behaviors, mining organizations must understand that corporate social responsibility does not preclude economic success. Corporate social responsibility is based on the ethical concerns and responsibilities of the corporation with regard to stakeholders, employees, and communities in direct and indirect contact with the corporation (Huang & Watson, 2015). For Ghana, corporate social responsibility transcends the production of gold at a profit and includes effects mining activities have on the environment and the communities. Mining industries may perceive that investing money in corporate social responsibility would reduce profit and make them unable to meet their fiduciary responsibility to shareholders.

Because lawmakers in Ghana have set up legislation for compensation of citizens affected by mining, an infrastructure may already exist that can influence and improve corporate social responsibility in the Ghanaian mining industry (Hilson, 2013). Understanding that corporate social responsibility is not incompatible with profits may increase compliance and decrease corruption through self-regulation (Carroll, 2015). Abugre (2014) found that corporate social responsibility policies within organizations operating in Ghana's developing economy were not executed properly. Specifically, Abugre concluded that mismanagement, inexperience, and lack of commitment and resources were major barriers to implementation of corporate social responsibility. Abugre's findings exposed a gap in the literature with regard to corporate social responsibility behaviors and their relationship with the fiduciary responsibility to

stakeholders within the Ghanaian mining industry. The present study provided necessary information to mining organizations in Ghana regarding the relationship between corporate social responsibility, environmental policies, and community complaints, and fiduciary responsibilities to shareholders.

### **Problem Statement**

Because of Ghana's rapid growth and dependence on mining of natural resources, organizations and corporations working in the mining industry have experienced the repercussions of corruption and inefficient management that place organizational goals above the community and the nation (Abugre, 2014; Hilson, 2013; Lund-Thompson, Lindgreen, & Vanhamme, 2016). Corporations in the mining industry may perceive that investing money in corporate social responsibility would reduce profit and make them unable to meet their fiduciary responsibility to shareholders (Quartey & Quartey, 2015). The general problem was that emotionally and geographically removed board members controlled corporate social responsibility in Ghanaian mining operations (Quartey & Quartey, 2015), and the majority of capital gained from Ghana's mineral wealth flowed out of the country (Lawson & Bentil, 2014). The specific problem was absence of corporate social responsibility in Ghana's mining industry because of management's lack of understanding of the relationship between corporate fiduciary responsibility to stakeholders and corporate social responsibility (Abugre, 2014). More research was needed to understand the relationship between corporate fiduciary responsibility to stakeholders and corporate social responsibility in gold mining companies operating in Ghana. In this quantitative correlational study, I included participants from all 10 publicly

traded, active gold mining companies that participated in the AKOBEN Program in Ghana, West Africa.

### **Purpose of the Study**

The purpose of this quantitative correlational study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies in Ghana. I used a correlational design because the goal was to quantify the strength and direction of associations between the dependent variable (fiduciary responsibility) and the independent variables (corporate social responsibility, environmental policies, and community complaints). The participants in this study included all publicly traded gold-mining companies operating in Ghana, West Africa. Examining the possible relationship between fiduciary responsibilities and corporate responsibility, environmental policies, and community complaints may indicate an increase in the net effect to the beneficiaries and the community through social change in the ethical standards of mining companies in Ghana. The present study may influence social change by promoting social welfare and sustainability of a major resource for Ghana, and by describing a potential relationship between corporate social responsibility behaviors and fiduciary responsibility that could improve organizational decision-making and thereby conditions for Ghanaian citizens.

### **Research Questions and Hypotheses**

To guide the study, I asked the following three questions:

1. What is the relationship between corporate social responsibility and fiduciary responsibility to the shareholders in mining companies operating in Ghana?

H<sub>0</sub>1: There is no significant relationship between corporate social responsibility and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

H<sub>A</sub>1: There is a significant relationship between corporate social responsibility and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

### **Analysis for RQ1**

To answer the first research question, I conducted a point-biserial correlation. A point-biserial correlation is an appropriate statistical analysis when the goal is to assess the strength of association between a dichotomous variable and a continuous level variable (Pallant, 2013). Corporate social responsibility was the dichotomous independent variable and fiduciary responsibility was the continuous dependent variable. Both variables were measured using secondary data from the AKOBEN Program and the Ghana Chamber of Mines.

2. What is the relationship between mining companies' efforts to minimize their negative impact on the environment and fiduciary responsibility to the shareholders?

H<sub>0</sub>2: There is no significant relationship between mining companies' efforts to minimize their negative impact on the environment and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

H<sub>A2</sub>: There is a significant relationship between mining companies' efforts to minimize their negative impact on the environment and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

### **Analysis for RQ2**

To answer the second research question, I conducted a Spearman correlation. A Spearman correlation is an appropriate statistical analysis when the goal is to assess the strength of association between two variables, when at least one of the variables is measured on an ordinal scale (Pallant, 2013). Environmental performance was the ordinal independent variable, and fiduciary responsibility was the continuous dependent variable. Both variables were measured using secondary data from the AKOBEN Program and the Ghana Chamber of Mines.

3. What is the relationship between community complaints and fiduciary responsibility to the shareholders in mining companies operating in Ghana?

H<sub>03</sub>: There is no significant relationship between community complaints and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

H<sub>A3</sub>: There is a significant relationship between community complaints and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

### **Analysis for RQ3**

To answer the third research question, I conducted a point-biserial correlation. Community complaints were the dichotomous independent variable and fiduciary

responsibility was the continuous dependent variable. Both variables were measured using secondary data from the AKOBEN Program and the Ghana Chamber of Mines.

### **Operationalization of Hypothesized Variables**

The dependent variable, fiduciary responsibility to the shareholders in mining companies operating in Ghana, was measured using data from the Ghana Chamber of Mines (2013) and corresponded to gold production in ounces for 2012. The independent variables stemmed from reports conducted for AKOBEN by the Ghana Environmental Protection Agency (EPA). The EPA compiles and analyzes data from monthly reports from the mines, generating a report card on each of the aspects of AKOBEN.

The independent variable, corporate social responsibility, was measured by the corporate social responsibility rating from the AKOBEN Program, wherein mines are ranked as either GOLD or NOT ADEQUATE per AKOBEN requirements. The independent variable, efforts to minimize negative impact on environment, was measured using the overall ranking of a company per AKOBEN reporting. Under the AKOBEN initiative, the environmental performance of a mine site is assessed using a five-color rating scheme. The five colors are GOLD, GREEN, BLUE, ORANGE, and RED, which encompass the full spectrum of environmental performance ranging from excellent to poor (EPA AKOBEN, 2012). The independent variable of community complaints was measured using data from AKOBEN, whereby an organization is reported as either GREEN or NOT ADEQUATE.

### **Theoretical Framework for the Study**

The theoretical framework for this study was social exchange theory. Social exchange theory describes the commutation of tangible or intangible activities between two organizations or individuals (Homans, 1958; Birtch, Chiang, & Van Esch, 2016). Social exchange promotes satisfaction between two entities or more, especially when they receive prescribed returns for investments (Emerson, 1976; Homans, 1958). Organizational behaviors are explained through social exchange theory as a series of interactions that lead to the generation of obligations (Emerson, 1976). The tenet of the theory is that the exchange of social behavior may result in social and economic outcomes; therefore, corporate social responsibility resides within the theoretical underpinnings of social exchange theory (Holthausen, 2013).

Social exchange theory, and specifically corporate social responsibility, prompted this study because of the corruption and destruction of the environment, which is not an equal exchange. Under social exchange theory, mining organizations may perceive that contributing profits to corporate social responsibility behaviors is an unequal exchange that might reduce their abilities to make profits and meet their fiduciary responsibilities to their shareholders. This reluctance may lead to the corruption and lack of adherence to legislation among mining organizations in Ghana (Babalola, 2012; Luiz & Ruplal, 2013). The present study may provide additional information to reduce the unequal exchange under social exchange theory and thereby increase compliance within this industry, allowing for sustainable and ethical expansion.

### **Nature of the Study**

I developed research questions and hypotheses based on three constructs: fiduciary responsibility, environmental policy, and community complaints. Philosophically, I employed a positivist approach in this study. Researchers have indicated that the aim of positivism is to explain, predict, and control a phenomenon (Guba & Lincoln, 2004; Mackenzie & Knipe, 2006). Positivism is an epistemological doctrine in which physical and social realities are independent of those who observe it; the observation of this reality is unbiased and constitutes scientific knowledge (Gall et al., 2003). According to Weber (2004), positivism assumes that theoretical predictions can be tested with data collected from the objective world. Quantitative research is aligned with positivism because it contains epistemological characteristics that show how the methodology should control the research (Sarantakos, 2005). Sarantakos (2005) pointed out that the positivist paradigm consists of realist or objectivist ontology that guides the strategy of quantitative methods. In adopting the positivist stance, I deemed the quantitative method suitable for this study as it provided the opportunity to test the hypotheses.

I used secondary data in the quantitative analysis. Data from the 2012 AKOBEN Program was used for 10 active gold mining organizations in Ghana. I gathered and averaged the same 10 organizations' gold production for the dependent variable of fiduciary responsibility. I conducted correlation analyses to determine the association between the dependent variable (fiduciary responsibility) and the independent variables (corporate social responsibility, environmental policy, and community complaints). I



chose this method because of the theoretical linkages that may occur between corporate performance and firm value.

### **Definitions**

*AKOBEN*: The AKOBEN Program is an environmental performance rating and disclosure initiative of the Ghana EPA, Government of Ghana. Under the AKOBEN initiative, the environmental performance of a mine site is assessed using a five-color rating scheme. The five colors are GOLD, GREEN, BLUE, ORANGE, and RED, which encompass the full spectrum of environmental performance ranging from excellent to poor. Rankings incorporated in the overall score include legal issues, hazardous waste management, toxic and nontoxic releases, monitoring and reporting, environmental best practices, community complaints, and corporate social responsibility (EPA AKOBEN, 2008).

*Corporate social responsibility*: Corporate social responsibility is based on the ethical concerns and responsibilities of the corporation with regard to stakeholders, employees, and communities in direct and indirect contact with the corporation (Acquier et al., 2011; Dahlsrud, 2008; Huang & Watson, 2015). Corporate social responsibility was measured using the GOLD or NOT ACCEPTABLE rating from AKOBEN.

*Environmental Protection Agency*: The EPA is an agency responsible for keeping environmental standards in Ghana.

*Social exchange theory*: Social exchange theory describes the commutation of tangible or intangible activities between two organizations or individuals (Homans, 1958)

### **Assumptions**

Two assumptions underpinned this study. The first assumption was that all mining companies in this sample have social license given under the EPA by the stakeholders from the mine-take areas they are working to operate, because AKOBEN scores are available for all of the mining organizations under study. Second, I assumed that all mining companies have corporate fiduciary responsibility toward their shareholders based on tenets of public organizations (Garriga & Mele, 2004).

### **Scope and Delimitations**

The scope of the study included mining organizations operating in Ghana and listed on the stock exchange. The Ghana mining industry was chosen because of its specific legislative requirements and exemplary roles played previously within the African mining industry (Hilson, 2013). I did not include data from other African countries or from organizations not listed on the stock exchange.

Second, I delimited the study to operating mines. Although preproduction mining companies cause land degradation and destruction (Dashwood & Puplampu, 2011), operating mines were chosen because the purpose of the study was to understand fiduciary responsibility. Preproduction mines did not have the data needed to understand the relationship between corporate social responsibility and fiduciary responsibility.

Finally, the study was delimited to gold mining operations in Ghana. Because gold is the most profitable of the mining activities conducted in Ghana, and because comparing different types and styles of mining might have introduced confounding variables, this choice was appropriate for maintaining the integrity of the study. Other

mining activities like bauxite and manganese were not considered, though they have similar needs for corporate social responsibility data. Generalizability of the study results is not possible to other mining industries or those in different geographical locations.

### **Limitations**

Limitations of the study stemmed from the choice of population and data. For example, a key limitation of this study was the limited number of gold mining companies in operation. Ghana does not have a large number of gold mines compared to other countries on the continent. Use of previously existing data sets led to limitations of historical data, including the inability to control data collection procedures. Because the EPA and the Ghana Chamber of Mines are reputable sources, the data provided a good indicator of the independent and dependent variables.

Another limitation of the research study was the potential lack of generalizability. The sample of organizations was limited to operating gold mines in Ghana, West Africa. The results may not be generalized to other mining industries or to other countries in Africa. Because of the representation of multiple organizations listed on the stock exchange, the results are most likely generalizable to gold mining organizations in Ghana. I was cautious in making statements that assumed that the results were generalizable to other populations.

An additional limitation was the use of a correlational design. Based on this design choice, I did not demonstrate causation or directionality of the relationship between the variables (Trochim & Donnelly, 2001). I took special care to avoid these types of assumptions when reporting findings, and future researchers may choose

alternative designs to investigate the relationship between these variables, as well as additional variables that explain the relationship.

## **Significance**

### **Significance to Theory**

The findings of this study may contribute to the body of research regarding developing economies and the integration of advanced technologies used to harvest natural resources. Specifically, the study filled a gap in knowledge regarding the relationships between corporate social responsibility and fiduciary responsibility to shareholders in the Ghanaian gold mining industry. Although many researchers proposed the benefits of corporate social responsibility to Ghanaian citizens (Abugre, 2014; Adimazoya, 2013; Lawson & Bentil, 2014), little research existed regarding the influence of corporate social responsibility on the organization from a profit standpoint.

Another area of significance for this study was contributing to social exchange theory through corporate social responsibility, which includes fiduciary responsibility to stakeholders, environmental effect, and community relations within the mining industry. For the purposes of this study, corporate social responsibility described how corporations can navigate the ethical and environmental components of a company in a positive manner, which leads to win-win situations for all stakeholders and not just a fortunate few who know how to manipulate the system in their favor. Connecting these practices to fiduciary responsibility may help to augment the theory by explaining how corporate social responsibility can become a win-win situation for an organization, rather than a detriment.

### **Significance to Practice**

Despite the benefits of socially responsible production, the fact remains that for-profit gold mining organizations in Ghana are motivated by profit (Adimazoya, 2013; Lawson & Bentil, 2014). The study may be significant for business practice if corporate social responsibility can be reconstructed as behavior that does not negatively influence fiduciary responsibility, or that has a positive influence on profit; then organizations may be more motivated to invest profits into corporate social responsibility activities. The application of corporate social responsibility in Cypriot businesses led to some financial gains in the form of tax exemptions (Papasolomou-Doukadis, Krambia-Kapardis, & Katsiolouides, 2005). Identified patterns could undermine the establishments of our society as the acknowledgment of corporate officials of a corporate social responsibility other than to make profit for their stockholders (Yin & Jamali, 2016). The patterns are seen as route to grasp the necessities and worries of the employees, partners in accepting accountability for the community and the environment in a bigger perspective (Giuliani, 2016). Corporate social responsibility should not be viewed as a means for losing money or reducing profits, but should be seen as fundamental for successful operations. Corporations should embrace this view as a way of considering society rather than focusing exclusively on personal financial gains (García-Rodríguez, García-Rodríguez, Castilla-Gutiérrez, & Major, 2013; Idemudia, 2014; Pecorino, 2016). Through results from this study, organizations in the Ghanaian gold mining industry may be willing to view corporate social responsibility activities as a benefit rather than detriment to their bottom lines.

### **Significance to Social Change**

The results in this study may serve as a guide for policy design to enhance equitable distribution of gains from natural resources, specifically gold, in Ghana. Contracts for mineral rights “often act as instruments of public policy on fiscal, social, and environmental matters” (Adimazoya, 2013, p. 155). Although companies come with good intentions, mining for profit often causes indigenes great harm including layoffs, environmental pollution, industrial accidents, etc. When these harms become unbearable to the people, it becomes imperative for governments to develop policies that will help mitigate the damage (Giuliani, 2016). Any corporate social responsibility company of legal construct has two major duties to carry out (Elving & Kartal, 2012). These are to make money for the stakeholders and to comply with the rules and regulations of their host nation or community. The government has the power to formulate policies that will compel these companies to perform their corporate social responsibility acts to improve the lives of the people in the communities. These improved policies will positively influence the lives of the people within the mine-take area. Because most of these organizations are profit centered and think less of the environments in which they operate, it is the government’s responsibility to formulate policies and laws that will require these businesses to incorporate environmental costs into their budgets (Arnold & Valentin, 2013). Strategic corporate social responsibility promotes alignment between business interests, social value, and environmental stewardship, generating more impact and value to the society (Shaukat, Qiu, & Trojanowski, 2016). The net effect to the

beneficiaries of corporate social responsibility will be positive social change in their living standards.

### **Summary**

The rapid expansion of the Ghanaian mining industry has led to the need for increased understanding of its influence on Ghanaian citizens and corporations working in the industry (Adimazoya, 2013; Lawson & Bentil, 2014). Corruption and inequitable treatment characterizes these industries, and negative influences may be mitigated by an increased focus on corporate social responsibility (Abugre, 2014; Carroll, 2015). Ghanaian gold mining industries may have little motivation to pursue these endeavors based on a lack of knowledge about how they will influence their profitability.

I investigated the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana. In Chapter 1, I provided an introduction to this study, including its background, problem, purpose, nature of the study, definitions, assumptions, scope and delimitations, limitations, and significance. In Chapter 2, I review the relevant literature to highlight the gap in research that necessitated the study.

## Chapter 2: Literature Review

In Ghana, the sustainability of the gold mining industry depends on balancing corporate social responsibility with organizations' fiduciary responsibilities to their shareholders to maintain responsible mining expansion (Abugre, 2014; Garriga & Mele, 2004; Hilson, 2013). Understanding corporate social responsibility and its relationship to fiduciary responsibility may provide a method of promoting appropriate behavior from mining industries. To implement these behaviors, mining organizations must understand that corporate social responsibility does not preclude economic success (Carroll, 2015). The corrupt behaviors and mismanagement of corporate social responsibility policies within Ghanaian mining organizations indicated that organizations may not have a clear understanding of that balance (Abugre, 2014).

The purpose of this quantitative study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana. In Chapter 2, I address the gap in the literature related to the study. Topics include the theoretical foundation, corporate social responsibility, fiduciary responsibility, corporate social responsibility in Ghana, the Ghanaian mining industry, and corporate social responsibility and fiduciary responsibility in the Ghanaian mining industry. I conclude the chapter with an overview of the chapter's findings and a clarification of the need for the present study.



### **Literature Search Strategy**

The search for relevant literature began with a preliminary search of scholarly databases in the Walden University library. I searched Academic Search Premier, EBSCO, Emerald Insight, JSTOR, Science Direct, and Web of Science. I also used the Google Scholar search engine. Key words included *AKOBEN*, *corporate social responsibility*, *Ghanaian mining industry*, *fiduciary responsibility*, *Ghanaian mining regulations*, *Ghana*, and *social exchange theory*. Multiple Boolean combinations of the terms provided the initial results of the search.

From the initial findings, I identified key journals and authors within this field. Key journals were *Social Responsibility Journal*, *Journal of Management*, and *Journal of Business Ethics*. Seminal authors who conducted relevant work for the study included Abugre, Babalola, Quartey, Hinson, Homans, Lawson, Bentil, Hilson, and Garforth. To ensure thoroughness of the literature review, I ran an additional search of the databases for these authors, as well as searches for special issues in key journals.

The literature review included 49 sources. Forty-six (93.8%) were peer-reviewed, and 38 (77.6%) were published within the last 5 years. Most of the older sources were seminal works that supported the theoretical foundation; about 89.5% of the reviewed literature was published within the past 5 years. The sources also included one doctoral dissertation and three trade reports.

### **Theoretical Foundation**

The theoretical foundation for the study was social exchange theory. Homans (1958) developed social exchange theory to explain the social processes and negotiations

that constitute social interactions. Emerson (1976) applied social exchange theory to organizational behaviors, positing that organizations functioned in a similar manner to humans regarding transactional processes. In other words, if an organization invests resources into another organization or an endeavor, organizational stakeholders will expect a return on that investment. Per social exchange theory, actors freely enter or engage with expectation of receiving something in return for that exchange (Tanskanen, 2015). Social exchange theory is built on three central tenets and four basic theories: The three tenets are trust, commitment, and power, and the four theories are motivation, perception, experience, and expectations (Tyrie & Ferguson, 2013). The four theories of social exchange theory influence the three central tenets (Tyrie & Ferguson, 2013).

A key tenet of social exchange theory relevant to the present study was trust among the individuals entering an exchange (Tanskanen, 2015; Tyrie & Ferguson, 2013; Zucker, 1986). Zucker (1986) posited that the social exchanges between organizations constituted a commonality that enabled business processes within a society, and that organizations following these social expectations gained trust through their adherence to tenets of organizational social exchanges. Tanskanen (2015) explained that trust is the bedrock for all social exchange transactions, and the actors in the exchange are hopeful that some sort of a beneficial exchange will occur. For example, corporate social responsibility activities by a gold mining company may establish trust among the local community, which the community and the gold mining company could view as a beneficial exchange. If the organization perceived fiduciary detriments of these activities, these perceptions could interfere with the exchange because profit is an expectation of the

gold mining company and its shareholders. The gold mining organization's motivation to engage in corporate social responsibility would decrease, based on social exchange theory (Emerson, 1976; Tanskanen, 2015).

Social exchange theory is one of the oldest theories still in use; the theory continues to have relevance in describing the related exchange and social interactions with the involvement of people (Chang, Tsai, Chen, Huang, & Tseng, 2015). Rutti, Helms, and Rose (2013) noted that social exchange theory was more effective in current settings in which the relational structures were integrated. The four main relational structures include communal sharing, authority ranking, equality matching, and market pricing (Rutti et al., 2013). Rutti et al. argued that researchers' adoption of social exchange theory often provided an examination of various individual exchanges used in a relationship, rather than an integration of all structures.

In a recent study regarding social exchange theory, Chang et al. (2015) used a more integrative approach by collecting data from 136 top managers of manufacturing firms. Chang et al. developed a structural equation model to explain an integrated social exchange theory. Specifically, Chang et al. assessed how social behaviors, such as exchange knowledge, information, and respect between firms, increased certification implementation as well as the relationship among actors. However, only 22.67% of respondents responded to the questionnaires (Chang et al., 2015). This response rate was considered unacceptable after conducting a confirmatory analysis and discrimination validity test. Nevertheless, Chang et al.'s data suggested that social exchange behaviors,

as defined through social exchange theory, had a positive effect on relationships within the industry as well as certification implementation.

A prime example of social exchange theory within an organization is fiduciary responsibility. Corporations and organizations have a fiduciary duty to act within the interests of shareholders (Di Domenico, Tracey, & Haugh, 2009). Shareholders have faith in an organization to make decisions supporting their interests; in exchange, the organization receives continued support and investment from shareholders. This obligation includes making sound financial decisions. If an organization chooses not to honor this fiduciary responsibility, then the social exchange may become unequal, stakeholder trust may diminish, and the organization in question may lose its ability to function within a particular economic situation with that set of stakeholders (Zucker, 1986). To avoid such negative consequences, an organization may choose not to invest resources in an endeavor that may seem outside of shareholder interests (Di Domenico et al., 2009).

Holthausen (2013) proposed that corporate social responsibility falls under the umbrella of social exchange theory. Corporate social responsibility is an investment from organizations into the community, a social exchange between the organization and the community affected by the organization (Carroll, 2015; Holthausen, 2013). The organization must dedicate time and effort, as well as capital, to corporate social responsibility (Burke & Logsdon, 1996). As is the case in any interaction, an organization that invests in corporate social responsibility initiatives will expect a return on that investment (Di Domenico et al., 2009; Emerson, 1976; Chaudhri, 2016). Rewards from

corporate social responsibility for the organization include increased reputation within the community, better relationships and voluntarism among employees, employees' satisfaction with the ethics of their companies, and financial gains (Burke & Logsdon, 1996; Calabrese, Costa, Menichini, & Rosati, 2013; Hinson, Renner, & van Zyl, 2016; Holthausen, 2013; Kang, Byun, & Park, 2014).

Social exchange theory provided a theoretical framework for the study because of the inclusion of key concepts in the theory. Under social exchange theory, mining organizations may perceive that contributing profits to corporate social responsibility behaviors is an unequal exchange that might reduce their abilities to make profits and meet their fiduciary responsibilities to their shareholders (Garriga & Mele, 2004; Quartey & Quartey, 2015). This reluctance may lead to the corruption and lack of adherence to legislation mandating corporate social responsibility among mining organizations in Ghana (Abugre, 2014). The study provides additional information that may reduce the perceptions of that unequal exchange and thereby increase compliance within this industry, allowing for sustainable and ethical expansion in Ghanaian gold mining.

### **Literature Review Related to Key Concepts and Variables**

#### **Corporate Social Responsibility**

All organizations encounter ethical issues in basic operations, which can prompt an organization either to make improvements or to engage in unethical behaviors (Nielsen & Massa, 2013). One method that constituted a positive response to ethical dilemmas was corporate social responsibility, which involved the self-regulatory function whereby a business maintains ethical and legal business practices (Acquier et al., 2011;

Garriga & Mele, 2004). Corporate social responsibility is a social contract between organizations and the communities in which they operate (Ioannou & Serafeim, 2015; Carroll, 2015). Four theoretical components of corporate social responsibility exist: profits, political performance, social demands, and ethical values (Garriga & Mele, 2004). Garriga and Mele (2004) proposed that the four concepts of corporate social responsibility could be used to understand and predict organizational activities with relation to social responsibility.

From its inception in the early 1960s through 2015, corporate social responsibility underwent several transformations from being a movement among a few socially conscious organizations and scholars to becoming a legal responsibility (Carroll, 2015). According to theorists of corporate social responsibility, companies have the ethical obligation to consider the interests of customers, employees, shareholders, and communities, as well as the ecological influence of their organization in all aspects of their operations (Babalola, 2012; Garriga & Mele, 2004). Corporate social responsibility often includes activities or programs that give back to the community, as well as promote environmental sustainability (Garriga & Mele, 2004). These practices differ based on the organization's context, and business leaders must evolve and shift socially responsible business activities to meet the different requirements of a specific business context (Carroll, 2015).

To employ corporate social responsibility and reap its benefits, it is necessary that leaders provide a strong example. Kang et al. (2014) investigated the relationship between leader-follower value congruence in social responsibility and the level of ethical

satisfaction for employees in the workplace. The sample consisted of 19 factory floor workers and their supervisors at a manufacturing company in South Korea. Kang et al. gathered data through a 7-point Likert type scale, and analyzed the data through polynomial regression. The analysis revealed a relationship between leader-follower value congruence in social responsibility and the ethical satisfaction of the employees. Kang et al. discovered that the value congruence on the employees was achieved because workers followed the examples of their leaders regarding socially responsible work behaviors. When followers took on their leaders' corporate social responsibility behaviors, the followers were more satisfied with the ethics of the company (Kang et al., 2014). Kang et al.'s study occurred in a single organization in South Korea, and results may not be generalizable to other settings.

### **Corporate Social Responsibility and Fiduciary Responsibility**

To maintain competition and the sustainability of any industry, organizations must maintain their fiduciary responsibilities to their shareholders by preserving a profit (Garriga & Mele, 2004). Garriga and Mele (2004) included profit as one of the theoretical constructs of corporate social responsibility. Within organizations, stakeholders' perceptions of corporate social responsibility often influence the extent to which the organization will engage in socially responsible activities (Quartey & Quartey, 2015). Although the primary goals of a corporation are to create wealth for stakeholders, improve stakeholder value, and achieve positive economic results, theorists of corporate social responsibility indicated that companies may also act for the betterment of the

environment or society if appropriate cultural and organizational behaviors are maintained within an organization (Garriga & Mele, 2004).

As Quartey and Quartey (2015) noted, stakeholders' perceptions that corporate social responsibility will interfere with profits may limit the extent to which an organization will allocate resources to these activities. Combining ethics and organizational systems, as in corporate social responsibility policies and behaviors, can improve ethical behavior at the individual and organizational levels (Nielsen & Massa, 2013), but these activities must also make sense from a fiduciary standpoint for the organizations to engage in these activities (Garriga & Mele, 2004). The perception that corporate social responsibility may interfere with profits may be hindering Ghanaian companies from committing to corporate social responsibility (Garriga & Mele, 2004; Quartey & Quartey, 2015).

### **Corporate Social Responsibility in Ghana**

Researchers have noted that the research on corporate social responsibility in Africa in general is limited (Andrews, 2014). In Ghana, variety of policies, laws, practices, and initiatives existed to provide a framework for corporate social responsibility, but no comprehensive corporate social responsibility documents or policies were present in the country (Atuguba & Dowuona-Hammond, 2006; Ofori & Hinson, 2007; Armah et al., 2011). In studies regarding corporate social responsibility in Ghana, researchers suggested that management and organizations played a key role in either corrupt or ethical business practices (Abugre, 2014; Quartey & Quartey, 2015). Research works suggested the indigent community and organizations needed to partner to



integrate corporate social responsibility within social exchange of Ghanaian industry (Andrews, 2014). Kuada and Hinson (2012) stated, local organizations were motivated by social considerations for the community, consistent with social exchange theory.

The environment of Ghana may influence corporate social responsibility practices. Andrews (2014) assessed a presence of gap in Ghanaian industries among stakeholders, including the transnational companies, the domestic government, and the indigents benefiting directly from the resources. Corporate social responsibility may provide an avenue through which to address this gap (Andrews, 2014). As Abugre (2014) and Sackey, Fältholm, & Ylinenpää (2013) addressed, corruption within the system may influence corporate social responsibility initiatives. Typical situations in which business ethics were challenged in the Ghanaian economic sphere included (a) when an organization applied for business information and permits; (b) when an organization competed for business contracts and financing; and (c) when an organization dealt with tax authorities (Sackey, Fältholm, & Ylinenpää, 2013).

Abugre (2014) conducted a quantitative study with a survey design to assess the corporate social responsibility activities among four Ghanaian organizations: two cocoa bean exporters, one multinational mining organization, and one large multinational bank. In total, 81 senior and middle-level employees in the head offices of the organizations in Ghana participated by responding to the survey, and Abugre conducted analyses of the responses. Abugre's analysis revealed several insights regarding corporate social responsibility in these Ghanaian organizations. The majority of participants (74.07%) noted their organization had a corporate social responsibility policy in place, but only

55% noted the policy was very effective (Abugre, 2014). Approximately 17% of participants noted the policy was either somewhat effective or not effective. Many participants (69.16%) noted management played a key role in promoting corporate social responsibility, with important management activities including allocating funds (49.83%), implementing projects (24.36%), ensuring positive outcomes (12.35%), developing corporate social responsibility plan (8.87%), and motivating staff to participate in corporate social responsibility activities (5.49%; Abugre, 2014). More than half (50.11%) of participants noted the allocation of funds to socially responsible behaviors and policies were insufficient, and 24.47% of participants noted corruption and mismanagement existed regarding corporate social responsibility funds.

A potential limitation of Abugre's (2014) study indicated participants were members of the organizations living in the largest city in Ghana, rather than indigenes of mining affected communities, who might have more knowledge about the effects of corporate social responsibility initiatives in these industries, especially the mining industry. The sample included only four representative organizations, which Abugre and Nyuur (2015) attempted to address.

Extending Abugre's (2014) findings, Abugre and Nyuur (2015) conducted a quantitative study with a survey design among a larger variety of organizations in Ghana. Participants were managers from 300 randomly selected organizations with operations in Ghana, both foreign and local. Organizations were private and public, and spread across multiple business sectors. Abugre and Nyuur used descriptive and inferential statistics to analyze data from participants' responses.

Abugre and Nyuur's (2015) findings were slightly more positive than Abugre's (2014) regarding the picture of corporate social responsibility. For example, 90.2% of participants reported their organizations were committed to corporate social responsibility. Among private companies, responses of "very committed" (28.52%) and "somewhat committed" (21.25%) comprised a larger percentage of responses (49.77%) than within public companies (40.43%; "very committed" 27.48%; "somewhat committed" 12.95%), wherein the government owned more than 51% of shares (Abugre & Nyuur, 2015). Common corporate social responsibility activities, in order of commonality, included providing resources, such as financial assistance and buildings, to the communities, employing indigenes, sponsoring programs, offering scholarships to students, making quality products, increasing shareholders' profits, undergoing ethical operations, and following regulations on their industries. A potential explanation for the increased positivity of the responses compared to Abugre's (2014) findings may be the fact that managers comprised the sample. In Abugre's study, employees noted that managers were often corrupt or inept in their corporate social responsibility efforts.

Local and foreign firms may also have significantly different motivations that problematize the understanding of corporate social responsibility within Ghana (Kuada & Hinson, 2012). Demonstrating these different concerns, Kuada and Hinson (2012) analyzed foreign and local companies within Ghana to assess whether locality influenced corporate social responsibility practices. Random sampling yielded 80 respondents from the Ghana Club 100, including 54 local and 26 foreign firms. Kuada and Hinson

administered questionnaires to those in the company who were knowledgeable about the corporate social responsibility practice of the company.

Kuada and Hinson (2012) revealed that foreign firms emphasized the economic outcomes of their corporate social responsibility activities more than local firms; but the results did not provide clear evidence of significant differences in the corporate social responsibility actions of local and foreign firms. Motivation for foreign firms also differed, suggesting that foreign companies completed corporate social responsibility primarily because of legal requirements, whereas local firms considered social implications more in their decision-making (Bondy & Starkey, 2014). The socially oriented corporate social responsibility practices of the local firms were consistent with cultural expectations in Ghana, expecting those with extra resources should support the less privileged members of the society (Kuada & Hinson, 2012). As Solomon (2013) recommended, including indigenes as members of managerial staff could help propel corporate social responsibility activities in the mining industry.

To establish institutional stakeholders' influence on corporate social responsibility practices, Quartey & Quartey (2015) used multiple embedded case study analysis and interviewed 30 Ghanaian managers in high-risk industries. Results from the interviews revealed institutional stakeholders influence managers' understanding of corporate social responsibility practice (Quartey & Quartey, 2015). This influence altered how high-risk industries measure corporate social responsibility to meet their stakeholders' expectations in corporate organizations. The attitudes of investors in the organizations fundamentally swayed managers' perceptions of corporate social responsibility, and beliefs in turn

affected corporate social responsibility practices within the organization. Because corporate social responsibility initiatives from within the organization are most effective, according to Andrews (2014), and because managers have significant influence on corporate social responsibility behaviors (Abugre, 2014), Quartey and Quartey's research revealed that potential perceptions of corporate social responsibility interfering with profit could stymie corporate social responsibility within Ghanaian industries, such as gold mining organizations.

Targeting the community and locally run companies may be the best avenue for increasing corporate social responsibility compliance (Andrews, 2014). Andrews (2014) conducted a qualitative study in April 2011 assessing individuals living in Cape Three Points in the Western Region of Ghana regarding their expectations and perceptions from the oil find and organizations' corporate social responsibility. Data included semi-structured interviews and two focus group discussions (comprising six men and four women, respectively) to ascertain general views about community prospects (Andrews, 2014). Most respondents believed the wealth of the oil reserve were a huge socioeconomic blessing. Andrews argued for corporate social responsibility as a grassroots-oriented process, noting that corporations whose work affected the surrounding communities had a crucial responsibility toward these communities. The findings of the study suggested corporate social responsibility initiatives could benefit immensely from organization and citizen led grassroots efforts towards corporate social responsibility.

Sackey et al. (2013) analyzed secondary data obtained from two streams of interviews conducted in Ghana from July to October 2009 and January to February 2011 among a wide range of businesses. Findings established that one of the reasons why the mineral authority and resources commission was unable to regulate the operations of some small-scale mining operations was the lack of available information about the companies. According to Sackey et al., this lack of information could be one of the reasons why some of the companies do not commit to some of the corporate social responsibility regulations in the country. Based on these findings, Sackey et al. recommended that additional protocols were necessary to check the fulfillment of the various existing corporate social responsibility regulations in Ghana. Sackey et al.'s solution would most likely be effective for foreign companies based on the legal motivation, as revealed in Kuada and Hinson's (2012) research. For local companies, understanding the benefit to the community may be enough, but companies may perceive that corporate social responsibility would interfere with the profitability of their organization.

### **Ghanaian Mining Industry**

Ghana is endowed with mineral resources, which made the country favorable for mining industries (Gough & Yankson, 2012). Since 2000, the mining industry in Ghana has rapidly expanded, accounting for 6% of the nation's Gross Domestic Product (GDP) (Armah et al., 2011; Hilson, 2013; Lawson & Bentil, 2014). During this period, Ghanaian legislators attempted to attract organizations to engage in mineral extraction in Ghana through policies and legislation favorable to the organizations (Adimozoya, 2013; Armah

et al., 2011). Based on these initiatives, Ghana currently has 180 companies engaged in mineral prospecting, and 37 of those companies in extraction (Adimozoya, 2013; Lawson & Bentil, 2014). In 2014, the Ghanaian mining industry contributed GH¢ 1.24 billion, approximately \$35.4 billion to the national government and employed 12,148 Ghanaians (Ghana Chamber of Mines, 2015).

Using analysis of survey data and personal interviews with senior management, Luiz & Ruplal (2013) assessed the characteristics of mining organizations in Africa and the factors that influenced internationalization of the mining industry. The researchers utilized a Likert scale to form a basis to determine the importance of the investment factor in the structured questionnaires (Luiz & Ruplal, 2013). The sample consisted of 83% of the mining organizations in Africa by capitalization on the Johannesburg Stock Exchange. Analysis of responses revealed that more than two-thirds of respondents preferred setting up operations without the use of a joint venture partner to ensure operational control and maximize profits. These results suggested fiduciary responsibilities were a primary concern among mining organizations (Luiz & Ruplal, 2013).

Even while Ghanaian legislators have introduced pro-mining policies, the mining industry also has several policies and procedures enforced upon it as an attempt to regulate and share profits within the community (Abugre, 2014; Adimazoya, 2013; Atuguba & Dowuona-Hammond, 2006; Hilson, 2013). The Ghanaian Parliament is fundamental to maintaining organizational oversight (Stapenhurst & Pelizzo, 2012). Adimazoya (2013) noted that the Minerals and Mining Act of 2006 mainly regulated the

mining industry in Ghana, and addressed many of the problems in this sector. One detriment of this act was that it did not provide access for local communities to the mineral agreements or involve them in the decision making process (Adimazoya, 2013). This lack of focus on the people was an issue because Ghana has long been at the forefront of people's empowerment and African nationalism (Stapenhurst & Pelizzo, 2012; Yidana, 2012).

Alternatively, the AKOBEN Program is an EPA initiative through the Ghanaian government that reports on manufacturing and mining organizations. The AKOBEN rating system provides a colored rank of the organization per compliance (see Table 1). For mining organizations, AKOBEN ratings included compliance with the standards for permits and reporting, water and air quality, hazardous waste storage, and accidents and spills (EPA AKOBEN, 2010). The GREEN and GOLD rankings also included policies for dealing with the community (EPA AKOBEN, 2010), unlike the Minerals and Mining Act of 2006.



Table 1

*The AKOBEN Rating System*

Rating Level	Performance	Implications
RED	Poor	Serious Risks
ORANGE	Unsatisfactory	Not in Compliance
BLUE	Good	In Compliance
GREEN	Very Good	Applies Best Practices
GOLD	Excellent	Committed to Social Performance

*Note.* Adapted from “AKOBEN Program, “by Environmental Protection Agency Ghana, 2010. Retrieved from <http://www.epaghanaakoben.org/>

The prominence of mining in Ghana has fundamentally affected the country’s development. For example, Gough & Yankson (2012) noted that the majority of Ghanaian citizens lived in cities. Using historical analysis of the mining industry, Gough and Yankson attributed this urbanization to the proliferation of mining organizations in Ghana. Specifically, communities form around the mining industry because of the people employed in mining and its related industries (Gough & Yankson, 2012). Hilson & Garforth (2012, 2013) found that mining was the most prominent profession in rural Ghana. From 1993–2013, many rural farmers transitioned to the mining profession for its profitability. Ghanaian mining has therefore had a fundamental influence on the development of Ghana, and many of its inhabitants have been affected by the industry (Gough & Yankson, 2012; Hilson, 2013).

Lawmakers in Ghana have set up legislation for compensation of citizens affected by mining (Hilson, 2013), and these policies contributed significantly to the Ghanaian economy and national development (Ghana Chamber of Mines, 2015). The laws in place could potentially help with both community development and sustainable mining practices, which are important facets of corporate social responsibility (Garriga & Mele, 2004). The unavailability of information among Ghanaian mining companies, even to the mineral authority and resources commission, made these policies difficult to enforce (Adimazoya, 2013; Sackey et al., 2013). Compared to international best practices, Armah et al. (2011) also noted that the Ghanaian mining policies were weak regarding a lack of transparency in the valuation and compensation of affected persons and proper environmental management systems for sustainable mining. Integrating a framework for improving Ghanaian citizens' experiences was essential because Ghana is a socio-nationalistic country, with a heavy emphasis on democracy and its people's empowerment (Stapenhurst & Pelizzo, 2012; Yidana, 2012).

Corruption and mismanagement in the Ghanaian mining industry proliferated (Abugre, 2014; Armah et al., 2011; Standing & Hilson, 2013; Teschner, 2012). Teschner (2012) proposed that the current enforcement of legislation for small-scale gold miners in Ghana had been remiss, to the point where the small-scale mining actors no longer followed the mining regulations. On registration, small-scale actors still carry out unapproved practices that were seen to be evident of "*galamsey*" which translates to illegal mining (Teschner, 2012; Hilson et al., 2014). Using interviews with small-scale miners in Ghana, Teschner (2012) highlighted the cumbersome and inefficient processes

involved in registering small-scale miners. A high illiteracy rate among these miners also hindered some illegal miners from registering their operations with the Minerals Commission of Ghana.

Participants reported that the government allowed the sale of mining machinery locally referred to as *Chang Fa* and other mining products, such as mercury and explosives, with no strict enforcement on their usage (Teschner, 2012; Hilson et al., 2014). This has made it easy for individuals to indulge in galamsey operations since the enforcement agencies have made the activities of these miners “alegal” or an intentionally accepted act. For example, child labor proliferated in the artisanal mining communities (Hilson, 2010). Murombo (2013) identified major problems in mining-dependent communities as the absence of an effective legal framework to ensure transparency and the lack of culpability regarding how governments collect and utilize revenues obtained from mining companies, although the researcher focused on South Africa and Zimbabwe.

Typifying this issue, Siegel (2013) conducted a qualitative descriptive analysis of mining in Burkina Faso in Sub-Saharan West Africa Region, which borders Ghana on the north. Overall, the lack of ethical practice in mining operations regarding local community’s concerns within the region and unethical activities carried out by operators of artisanal mining within the communities were the main ethical issues with these mining operations (Siegel, 2013). Siegel noted that host communities have the potential to benefit from the mining activities in the form of employment opportunities, provision of roads, and other social amenities; in the present business context, the local inhabitants

are instead suffering as the mining companies encroach on their entire livelihoods, including their farm lands, water bodies, and general vegetation. As Adimazoya (2013) proposed, the lack of legal accountability for mining companies and transparency regarding mining activities was a significant issue for Ghana's commitment to improving governance.

Not all mining consisted of international companies; many indigenes entered gold mining because of the lack of opportunities in other professions. Hilson and Garforth (2012, 2013) explained the circumstances supporting the transition of rural farmers into artisanal and small-scale miners in southwest Mali and southeast Ghana. Hilson and Garforth noted that the market for farming was oversaturated, resulting in poverty for small-scale farmers. The individuals who are unsuccessful at farming moved to areas associated with artisanal mining to attempt to make a living for their families (Hilson & Garforth, 2013). Kuada and Hinson (2012) assessed that such local operations may be more likely to engage in corporate social responsibility. Alternatively, the indigenes that transition to mining often do not understand the regulations or the necessity of corporate social responsibility, and engage in galamsey (unethical mining practices) to better maintain a profit for their families (Teschner, 2012).

Reducing corruption and mismanagement was important because the rapid expansion of the mining industry led many communities to become mining dependent (Rogerson, 2012). Armah et al. (2011) examined the laws and policies that control corporate environmental performance of mining companies in Ghana, as well as the published literature related to the Ghanaian mining industry. Through their assessment,

Armah et al. determined that the activities of mining companies in Ghana often negatively affect the environment in which they operate. Both the civil society (nongovernmental organizations [NGOs] and community-based organizations) and the indigenes in the mining communities agreed that mining organizations had such a negative influence (Armah et al., 2011).

The Ghanaian mining industry has had a history of discontent among Ghanaian citizens (Lawson & Bentil, 2014; Standing & Hilson, 2013). Initially, Ghanaian citizens may view mining operations positively because of their potential benefits to the community, but after viewing the effects of mining on their communities, Ghanaian citizens often became disillusioned with the mines (Lawson & Bentil, 2014). Citizens of mining-affected communities often felt cheated by the mining organizations (Armah et al., 2011; Solomon, 2013). As a result, indigenes of mining-affected communities have begun to push the mining sector to improve the socioeconomic goals of developing countries (Murombo, 2013).

A number of reasons existed for Ghanaian citizens' dissatisfaction with mining operations. Rogerson (2012) explained that mining dependent areas are significantly influenced by the actions of mining organizations, and while relations between mining organizations and local governments have improved, transparency remained an issue. Mineral extraction affects the environment and the individuals within the community (Murombo, 2013). Armah et al. (2011) and Siegel (2013) averred that mining licenses and censures in some communities are not granted in a social exchange. Instead, some chiefs and opinion leaders engaged the executive of the mining area because of the lack

of proper regulations, and the mining industries thereby receive approval from these minorities, who gain financial compensation for their approval (Armah et al., 2011; Siegel, 2013). Such unethical practice from the mining operations and the government brought about misunderstandings and corruption that led to the wanton destruction of communities and their resources (Siegel, 2013; Solomon, 2013).

Another issue in the Ghanaian mining industry was the perceptions of the people that the mines are extracting their resources without providing benefit back to the community (Siegel, 2013). Lawson and Bentil (2014) presented an assessment of the changes that occur in respondents' perceptions of mining during, before, and after the inception of mining in the Asutifi district of Ghana. Primary and secondary data were the most relied on data source, with the secondary data acquired through mining and government agencies and analyzed using SPSS. Lawson and Bentil collected qualitative primary data through participatory methods, which included visualizations, focus group discussions, personal interviews, and participant observations. The researchers confirmed that citizens perceived gold mining increased the internal generated funds of the district through the payments of royalties (Lawson & Bentil, 2014). Findings demonstrated that the introduction of industrial gold mining in some areas in the district (Kenyasi No. 1 and Ntotoroso) contributed towards changing the social and economic conditions in the two areas. The experiences after mining implementation were largely negative (cost, standard of living, reduction in agricultural land). Lawson and Bentil also noted the irregularity of adherence to corporate social responsibility activities, suggesting that mining companies required additional initiatives to engage in sustainable development.

Relationships between local citizens and mining companies are necessary (Adimazoya, 2013; Rogerson, 2012; Solomon, 2013). By integrating the community and people working within the mines, Adimazoya (2013) and Rogerson (2012) noted that relationships between the government and the mining organizations were improved. Like Adimazoya (2013) and Siegel (2013), Lawson and Bentil (2014) proposed that a solution for mining companies was to increase transparency and information for the community. Results from Lawson and Bentil's qualitative research also revealed the need for direct relationships between the mining industry and the community. Murombo (2013) noted that strict laws could compel these extractive companies to carry out their mineral extraction in a sustainable way and to provide proper compensation procedures to award communities for natural resource extraction. Alternatively, Lawson and Bentil suggested that appropriate management of corporate social responsibility, wherein the gold mining companies attempted to channel these activities into measurable improvements for Ghanaian citizens, would be the appropriate first step in creating these relationships.

Despite policies that required profit sharing between the government and mining companies, Ghanaian citizens received little benefit from the use of what they understood as their resources (Lawson & Bentil, 2014; Standing & Hilson, 2013). To redeem their image, some gold mining corporations have gone above acquiescence with regulatory requirements to voluntarily develop, adopt, and implement corporate social responsibility measures that allow them to operate successfully and sustainably within their host community (Sadik, 2013). Nevertheless, additional understanding of corporate social responsibility within the Ghanaian mining industry was necessary to enable sustainable

development (Abugre, 2014; Lawson & Bentil, 2014), particularly with relation to the ability to maintain profits while engaging in corporate social responsibility.

### **Corporate Social Responsibility and Fiduciary Responsibility in the Ghanaian Mining Industry**

Corporate social responsibility is a growing, large-scale initiative in the Ghanaian mining industry (Sadik, 2013). Under AKOBEN, a mining organization cannot reach the GOLD ranking without a formal corporate social responsibility policy (EPA AKOBEN, 2010). As of 2011, total corporate social responsibility expenditure was \$24 million (Standing & Hilson, 2013). The majority of gold mining firms are engaged in some level of corporate social responsibility, which Sadik (2013) attributed to an attempt to mitigate Ghanaians' negative perceptions of the mining industry.

According to Murombo (2013), mining organizations should seek possible ways of improving the livelihood of individuals living in mining communities and also proper and better ways of carrying out their activities in a sustainable manner. For example, the practice of employing child laborers, who enter mining to make money to bring their families out of poverty, could be addressed by mining organizations introducing socially responsible education practices for workers or for children employed in the mining industry (Hilson, 2010). Corporate social responsibility may help these organizations to achieve the goals of improving the community (Lawson & Bentil, 2014). The Ghanaian gold mining industry lacked a benchmark for corporate social responsibility on the legislative level, which may contribute to the inconsistency in socially responsible business activities (Armah et al., 2011; Preuss et al., 2016).



Spiegel, Ribiero, Sousa, and Viega (2012) noted that arbiters of disputes between gold mining organizations and indigenes in the Amazon could utilize technology to map areas of interest in environmental disputes. Specifically, Spiegel et al. suggested that such maps could help gold mining companies adhere to United Nations' regulations and maintain an equal social exchange between gold mining organizations and indigenes of the area. This technique could potentially work for Ghanaian gold mining companies; The corruption in the government, which addresses disputes, could limit the utility of the mapping technique (Standing & Hilson, 2013). It may be more productive to address organizational incentives for meeting Ghanaian legislative requirements, such as profitable outcomes of similar corporate social responsibility for the organization (Luiz & Ruplal, 2013).

Although the Ghanaian mining industry as a system should provide positive benefits to the community, in reality, corruption and mismanagement led to diminished efficacy of policies requiring companies to distribute a proportion of mining rents to local authorities and traditional leaders (Standing & Hilson, 2013). Lawson and Bentil (2014) and Standing and Hilson (2013) recommended that through increased transparency, social accountability, and changes to the distribution system, corruption and mismanagement could be reduced. Specifically, Lawson and Bentil proposed that well-designed corporate social responsibility that directly targeted improvements for Ghanaian citizens was necessary to improve public perceptions of the gold mining industry.

Despite these potential issues, researchers have suggested that firms in the Ghanaian gold mining industry are dedicated to contributing to the community through corporate social responsibility (Sadik, 2013). Using data from 10 Ghanaian gold mining companies ranked by their market capitalization as a proxy for global corporate gold mining firms, Sadik (2013) determined that the number of corporate social responsibility disclosures differs widely across firms. For example, all 10 firms disclosed information related to the environment, economic and social themes of corporate social responsibility. Eight companies reported their accountability and transparency practices, six companies disclosed their human rights practices, and five companies stated their culture sensitivity practices (Sadik, 2013). These voluntary practices and philanthropic activities displayed the companies' moral and ethical contributions to the development of the immediate communities in and around their mining lease areas (Sadik, 2013). The discontent among Ghanaian citizens regarding Ghanaian gold mining activities may suggest that the companies are not adhering to their corporate social responsibility practices or investing enough resources into these activities (Armah et al., 2011; Lawson & Bentil, 2014). This lack of adherence to corporate social responsibility may relate to organizational leaders' perceptions that increased investment in corporate social responsibility would interfere with their fiduciary responsibilities to shareholders (Garriga & Mele, 2004; Luiz & Ruplal, 2013; Quartey & Quartey, 2015).

**Fiduciary responsibility in the Ghanaian mining industry.** The mining industry has had a substantial influence on the Ghanaian economy (Abugre, 2014; Lawson & Bentil, 2014). As a result, it was beneficial to attract mining organizations to

continue to come to Ghana (Abugre, 2014; Lawson & Bentil, 2014). A primary method of keeping organizations attracted to mining endeavors in Ghana was by maintaining the profitability of the organizations (Luiz & Ruplal, 2013).

Mining organizations considered several factors before entering into mining endeavors within Africa (Luiz & Ruplal, 2013; Rogerson, 2012). For example, Luiz and Ruplal (2013) identified three key factors influencing the decision to invest: political stability, security of tenure, and infrastructure. In 2014, Ghanaian mineral mining organizations paid 11% to the government, while other shareholders received only 3% (Ghana Chamber of Mines, 2015). The contribution towards corporate social responsibility policies in 2014 totaled approximately \$21 million (Ghana Chamber of Mines, 2015). As previously mentioned, poorly enforced policies regarding profit sharing and corporate social responsibility may influence organizations' perceptions of their abilities to meet their fiduciary responsibilities in the Ghanaian mining industry (Abugre, 2014; Carroll, 2015).

**Corporate social responsibility and fiduciary responsibility in the mining industry.** Mining organizations perceiving that corporate social responsibility is not incompatible with profits may increase compliance and decrease corruption through self-regulation (Carroll, 2015). Only one researcher evaluated the corporate social responsibility and fiduciary responsibility in a similar context (Babalola, 2012). Babalola (2012) examined the relationship between corporate social responsibility and the profit of firms in Nigeria. Babalola employed ordinary least squares to analyze secondary data, obtained from 10 randomly selected firms' annual reports and financial summaries

between 1999 and 2008. Through this analysis, Babalola established that the sample firms invested less than 10% of their annual profit to corporate social responsibility. The co-efficient of determination of the result obtained shows that the explanatory variable accounts for changes or variations in selected firms' performance, caused by changes in corporate social responsibility in Nigeria. Babalola found that the higher the profit recorded by a firm in Nigeria, the less the company invested in corporate social responsibility. Babalola's choice of methodology did not allow for the connection to be made between corporate social responsibility and lessened profits; therefore, the researcher did not reveal whether investing in corporate social responsibility reduced or increased profits. Results were also limited to Nigeria, which has a different set of regulations and practices than Ghana.

### **Summary and Conclusions**

Researchers have addressed the pressing issue of African mining because of its effects on citizens (Abugre, 2014; Adimazoya, 2013; Lawson & Bentil, 2014; Murombo, 2013; Siegel, 2013). Issues with mining include lack of transparency and a lack of accountability for mining organizations regarding the effects they have on communities and citizens (Adimazoya, 2013; Murombo, 2013; Standing & Hilson, 2013). Majority of researchers have either focused on lacuna in the law that allow for the current corruption in the mining industry (Adimazoya, 2013; Armah et al., 2011; Murombo, 2013) or have studied the issue through qualitative methods (Andrews, 2014; Lawson & Bentil, 2014; Quartey & Quartey, 2015; Siegel, 2013; Teschner, 2012). Those quantitative studies involving examination of this issue have been primarily descriptive, rather than

discussing relationships among variables (Abugre, 2014; Abugre & Nyuur, 2015; Sadik, 2013) or conducted outside of Ghana (Babalola, 2012).

Altogether, researchers have concluded that Ghanaian mining companies must improve their relationships with citizens, which may be achieved through well-designed corporate social responsibility (Lawson & Bentil, 2014). Some researchers argued for increased legislative oversight as a solution to this problem (Adimazoya, 2013; Murombo, 2013; Siegel, 2013), although others proposed that strict oversight would ruin the Ghanaian mining industry (Teschner, 2012). Much of this research addresses the citizens' points of view, and ignores the motivations of the mining organizations (Lawson & Bentil, 2014; Siegel, 2013). When researchers, such as Luis and Ruplal (2012) and Teschner (2012), examined the miners' perspectives, a plethora of factors influenced their decision making processes, including government inadequacy, confusion, and fiduciary responsibilities. The primary focus on Ghanaian citizens and the denigration of mining organizations is problematic, since government oversight is currently minimal, unreliable, and incentives from within the organization (Andrews, 2014; Teschner, 2012). Researchers should consider seeking out organizational incentives for better behavior to effect real change (Andrews, 2014).

An issue for incentivizing corporate social responsibility arose with respect to the mining organizations' focus on their fiduciary responsibilities to their shareholders (Babalola, 2012). Fiduciary responsibilities and profits were a primary concern for mining organizations (Luiz & Ruplal, 2013). As suggested through Babalola's (2012) findings from firms in Nigeria, the higher a profit in an organization, the less likely that

organization was to engage in corporate social responsibility. Mining organizations in Ghana may perceive that investing in corporate social responsibility would reduce their profitability and therefore decrease their abilities to meet their fiduciary responsibilities to their shareholders (Garriga & Mele, 2004; Quartey & Quartey, 2015). Conversely, demonstrating that corporate social responsibility did not influence profit, or that it increased profit, may provide an incentive for the mining organizations to invest in corporate social responsibility. In all, lacking information on corporate social responsibility influences Ghanaian mining organization's decision-making processes (Sackey et al., 2013).

A gap in the literature existed, supporting the need to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders, within gold mining companies operating in Ghana. Investigating this relationship through quantitative means provided large-scale, generalizable information for Ghanaian gold mining organizations and Ghanaian citizens that may inform improvements in the mining industry in Ghana (Garriga & Mele, 2004; Quartey & Quartey, 2015; Sackey et al., 2013). Chapter 3 includes information regarding the methodology that the researcher used to investigate the relationship between corporate social responsibility and corporations' fiduciary responsibilities.

### Chapter 3: Research Method

The purpose of this quantitative correlational study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana. In this chapter, I identify and justify the research design. I also describe the population and sample, power analysis, sampling selection criteria, methods of data collection, data analysis plan, threats to validity, and ethical considerations.

#### **Research Design and Rationale**

I used a quantitative correlational design with an ex post facto approach. Quantitative correlational research is appropriate when examining the strength of association between numerically measureable constructs (MacCallum, Zhang, Preacher, & Rucker, 2002; Howell, 2013). Correlational research encompasses the utilization of both correlational and regression analyses (Mitchell, 1985). Other research designs were considered for this study, such as experimental and quasi-experimental. However, the study did not involve manipulation or assignment of participants into control and experimental groups (Bordens & Abbott, 2008). I followed an ex post facto approach through the use of archival data from mining organizations. Use of an ex post facto approach removed potential risks associated with direct interaction with participants.

The independent variables corresponded to corporate social responsibility, environmental performance, and community complaints. The dependent variable corresponded to fiduciary responsibility. Combinations of statistical analyses were used

to answer the research questions, including point-biserial and Spearman correlations. The research questions and associated hypotheses for the study included the following:

**RQ1:** What is the relationship between corporate social responsibility and fiduciary responsibility to the shareholders in mining companies operating in Ghana?

**H<sub>0</sub>1:** There is no significant relationship between corporate social responsibility and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

**H<sub>A</sub>1:** There is a significant relationship between corporate social responsibility and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

**RQ2:** What is the relationship between mining companies' efforts to minimize their negative impact on the environment and fiduciary responsibility to the shareholders?

**H<sub>0</sub>2:** There is no significant relationship between mining companies' efforts to minimize their negative impact on the environment and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

**H<sub>A</sub>2:** There is a significant relationship between mining companies' efforts to minimize their negative impact on the environment and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

**RQ3:** What is the relationship between community complaints and fiduciary responsibility to the shareholders in mining companies operating in Ghana?



H<sub>03</sub>: There is no significant relationship between community complaints and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

H<sub>A3</sub>: There is a significant relationship between community complaints and fiduciary responsibility to the shareholders in mining companies operating in Ghana.

## **Methodology**

### **Population**

The population for this study included all the actively operating and publicly traded gold mining companies in Ghana, the Ghanaian EPA, Ghana Chamber of Mines, and host community stakeholders currently benefiting from social investment initiatives. I collected secondary data for the study. There are 14 gold mining companies participating in the AKOBEN Program in Ghana, and 10 are actively operating and trading on the stock exchange.

### **Sampling and Sampling Procedures**

I selected 10 mining companies using the total population sampling approach. Through use of total population sampling, the entire study population was included in the sampling process (Leedy & Ormrod, 2015). The inclusion criteria for the sample were that the mining companies were located in Ghana and targeted gold as a resource.

When conducting the data analyses for the study, I had to sample from an adequate pool of companies. I used point-biserial and Spearman correlations. The Spearman correlation has the largest sample size requirement and was used in the power

analysis calculation (Hajian-Tilaki, 2014). I expected to discover a medium effect size,  $\rho = 0.3$  (Cohen, 1988). A generally accepted alpha level of .05 was used. The power for a Spearman correlation is approximately 91%, as efficient as a Pearson correlation (Siegel & Castellan, 1988). Applying the above parameters to G\*Power 3.1.7, I determined that a sample size of 102 cases was optimal for the study (Faul, Erdfelder, Buchner, & Lang, 2014). Given the use of archival data in this study, I had access to data for 10 gold mines, and I acknowledged this as a limitation when conducting statistical analyses. Further interpretations of findings were made with caution. Table 2 presents the names of the mining companies in the study, regional distribution, and district and host community locations.

Table 2

*Population Distributions of the Mining Companies in the Study*

Mine	Region	District	Community
Goldfield Ghana Ltd Tarkwa Mine	Western Region	Tarkwa Nsuaem	Tarkwa
Goldfield Ghana Ltd Damang Mine	Western Region	Prestea Huni Valley	Damang
AngloGold Ashanti Iduapriem Mine	Western Region	Tarkwa Nsuaem	Tarkwa
Kinross Gold Mine	Western Region	Bibiani Anhwiaso Bekwai	Sefwi
Adamus Resource/Endeavour Mine	Western Region	Elembele	Salma
Golden Star Resource – Bogoso	Western Region	Prestea Huni Valley	Bogoso
Newmont Ghana Gold – Ahafo	Brong Ahafo Region	Asutifi North	Ahafo Mines
Newmont Ghana Gold – Akyim	Eastern Region	Birim North	New Abrem
Perseus Mining	Central Region	Upper Denkyira	Ayamfuri
Golden Star Resource – Wassa	Central Region	Lower Denkyira	Wassa Ateiku

### **Procedures for Recruitment, Participation, and Data Collection**

I collected data from AKOBEN and the Ghana Chamber of Mines. The AKOBEN Program is an environmental performance rating initiative of the EPA for the Government of Ghana. The AKOBEN discloses annual ratings for corporate social responsibility, environmental performance, and community complaints among mining companies. The ratings are evaluated through analysis of more than 100 performance indicators. The highest level of performance corresponds to a GOLD rating, which indicates that the company goes beyond the requirements of formal regulations, and specifies that a company utilize international practices for optimal environmental

management. The lowest level of performance corresponds to a RED rating, which is assigned if a company's emissions exceed environmental quality standards or on-site hazardous waste management practices exist, which cause potential risks to the environment. The Ghana Chamber of Mines represents the collective interest of mining companies' mineral exploration, processing, and production. The activities of the Ghana Chamber of Mines are funded by the member companies, which produce more than 90% of Ghana's mineral output (Ghana Chamber of Mines, 2013). The Ghana Chamber of Mines (2013) provided the data for the gold production for each of the mining companies involved in the research.

### **Operationalization of Variables**

The independent variables of interest corresponded to corporate social responsibility, environmental performance, and community complaints. The dependent variable corresponded to fiduciary responsibility. In the following sections, I explain how I operationalized these variables.

#### **Corporate Social Responsibility**

Corporate social responsibility involves the self-regulatory function whereby a business maintains ethical and legal business practice (Acquier et al., 2011; Charles, Germann, & Grewal, 2016; Garriga & Mele, 2004). The variable was measured nominally, with two possible response options of GOLD or NOT ACCEPTABLE as identified through AKOBEN. I expected that a weak and insignificant relationship would exist between corporate social responsibility and fiduciary responsibility among gold mining companies in Ghana.

### **Environmental Performance**

Environmental performance refers to the commitment to environmental protection and enlightened operational practice. The company's environmental policy statement is a demonstration of their decision to operate with commitment to international standard, law, and regulation issues on environmental protection (Guo et al., 2015). The variable was measured on an ordinal scale with five color identifications of GOLD, GREEN, BLUE, ORANGE, and RED, which encompassed the full spectrum of environmental performance ranging from excellent to poor. Rankings incorporated in the overall score included legal issues, hazardous waste management, toxic and nontoxic releases, monitoring and reporting, environmental best practices, community complaints, and corporate social responsibility (AKOBEN Program, 2008). I expected that a weak and insignificant relationship would exist between environmental performance and fiduciary responsibility among gold mining companies in Ghana.

### **Community Complaints**

The AKOBEN report contains data on the complaints identified by communities living around the mining organizations. Every month, the EPA compiles a list of public complaints and keeps track of complaints reported to the media. The variable was measured nominally with two response options corresponding to GREEN and NOT ADEQUATE. I expected that a weak and insignificant relationship would exist between community complaints and fiduciary responsibility among gold mining companies in Ghana.

### **Fiduciary Responsibility**

The Ghana Chamber of Mines reports the gold production by companies in thousands of ounces. I measured this variable continuously and extracted the data for the 2012 year. Table 3 presents the variable descriptions, levels of measurement, and responses.

Table 3

#### *Variable Descriptions, Level of Measurement, and Responses*

Variable	Independent/Dependent	Level of Measurement	Responses
Fiduciary Responsibility	Dependent	Continuous	Gold production in ounces
Corporate Social Responsibility	Independent	Nominal	GOLD/NOT ADEQUATE
Environmental Policies	Independent	Ordinal	RED, ORANGE, BLUE, GREEN, GOLD
Community Complaints	Independent	Nominal	GREEN/NOT ADEQUATE

### **Data Analysis Plan**

Data from the mining companies were transferred to SPSS Version 22.0 for Windows (Blunch, 2009). I used both descriptive and inferential statistics to analyze the data for the objectives of the study. Descriptive statistics, such as central tendency (mean score) and dispersion (standard deviations and standard error of the mean) were used to describe the data. I presented visual depictions of the data using bar charts and pie charts. The key inferential statistics used for the study were point-biserial and Spearman correlations.

### **Preanalysis Data Cleaning**

I checked data to ensure they fell within the theoretical range of possible values. Mining companies with variables falling outside of the theoretical range were removed to ensure the statistical findings were not skewed. In SPSS, I used list wise deletion as the default procedure for removing cases with missing data.

To answer Research Question 1, I conducted a point-biserial correlation to examine the relationship between corporate social responsibility and fiduciary responsibility. A point-biserial correlation is an appropriate statistical analysis when assessing the strength of association between a dichotomous variable and a continuous variable (Pallant, 2013). The independent variable was corporate social responsibility with two levels: GOLD and NOT ADEQUATE. The continuous dependent variable was fiduciary responsibility.

Prior to analysis, I assessed the assumptions of linearity and homoscedasticity by examining scatterplots. Correlation coefficients can range from 0 (*no relationship*) to  $\pm 1$  (*perfect positive or negative relationship*). Positive coefficients suggest a direct relationship exists, such that as one variable increases, the other variable also increases. Negative correlation coefficients suggest an inverse relationship, such that as one variable increases, the other variable decreases. Cohen's standard was used to evaluate the strength of the correlation coefficients, where values between .10 and .29 represent a small association; coefficients between .30 and .49 represent a medium association; and coefficients above .50 represent a large association or relationship (Cohen, 1988).

To answer Research Question 2, I conducted a Spearman correlation to examine the relationship between environmental performance and fiduciary responsibility. A Spearman correlation is an appropriate statistical analysis when assessing the strength of association between two variables, when at least one of the variables is measured on an ordinal scale (Pallant, 2013). The independent variable was environmental performance with levels RED, ORANGE, BLUE, GREEN, and GOLD. The continuous dependent variable was fiduciary responsibility.

Prior to analysis, I assessed the assumptions of linearity and homoscedasticity by examination of scatterplots. Correlation coefficients can range from 0 (*no relationship*) to  $\pm 1$  (*perfect positive or negative relationship*). Positive coefficients suggest a direct relationship exists, such that as one variable increases, the other variable also increases. Negative correlation coefficients suggest an inverse relationship, such that as one variable increases, the other variable decreases. Cohen's standard was used to evaluate the strength of the correlation coefficients, where values between .10 and .29 represent a small association; coefficients between .30 and .49 represent a medium association; and coefficients above .50 represent a large association or relationship (Cohen, 1988).

To answer Research Question 3, I conducted a point-biserial correlation to examine the relationship between community complaints and fiduciary responsibility. The independent variable was community complaints with levels GREEN and NOT ADEQUATE. The continuous dependent variable was fiduciary responsibility.

Prior to analysis, I assessed the assumptions of linearity and homoscedasticity by



examination of scatterplots. Correlation coefficients can range from 0 (*no relationship*) to  $\pm 1$  (*perfect positive or negative relationship*). Positive coefficients suggest a direct relationship exists, such that as one variable increases, the other variable also increases. Negative correlation coefficients suggest an inverse relationship, such that as one variable increases, the other variable decreases. Cohen's standard was used to evaluate the strength of the correlation coefficients, where values between .10 and .29 represent a small association; coefficients between .30 and .49 represent a medium association; and coefficients above .50 represent a large association or relationship (Cohen, 1988).

### **Threats to Validity**

#### **Threats to External Validity**

Threats to external validity are portions of the research that provide potential bias in regards to the specific data collection procedures or the measured results. I selected the use of archival data because of the purpose of the research and the availability of the data. I used an ex post facto approach hence the data were not randomly selected and a potential threat for selection bias existed. Selection bias can lower the ability of generalizing findings to the population of interest (Lohr, 2010). Researchers should acknowledge this interpretation and not assume that the findings can be perfectly extrapolated to the full population (Pagano, 2009).

#### **Threats to Internal Validity**

Several limitations exist within the scope of quantitative, correlational research. While quantitative studies focus on statistical significance among numerically measureable concepts, with this type of study, researchers cannot fully examine the

underlying perceptions and experiences of participants involved. I decided to substitute the level of richness inherent within qualitative research for a degree of statistical certainty that the relationships established between the variables of interest were not identified through chance alone (Pagano, 2009). However, the use of secondary data introduce limitations in regards to examining the reliability of the dataset. The data involved corporate social responsibility, environmental performance, community complaints, and fiduciary responsibility. Therefore, no measure for internal consistency or reliability could be assessed for the data. I assumed that AKOBEN Program and the Ghana Chamber of Mines accurately reported the data. Potential for unaccounted variables to confound or influence the strength of the relationship existed between the constructs (Howell, 2013). Last, it was not feasible to control for the potential effect of all confounding variables; Therefore, this limitation was noted in the assessment of statistical findings.

### **Ethical Considerations**

I strictly adhered to the ethical and moral guidelines established by federal regulations and Walden University's Institution Review Board (IRB). The use of archival data eliminated the need for communication with human subjects during the study. I sought permission from the EPA (AKOBEN) and the Ghana Chamber of Mines for use of the datasets. Because of the use of company archival data, which is public information, I did not need to de-identify demographic traits. The mining company name and location were provided.

In alignment with IRB guidelines and to help maintain confidentiality, I protected all data for the research. The safeguard measure for data storage was within a locked file in the researcher's residence. The data will be securely maintained for a period of 5 years after the research is complete. Upon expiration of the 5-year period, all research related data files would be permanently deleted.

### **Summary and Conclusion**

The purpose of this quantitative correlational study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana. I justified the use of the quantitative, correlational research design and use of an ex post facto approach. Through use of an ex post facto approach, I examined secondary data from the EPA (AKOBEN Program) and the Ghana Chamber of Mines. I identified the research population and sample through examination of 10 gold mining companies in Ghana. The sample consisted of the entire study population, total population sampling was used as the sampling method. I conducted a power analysis and determined that 102 cases would be ideal to run the analyses. However, through examination of the entire population, 10 active gold mining companies existed in Ghana. Therefore, the low sample size was a limitation for the study and statistical findings were interpreted with caution. To address the research questions, I utilized inferential data analyses, such as point-biserial correlations and Spearman correlations. If the associated  $p$ -value for each correlation was less than the generally accepted alpha ( $\alpha = .05$ ), then the corresponding research

hypothesis was rejected. I concluded the chapter with potential threats to validity and ethical considerations. The following chapter presents the findings of the data analyses.

## Chapter 4: Results

The purpose of this quantitative correlational study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana. This chapter presents the statistical findings of the data collection process. I calculated descriptive statistics to describe the trends in nominal and continuous variables. To answer the research questions, I used a combination of point-biserial correlations and Spearman correlations. As an ancillary analysis, a multiple linear regression allowed for examination of the predictive relationship between the independent variables and fiduciary responsibility. This chapter includes an outlined summary with a transition to the next section. Statistically significant results are noted at the conventional alpha level,  $\alpha = .05$ . My IRB approval number was 09-12-16-0293168, and the date was 12th September 2016.

### **Preanalysis Data Cleaning**

I expected to use 10 gold mining companies for the data collection. However, one company, Newmont Ghana Gold (Akyim), did not have associated gold production output as it was under construction in 2012. The remaining nine gold mining companies had complete data for the associated variables: corporate social responsibility, environmental performance, community complaints, and fiduciary responsibility. These nine companies were included in the data analyses, which involved a combination of descriptive statistics, correlations, and a multiple linear regression.

## Descriptive Statistics

### Frequencies and Percentages of Nominal Characteristics

All nine gold mining companies were identified as having GOLD corporate social responsibility. Corporate social responsibility corresponds to the self-regulatory function in which a business maintains ethical and legal business practice (Boulouta & Pitelis, 2014). A GOLD rating indicates that there were not inherent problems with the ethics and legality of the business practices for the mines.

Environmental performance of the companies was distributed as follows: RED ( $n = 3, 33.3\%$ ), ORANGE ( $n = 3, 33.3\%$ ), BLUE ( $n = 2, 22.2\%$ ), GREEN ( $n = 1, 11.1\%$ ), and GOLD ( $n = 0, 0.0\%$ ). Rankings for environmental performance were established based on a combination of legal issues, hazardous waste management, toxic and nontoxic releases, monitoring and reporting, environmental best practices, community complaints, and corporate social responsibility (EPA AKOBEN, 2008). None of the companies identified as GOLD for environmental performance, indicating that several improvements could be made regarding the commitment to environmental protection and enlightened operational practice.

Most of the companies were labeled GREEN for community complaints ( $n = 6, 66.7\%$ ). Every month, the EPA generates a group of public complaints reported to the media. Three of the companies (33.3%) had experienced cases of complaints made by the community. Table 4 presents the frequencies and percentages of nominal characteristics.

Table 4

*Frequencies and Percentages for Nominal Characteristics*

Variable	<i>n</i>	%
Corporate social responsibility		
NOT ADEQUATE	0	0.0
GOLD	9	100.0
Environmental performance		
RED	3	33.3
ORANGE	3	33.3
BLUE	2	22.2
GREEN	1	11.1
GOLD	0	0.0
Community complaints		
NOT ADEQUATE	3	33.3
GREEN	6	66.7

*Note.* Due to rounding error, all percentages may not sum to 100%.

**Continuous Variables**

I examined means and standard deviations for the continuous level variable of interest: fiduciary responsibility. Fiduciary responsibility corresponded to the amount of gold production by companies in thousands of ounces. Among the nine companies included in the data analysis, fiduciary responsibility ranged from 105,000 to 719,000 ounces, with  $M = 281,000$  and  $SD = 213,210$ . Tables 5 and 6 present descriptive statistics for fiduciary responsibility.

Table 5

*Fiduciary Responsibilities for Gold Mining Companies*

Mine	Region	Fiduciary Responsibility (in thousands of ounces)
Goldfield Ghana Ltd Tarkwa Mine	Western Region	719.00
Goldfield Ghana Ltd Damang Mine	Western Region	166.00
AngloGold Ashanti Iduapriem Mine	Western Region	180.00
Kinross Gold Mine	Western Region	293.00
Adamus Resource/Endeavour Mine	Western Region	105.00
Golden Star Resource – Bogoso	Western Region	172.00
Newmont Ghana Gold – Ahafo	Brong Ahafo Region	561.00
Perseus Mining	Central Region	186.00
Golden Star Resource – Wassa	Central Region	147.00

Table 6

*Means and Standard Deviations for Fiduciary Responsibility*

Variable	Min	Max	<i>M</i>	<i>SD</i>
Fiduciary responsibility (in thousands of ounces)	105.00	719.00	281.00	213.21

**Bivariate Analyses**

To assess the bivariate relationships between the variables, I conducted a chi-square test. A chi-square is appropriate when examining the two-way association between nominally measured variables (Howell, 2013). Results of the chi-square test indicated that no significant relationship existed between environmental performance and community complaints,  $\chi^2(3) = 3.75, p = .290$ . Table 7 presents the findings of the chi-square test.



Table 7

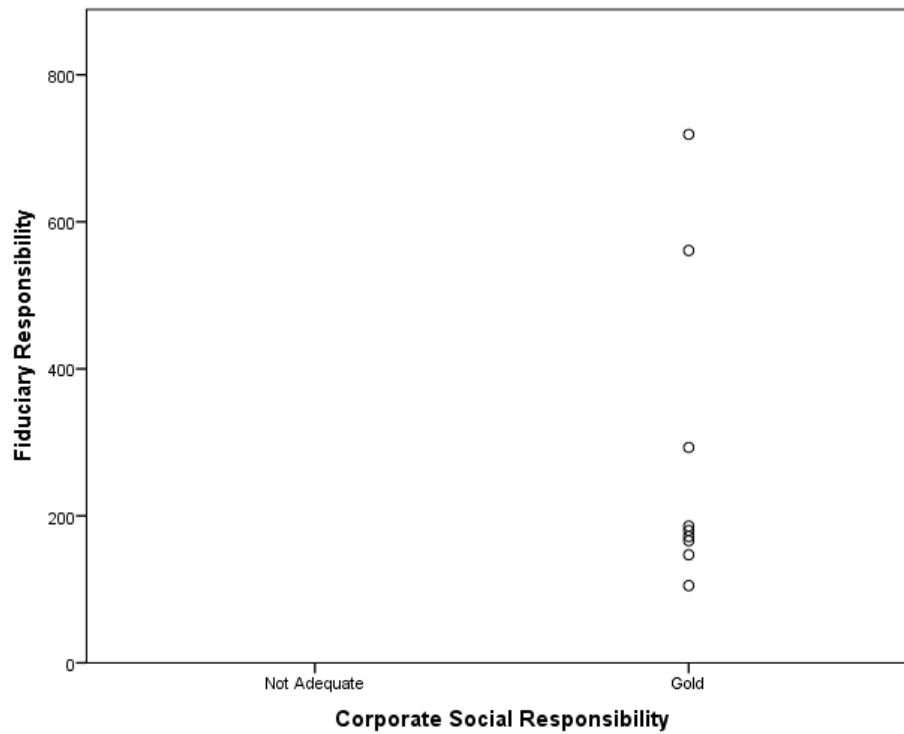
*Chi-Square Analyses for Environmental Performance and Community Complaints*

Variable	Environmental Performance					$\chi^2(3)$	<i>p</i>
	RED	ORANGE	BLUE	GREEN	GOLD		
Community Complaints							
NOT ADEQUATE	2	0	1	0	0	3.75	.290
GREEN	1	3	1	1	0		

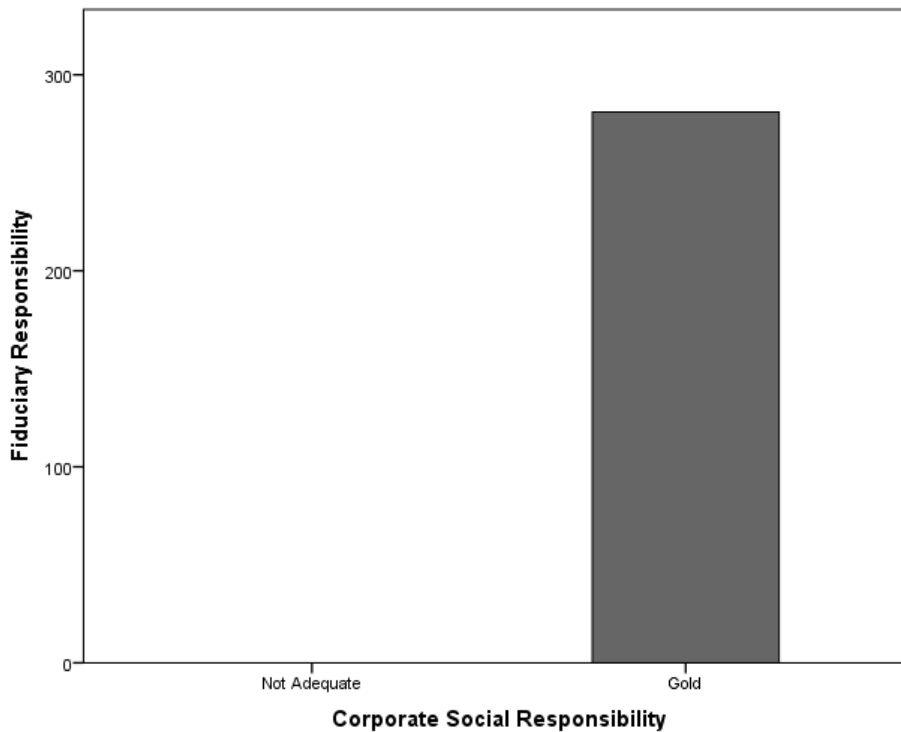
**Detailed Analysis**

To answer Research Question 1, I conducted a point-biserial correlation to examine the relationship between corporate social responsibility and fiduciary responsibility. A point-biserial correlation is an appropriate statistical analysis when assessing the strength of association between a dichotomous variable and a continuous variable (Tabachnick & Fidell, 2013). Corporate social responsibility was a dichotomous variable with two possible responses: NOT ADEQUATE and GOLD. Fiduciary responsibility was a continuous variable for amount of gold production measured in thousands of ounces.

Prior to analysis, I tested the assumption of monotonicity for the relationship. Every company involved in the data collection had a GOLD rating for corporate social responsibility, as shown in Figures 1 and 2. The monotonicity assumption could not be interpreted because of zero variance in the corporate social responsibility variable.



*Figure 1.* Scatterplot of corporate social responsibility and fiduciary responsibility.



*Figure 2.* Bar chart of corporate social responsibility and fiduciary responsibility.

Because of corporate social responsibility being identified as GOLD for each mining company, a correlation could not be conducted because zero variance existed in the possible categories for this variable. The null hypothesis for Research Question 1 ( $H_{01}$ ) was not rejected. Table 8 present the findings of the point-biserial correlation between corporate social responsibility and fiduciary responsibility.

Table 8

*Point-Biserial Correlations Between Corporate Social Responsibility and Fiduciary Responsibility*

Variable	Fiduciary responsibility	
	<i>r</i>	<i>p</i>
Corporate social responsibility*	-	-

*Note.* Due to zero variance in corporate social responsibility, the correlation could not be computed.

To answer Research Question 2, I conducted a Spearman correlation to examine the relationship between environmental performance and fiduciary responsibility. A Spearman correlation is an appropriate statistical analysis when assessing the strength of association between two variables, when at least one of the variables is measured on an ordinal scale (Tabachnick & Fidell, 2013). Environmental performance was an ordinal variable with five possible responses: RED, ORANGE, BLUE, GREEN, and GOLD. Fiduciary responsibility was a continuous variable for amount of gold production measured in thousands of ounces.

Prior to analysis, I tested the assumption of monotonicity for the relationship. There did not appear to be a clear direct or indirect relationship between the variables of interest, as show in Figures 3 and 4. Therefore, the findings of the Spearman correlation must be interpreted with a level of caution.

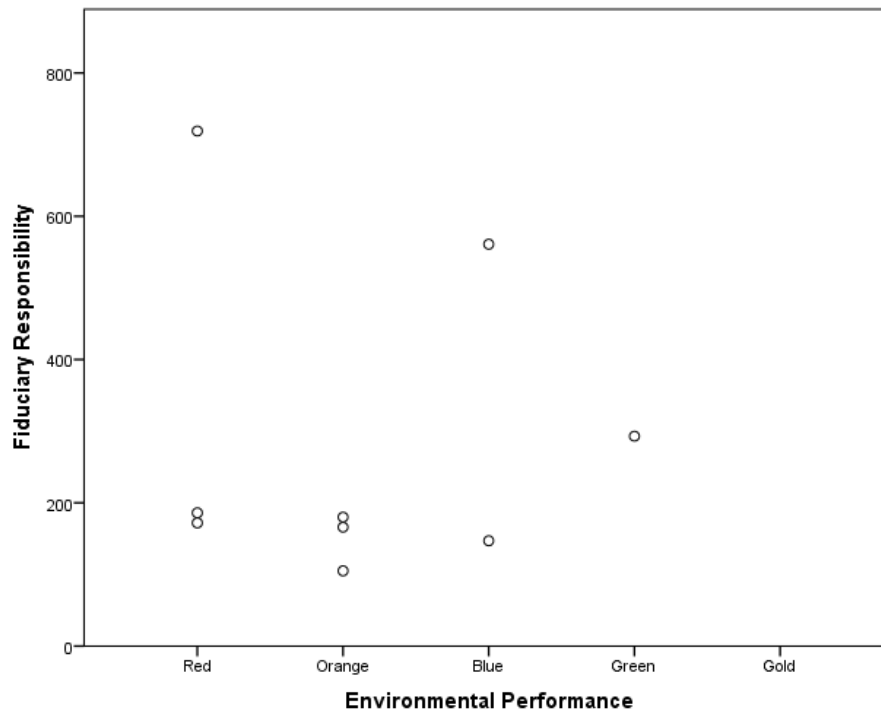


Figure 3. Scatterplot of environmental performance and fiduciary responsibility.

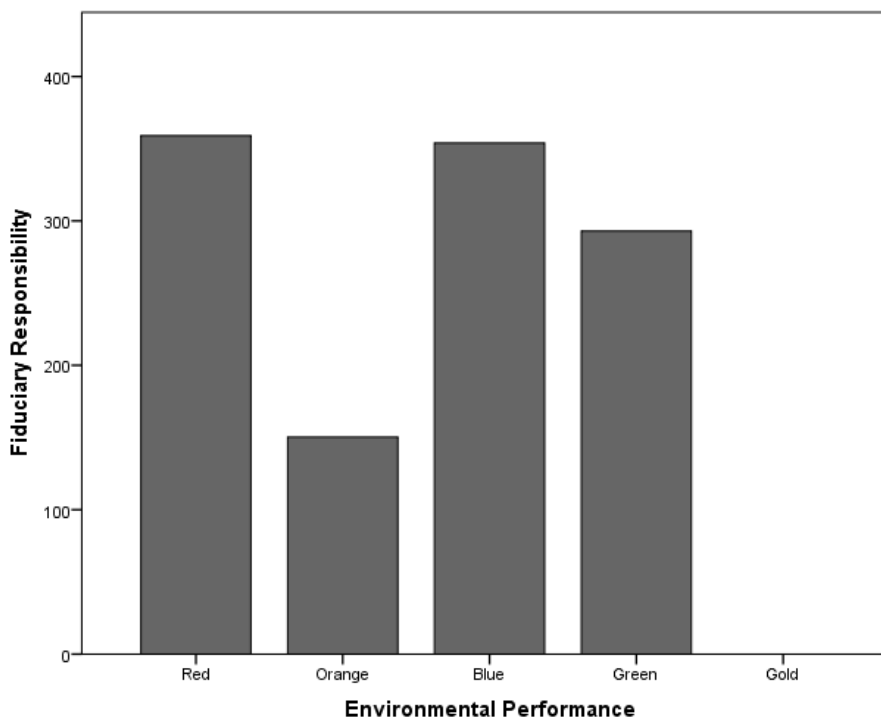


Figure 4. Bar chart of corporate environmental performance and fiduciary responsibility.

Results of the Spearman correlation indicated no significant positive or negative correlation existed between environmental performance and fiduciary responsibility ( $r = -.07, p = .859$ ). Applying Cohen's standard, the correlation coefficient indicated a weak association between environmental performance and fiduciary responsibility (Cohen, 1988). Because of non-significance of the correlation, the null hypothesis for Research Question 2 ( $H_02$ ) was not rejected. Table 9 presents the findings of the Spearman correlation between environmental performance and fiduciary responsibility.

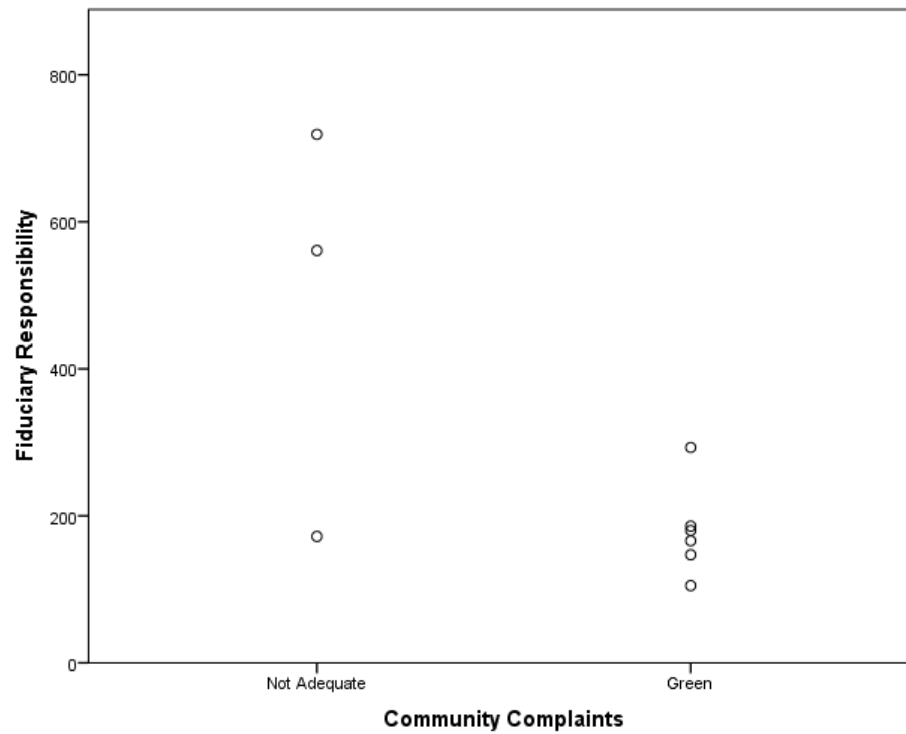
Table 9

*Spearman Correlations between Environmental Performance and Fiduciary Responsibility*

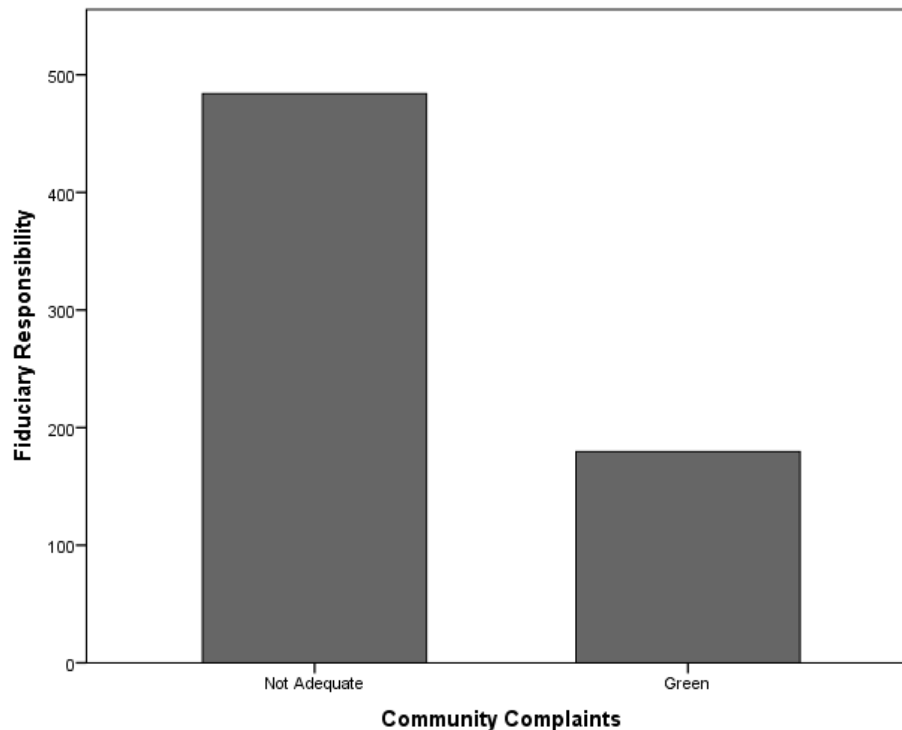
Variable	Fiduciary responsibility	
	$r_s$	$P$
Environmental performance	-.07	.859

To answer Research Question 1, I conducted a point-biserial correlation to examine the relationship between community complaints and fiduciary responsibility. A community complaint was a dichotomous variable with two possible responses: NOT ADEQUATE and GREEN. Fiduciary responsibility was a continuous variable for amount of gold production measured in thousands of ounces.

Prior to analysis, I tested the assumption of monotonicity for the relationship. There appeared to be an inverse relationship, in which companies identified as GREEN for community complaints tended to have lower gold production output (see Figures 5 and 6).



*Figure 5.* Scatterplot between community complaints and fiduciary responsibility.



*Figure 6.* Bar chart between community complaints and fiduciary responsibility.

Results of the point-biserial correlation indicated that a significant inverse association existed between community complaints and fiduciary responsibility ( $r = -.71$ ,  $p = .031$ ). Applying Cohen's standard, the correlation coefficient suggested a strong inverse association existed between community complaints and fiduciary responsibility (Cohen, 1988). The strong inverse relationship means that the companies identified as GREEN for community complaints tended to have lower fiduciary responsibility in comparison to companies identified as NOT ADEQUATE. Because of significance of the correlation, the null hypothesis for Research Question 3 ( $H_03$ ) was rejected. Table 10 presents the findings of the point-biserial correlations.



Table 10

*Point-Biserial Correlations Between Community Complaints and Fiduciary Responsibility*

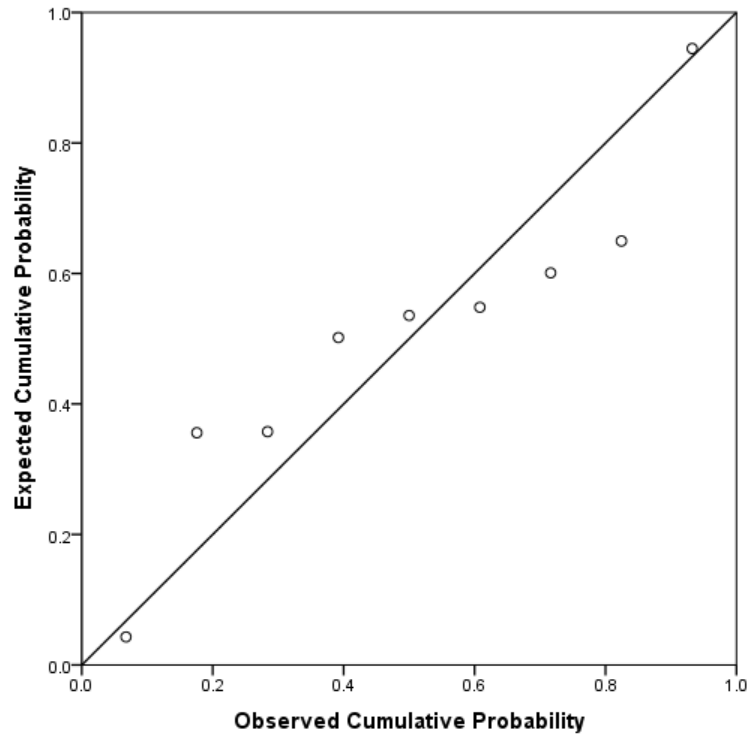
Variable	Fiduciary responsibility	
	<i>r</i>	<i>P</i>
Community complaints	-.71	.031

**Ancillary Analysis****Multiple Linear Regression**

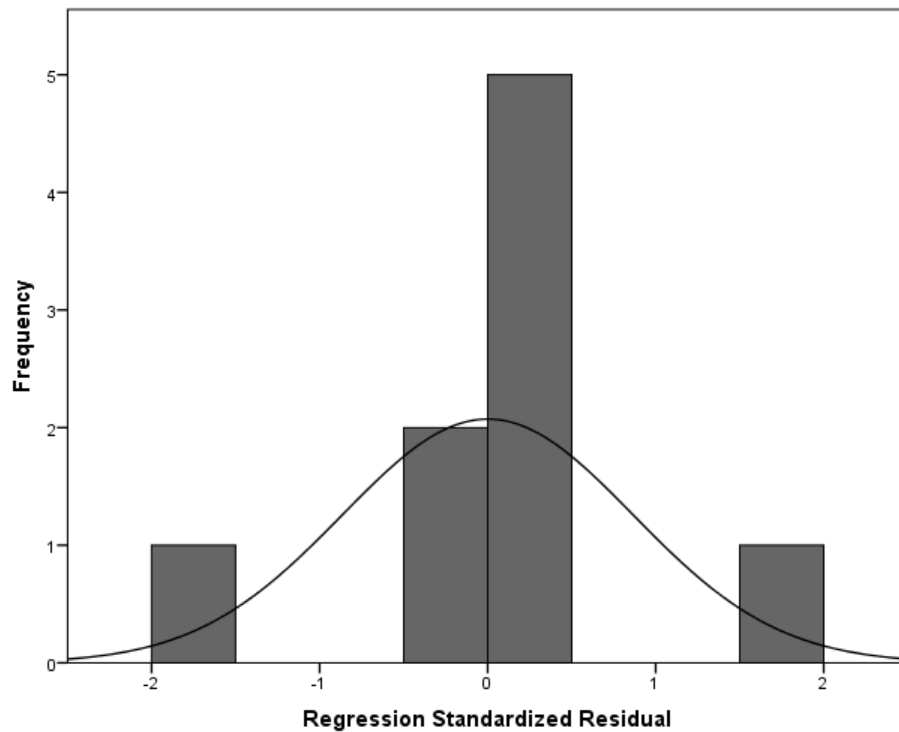
I conducted a multiple linear regression as an ancillary analysis to evaluate the predictive relationship between environmental performance, community complaints, and fiduciary responsibility. A multiple linear regression is used when assessing the predictive relationship between combinations of independent variables on a continuous criterion variable (Tabachnick & Fidell, 2013). Environmental performance and community complaints were entered into the model as predictor variables. The continuous criterion variable corresponded to fiduciary responsibility. Prior to analysis, I assessed the assumptions of normality and homoscedasticity by examination of scatterplots. I tested the absence of multicollinearity assumption by Variance Inflation Factors (VIFs).

**Normality assumption.** Normality tests that the residuals of the fitted regression line are following a bell-shaped distribution (Stevens, 2009). The data presented in the normal P-P plot slightly deviated from the trend line (see Figure 7). In addition, the histogram of the regression residuals did not resemble a true bell-shaped curve (see

Figure 8). The distribution of both figures indicates that the assumption of normality was not met. However, the normality assumption must be interpreted with a level of caution when the sample size is relatively small (Stevens, 2009).

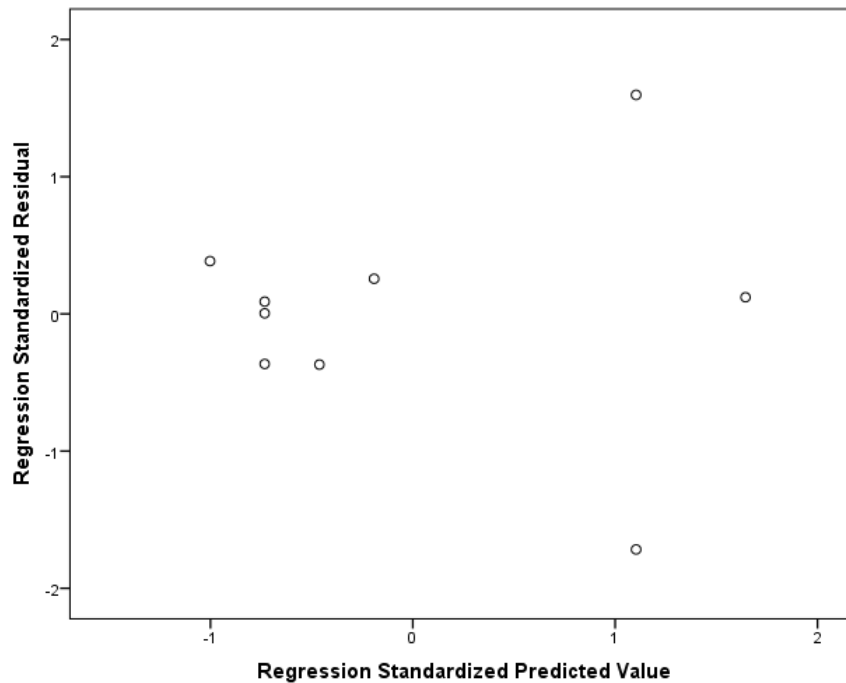


*Figure 7.* Normal P-P plot to assess normality for regression on fiduciary responsibility.



*Figure 8.* Histogram of the residuals to assess normality for regression on fiduciary responsibility.

**Homoscedasticity assumption.** The homoscedasticity assumption checks that the variance of the data is equally spread across the levels of the independent variables (Howell, 2013). The examination of the regression's standardized predicted values against the standardized residuals indicated that the variance of the data was equally spread. No distinct pattern was identified through the scatterplot and the assumption of homoscedasticity was met (see Figure 9).



*Figure 9.* Scatterplot of the standardized residuals on fiduciary responsibility.

**Absence of multicollinearity assumption.** The absence of multicollinearity assumption checks that the predictor variables are not too closely related with one another. The assumption was tested with VIFs. Variance Inflation Factor values higher than 10 suggest that a high correlation exists between the predictor variables and the assumption would not be met (Stevens, 2009). The VIF values for both predictors fell below the threshold and the assumption for absence of multicollinearity was met. Table 11 presents the VIF values for the predictors.

Table 11

*Variance Inflation Factors for Environmental Performance and Community Complaints*

Predictor	VIF
Environmental performance	1.11
Community complaints	1.11

**Findings of regression analysis.** The results of the regression were not significant,  $F(2, 6) = 3.67, p = .091, R^2 = .550$ , suggesting that no significant predictive relationship existed between environmental responsibility, community complaints, and fiduciary responsibility. The predictors could explain approximately 55.0% of the variance in fiduciary responsibility. When the overall model for a regression is not significant, the individual predictors are typically not examined further. However, it was evident that community complaints were a significant individual predictor in the model ( $t = -2.71, p = .035$ ). The significance of community complaints in the model indicates that gold mining companies identified as GREEN for community complaints had on average 333,000 less gold production (in ounces) when compared to companies identified as NOT ADEQUATE for community complaints. Although the predictor was significant in the model, the interpretation of the strength for the beta coefficient must be made with a level of caution because the overall model was not significant. Table 12 presents the results of the regression. The regression equation for this model is represented by,

$$Y_1 = 412.75 + 42.75(X_1) - 333.00(X_2) + \varepsilon.$$

Table 12

*Multiple Linear Regression With Environmental Performance and Community Complaints Predicting Fiduciary Responsibility*

Predictor	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
(Constant)	412.75	136.22			
Environmental performance	42.75	58.38	.21	0.73	.492
Community complaints	-333.00	123.07	-.78	-2.71	.035

Note:  $F(2, 6) = 3.67, p = .091, R^2 = .550$ .

### Chapter Summary

The purpose of this quantitative correlational study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana. I used descriptive statistics to examine trends among the nominal and continuous level variables for nine gold mining companies. All nine companies received a GOLD rating for corporate social responsibility. None of the companies received a GOLD rating for environmental performance. Three of the companies received a NOT ADEQUATE rating for community complaints. Among the mining companies included analyses, fiduciary responsibility ranged from 105,000 to 719,000 ounces, with  $M = 281,000$  and  $SD = 213,210$ .

To answer the research questions, I conducted a combination of point-biserial correlations and Spearman correlations. For Research Question 1, a point-biserial correlation could not be computed because of zero variance in the corporate social responsibility variable. No variability in corporate social responsibility existed, as all nine

companies received a GOLD rating and no NOT ADEQUATE ratings. The null hypothesis for Research Question 1 ( $H_01$ ) was not rejected.

To answer Research Question 2, I conducted a Spearman correlation to examine the strength of association between environmental performance and fiduciary responsibility. The findings for the Spearman correlation ( $r = -.07, p = .859$ ) indicated a weak and non-significant association between environmental performance and fiduciary responsibility. The null hypothesis for Research Question 2 ( $H_02$ ) was not rejected.

To answer Research Question 3, a point-biserial correlation was conducted to examine the strength of association between community complaints and fiduciary responsibility. The findings for the point-biserial correlation indicated that a significant inverse association ( $r = -.71, p = .031$ ) existed between community complaints and fiduciary responsibility, suggesting that companies that identified as GREEN for community complaints tended to have lower fiduciary responsibility in comparison to companies that identified as NOT ADEQUATE. The null hypothesis for Research Question 3 ( $H_03$ ) was rejected.

As an ancillary analysis, I conducted a multiple linear regression to examine the predictive relationship between environmental performance, community complaints, and fiduciary responsibility. The overall regression model was not significant, but community complaints were a significant predictor in the model ( $t = -2.71, p = .035$ ). The significance of community complaints in the model indicates that gold mining companies identified as GREEN for community complaints had on average 333,000 less gold production (in ounces) when compared to companies identified as NOT ADEQUATE for

community complaints. The strength of the predictor variable must be interpreted with caution because of the overall model not showing significance.

The following chapter includes an examination of the statistical findings. I make connections back to the literature and theoretical framework selected for the study. In addition, the chapter details the strengths, limitations, and potential implications of the findings.



## Chapter 5: Discussions, Conclusions, and Recommendations

In this study, I investigated the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana. I conducted a quantitative correlational study consisting of all the actively operating and publicly traded gold mining companies in Ghana, the Ghanaian EPA, Ghana Chamber of Mines, and host community stakeholders in the study area currently benefiting from social investment initiatives. This study involved use of secondary data from the AKOBEN report, resulting in a total of 10 mining companies. However, one company (Newmont Ghana Gold - Akyim) in the AKOBEN report was under construction and did not have data on gold output. I used a total population sampling approach and the statistics available on the AKOBEN report. The findings indicated that no significant relationship existed between fiduciary responsibility measured by gold output, and corporate social responsibility or environmental policies. However, a negative inverse relationship existed between a GREEN community complaints score and gold output. An ancillary multiple linear regression indicated that no significant predictive relationship existed between fiduciary responsibility and environmental policies and community complaints.

In Chapter 5, I provide detailed discussions of the research findings in the context of the theoretical framework that underpinned this study, as well as the larger body of social exchange theory literature reviewed in Chapter 2. I also describe the limitations of

the study, recommendations for action and future research, and implications of the study.

I conclude the study with a summary statement.

### **Interpretation of the Findings**

#### **Research Question 1**

Research Question 1 was the following: What is the relationship between corporate social responsibility and fiduciary responsibility to the shareholders in mining companies operating in Ghana? This research question served to address the fiduciary lacuna in corporate social responsibility literature and practice. For the purpose of this study, I used AKOBEN reporting for the corporate social responsibility variable. A point-biserial correlation was conducted to test the relationship. Because the AKOBEN report identified every reported company as having a GOLD rating, I could not proceed with the analysis because of the violation of the assumption of monotonicity.

A potential explanation of this result is that Ghanaian gold mining organizations are committed to corporate social responsibility. This interpretation is consistent with Sadik's (2013) study. Through a study of 10 gold mining organizations in Ghana, Sadik determined that all of the organizations were transparent about their implementation of corporate social responsibility policies related to the environmental, economical, and social themes of corporate social responsibility. Additionally, eight companies reported accountability and transparency practices, six companies disclosed their human rights practices, and five companies stated their cultural sensitivity practices (Sadik, 2013). Standing and Hilson (2013) reported that Ghanaian mining organizations spent USD \$24 million on corporate social responsibility as of 2011. According to the tenets of social

exchange theory (Emerson, 1976), gold mining organizations may have already come to view corporate social responsibility as a key component of the social exchange within their industry.

Alternatively, the results may suggest that a continuing issue exists regarding reporting and accountability for gold mining organizations with respect to corporate social responsibility. Ghanaian legislation and mining initiatives provided a consistent framework for corporate social responsibility, but a lack of comprehensive corporate social responsibility policies or guidelines exists (Atuguba & Dowuona-Hammond, 2006; Armah et al., 2011). As a result, the majority of adherence to corporate social responsibility was the result of an organization-level social exchange, as opposed to regulations imposed by the government (Abugre, 2014; Quartey & Quartey, 2015).

The literature was explicit regarding the issues with corporate social responsibility in the Ghanaian mining industry. Researchers reported that corruption abounded (Lawson & Bentil, 2014; Standing & Hilson, 2013), that issues occurred with mismanagement of corporate social responsibility funds and policies (Abugre, 2014; Armah et al., 2011; Standing & Hilson, 2013; Teschner, 2012), and that significant strife existed with indigenes (Lawson & Bentil, 2014). Wan (2014) revealed adverse effects on the community in Obuasi, Pompo, and Kwabratoso. It would be inconsistent with the literature if all gold mining organizations were currently performing optimally regarding corporate social responsibility, as indicated in the AKOBEN reports.

A potential explanation of the inconsistency may be the methodology AKOBEN uses for reporting. As reported by EPA AKOBEN (2010), the AKOBEN representative

assesses corporate social responsibility performance by reviewing the policies of the mining organization and checking whether the organization adheres to the policies as observed at the mining site. Table 13 presents the criteria questions used in the AKOBEN evaluation.

Table 13

*Questions for Assessing Corporate Social Responsibility Used by AKOBEN*

Category	Questions
Policies	<ul style="list-style-type: none"> <li>• Does the company have a formal CSR Policy?</li> <li>• Is the CSR policy published or posted on a website for public access?</li> <li>• Does the CSR policy recommend community development?</li> <li>• Does the CSR policy support consultation with community?</li> <li>• Does the CSR policy recognize social values, culture, and heritage of local communities?</li> <li>• Does the CSR policy support local training and economic empowerment of communities?</li> </ul>
Expenditure	<ul style="list-style-type: none"> <li>• Is the mining company's annual social expenditure in accordance with its public commitment?</li> </ul>
Action	<ul style="list-style-type: none"> <li>• Is the mining company acting in accordance with its public commitment regarding the provision of community infrastructure?</li> <li>• Is the mining company acting in accordance with its public commitment regarding its support for basic services like health, sanitation, education and others?</li> <li>• Is the company acting in accordance with its public commitment about promoting local economic development?</li> <li>• Are community projects determined through community consultation?</li> <li>• Does the company advertise all relevant job opportunities locally?</li> <li>• Is the share of Ghanaian workers steadily increasing over time?</li> </ul>

Reviewing the questions, I noted that the questions were vague and restricted to the policy that the company has implemented; moreover, a single AKOBEN representative interpreted the policy in one visit to the mine take site. The lack of specific

benchmarks and appropriate methodology for collecting data may provide an opportunity for inconsistencies and corruption, as discussed by Armah et al. (2011) and Atuguba and Dowuona-Hammond (2006). Lack of rigorous data collection may have also resulted in each of the companies in this sample receiving a GOLD rating, despite reported issues from the community presented in other research regarding the social tolls of gold mining industries (Armah et al., 2011; Lawson & Bentil, 2014).

### **Research Question 2**

Research Question 2 was the following: What is the relationship between mining companies' efforts to minimize their negative impact on the environment and fiduciary responsibility to the shareholders? I included this research question because the literature review revealed that mining organizations may find socially responsible business practices regarding the environment to be potentially detrimental to their ability to make a profit (Garriga & Mele, 2004; Luiz & Ruplal, 2013; Quartey & Quartey, 2015). The results showed that no significant relationship existed between efforts to minimize companies' negative impacts on the environment and fiduciary responsibility.

One interpretation of the data is that organizations' expenditure in reducing the environmental impact of their mines did not interfere with or promote their financial abilities. This interpretation is inconsistent with perceptions in the literature and with social exchange theory. This interpretation counters organizational perceptions regarding the inability to spend money on environmental policies and make a profit, as reported by Garriga and Mele (2004), Luiz and Ruplal (2013) and Quartey and Quartey (2015).

Under this interpretation, gold mining organizations need not worry that investing resources in minimizing their environmental impact would reduce their profitability.

The findings also contradict research related to social exchange theory, which indicates that spending money on environmental policies creates goodwill within the community and among employees, thereby increasing the company's functionality and profit (Burke & Logsdon, 1996; Calabrese et al., 2013; Hinson et al., 2016; Holthausen, 2013; Kang et al., 2014). This contradiction may be a result of the method through which I measured fiduciary responsibility, as the output of gold in ounces. A different result might have occurred if I had included shareholders' perceptions as a variable.

### **Research Question 3**

Research Question 3 was the following: What is the relationship between community complaints and fiduciary responsibility to the shareholders in mining companies operating in Ghana? Because community relations is a key component of corporate social responsibility (Babalola, 2012; Garriga & Mele, 2004), I sought to determine whether investing resources in this aspect led to reduced ability to meet fiduciary responsibilities. The results indicated that a negative relationship existed between gold mining organizations addressing community complaints and their abilities to meet fiduciary responsibilities to shareholders.

The findings were consistent with some literature related to corporate social responsibility and the Ghanaian mining industry. It is expected that, at some point, resources invested in corporate social responsibility initiatives may interfere with organizations' financial profits (Garriga & Mele, 2004). This result is supported by the

work of Greenen (2015), who reported that mining companies in Ghana spend 0.5% to 1% of their profit after tax on corporate social responsibility. The findings of the present study supported the perceptions of some mining organizations in Ghana that socially responsible action might interfere with fiduciary responsibilities to shareholders (Quartey & Quartey, 2015).

The results contradicted the expected findings based on social exchange theory. According to some researchers applying social exchange theory to corporate social responsibility, investing in addressing community complaints should garner goodwill in the community that leads to positive organizational outcomes, including greater profits (Burke & Logsdon, 1996; Calabrese et al., 2013; Hinson et al., 2016; Holthausen, 2013; Kang et al., 2014). It may be that measuring shareholders' satisfaction with the company, or measuring profit based on the stock price rather than gold output, might have generated a different outcome.

An alternative interpretation is that the current methods of addressing community complaints in the Ghanaian gold mining industry are insufficient for both gold mining companies and communities. Some researchers suggested that investment in communities on the part of gold mining organizations did not improve conditions for communities. For instance, Wan (2014) demonstrated that in 2011, although the Angold Gold Ashanti allocated and transferred an amount of 306,000 cedis (\$87,500) to the municipal Assembly in Obuasi, local residents of the mine take area of Anglo Gold Ashanti lamented the poor state of their lives and developmental resources. Akabzaa and Darimani (2001), Akabzaa, Seyire, and Afriyie (2007), and Hilson (2004) also

documented this phenomenon of unequal exchange between investment in corporate social responsibility and outcomes in the community.

Another potential explanation is that gold mining organizations in Ghana are experiencing an unprecedented amount of community complaints that may require unforeseen investments to address. Several community-led initiatives have exacted change on the part of gold mining organizations. In Ghana, the strong resistance and conflict between mining companies and communities have been led by anti-mining activists and NGOs (Greenen, 2015). These anti-mining NGOs and activists aim to highlight the negative impacts of mining activities on their health, jobs, resources, and communities. To stem the tide of mounting agitation from anti-mining activists and NGOs, mining companies have implemented corporate social responsibility as an agent for maintaining harmony between mining companies and communities. Corporate social responsibility includes all the roles the mining companies perform to meet the community needs (Charles et al., 2016). For instance, Greenen (2015) reported that the Dumasi community tabled a request for 17 development interventions. Some of these interventions included a school, hospital, learning equipment for schools, police station, security, market, and public toilets. Failing to answer these needs could lead to confrontation between indigenes and the mining companies. In such situations, mining



companies must invest significant financial capital and resources in community development, which may limit their abilities to focus on mining output.

### **Limitations of the Study**

This study had anticipated and unanticipated limitations. Given the use of archival data, I had access to data for only 10 gold mines, despite the parameters recommended by the G\*Power 3.1.7 calculation, which indicated that a sample size of 102 cases was optimal for the research (Faul et al., 2014). I determined this delimitation was necessary because Ghana has a specific milieu related to corporate social responsibility, mining organizations, and communities that may restrict the applicability of the findings beyond Ghana. Ghana additionally has a limited number of gold mining companies in comparison to other countries. Researchers are cautioned about generalizing the research findings to other African countries.

This study relied on the secondary data from the 2012 records of mining companies and the AKOBEN program, the most recent data available. The findings of this study were based on historical records, and the researcher did not have control of the study population and design. I used the data from AKOBEN report and the Chamber of Mines annual report for 2012, which has a robust method of collating data, and is well respected by the research community and the Ghana government. It became clear, however, a potential limitation with respect to corporate social responsibility measures on the part of the AKOBEN program emerged. All gold mining companies received a GOLD rating, which resulted in an inability to conduct a point-biserial analysis for Research Question 1. This limitation nevertheless has implications for measurement of

corporate social responsibility in Ghana, as discussed in the implications section of this chapter.

An initial limitation of the research was the use of a correlational design. Based on this design choice, the initial research did not demonstrate causation or directionality of the relationship between the variables (Trochim & Donnelly, 2001). Because of the limitation of the corporate social responsibility variable, I conducted an ancillary multiple linear regression to test for causation between fiduciary responsibility and community complaints and efforts to reduce environmental impact.

### **Recommendations**

Multiple recommendations stemming from this study exist for future researchers. The first group originates in the limitations of the present study. Future researchers may consider collecting primary data to get a broader snapshot of the relationships between corporate social responsibility and fiduciary responsibility in Africa to increase generalizability. This primary data collection would be necessary to ensure a consistent instrument across countries in Africa. I recommend replicating the research questions used in this study to get a granular view of the aspects of corporate social responsibility that interfered with fiduciary responsibilities. Through this data collection, stakeholders can gain understanding regarding what aspects of corporate social responsibility may be detrimental or beneficial to mining organizations.

I have also generated recommendations based on the findings of the study. First, future researchers might consider examining a different criterion variable with relation to corporate social responsibility outcomes. For example, perceptions of shareholders might

be more indicative of corporate social responsibility initiatives than output in gold. I also suggest that future researchers look outside of the AKOBEN reports for a measure of corporate social responsibility. As indicated earlier, the measurement of corporate social responsibility for AKOBEN consists of a cursory review of the mining organization's policy and its adherence to that policy, rather than based on established corporate social responsibility benchmarks. Future researchers might consider using a different measure to generate results.

Researchers also need to further explore the negative relationship established by this study between addressing community complaints and fiduciary responsibility. Without addressing this issue, the organizations may continue to perceive community outreach as an unequal social exchange that is detrimental to organizational success, in line with social exchange theory (Emerson, 1976). Resultantly, gold mining organizations may fail to address these issues in the pursuit of profit (Quartey & Quartey, 2015).

## **Implications**

### **Implications for Mining Companies and Shareholders**

The findings have several implications for mining companies. The lack of a relationship between environmental policies and fiduciary responsibility is important because of the significant environmental issues faced by Ghana because of gold mining. Notable among key works pertaining to mining and wanton environmental destruction because of weaker environmental performance is Mensah et al. (2015), who focused on environmental impacts of mining in Ghanaian communities and suggested that the need exists to create environmental awareness in mining communities. Other works include

Amponsah-Tawiah and Dartey-Baah (2011) and Yeboah (2008), who highlighted the challenges and the effects of the mining industry in Ghana. The present study demonstrated that gold mining companies could work to mitigate these issues without adversely affecting their fiduciary responsibility to their shareholders.

The findings also demonstrated that mining companies might be experiencing financial stress because of community complaints, based on the inverse relationship between community complaints scores and gold output. Researchers and mining companies need to understand the nature of various community complaints and agitations and how these disruptions affect the operations of mining companies, including the monetary cost of these disruptions. Mining companies should consider investigating how their money towards community complaints is spent. Mining companies demand full accountability of all funds transferred to local authorities and politicians to address the complaints of local communities. Legislation needs to support the local communities to make the process effective and transparent. Lawmakers should also consider how they could more efficiently address community complaints in a manner that does not create undue financial detriments for their organizations. In addition, mining companies should engage in community awareness campaigns to forestall insincere anti-mining organizations from deceiving local people to keep funds to themselves illegally.

Shareholders in these companies should also be considerate and made aware of the funds it takes to be socially responsible in the gold mining industry. Several levels of fiduciary responsibility exist from company directors and officers to shareholders (Forrester & Ferber, 2008). Fiduciary responsibility of company managers to their

shareholders has been strongly emphasized (Slawotsky, 2016). It is also a responsibility for the gold mining organizations to be ethical. Incorporating corporate social responsibility ratings of mining companies into the listing of companies on the stock market could help with this issue. Prospective share buyers could then investigate the problems that exist in the operational environment of mining companies before purchasing their shares on the stock market. In addition, shareholders should demand that more attention be given to corporate social responsibility at annual general meetings and post reporting conference calls. Shareholders should scrutinize the various amounts earmarked for corporate social responsibility in the corporate report at post reporting conference calls.

### **Implications for the Ghanaian Government and Policymakers**

The results suggested that although the government of Ghana has passed legislation and commissioned reports to improve the responsibility within mining areas, much remains to be done. For instance, in 2000, the government of Ghana passed acts that included improving and reviewing the minerals code (Act 703) with the aim of improving the lapses within the Provisional National Defense Council (PNDC) Act 153 on mining to contain key contemporary issues (UNDESA, 2010). The government has also implemented the AKOBEN reporting system. Still, these systems seem to be inadequate based on the issues noted regarding the community and environmental issues faced by Ghanaians because of mining activities (Lawson & Bentil, 2014; Standing & Hilson, 2013). As a result, the corporate social responsibility adherence is largely left up to the gold mining organizations' discretion (Abugre, 2014).

One potential question for government stakeholders to investigate is, if companies are addressing community complaints to their financial detriments, and all Ghanaian gold mining companies received GOLD ratings for corporate social responsibility, why is there still confrontation and conflict between the communities and the mining companies? This question suggests that a missing link may exist in the mining company-community chain of delivery that future researchers should investigate. In addition, corruption in this system may be leading to a poor investment of resources. Some community leaders are not transparent enough, including the anti-mining NGOs who failed to account for the funds received from mining companies (Greenen, 2015; Mensah et al., 2015; Yeboah, 2008).

Alternatively, the results may suggest that the EPA should revise standards for measuring corporate social responsibility per AKOBEN. The issues with the current system include the reliance on a single visit to the mine take site and the lack of clearly established, objective benchmarks for corporate social responsibility. The Ghanaian government may need to consider developing an overarching policy for required corporate social responsibility. This document would allow the AKOBEN stakeholders to implement clear standards for gold mining organizations and to measure them objectively. The government should also consider an alternative measure of action on the part of gold mining organizations during a period, rather than through a single observation of the mine take site.

A rigorous regulatory framework from players in the Mining Industry (EPA), Chamber of Mines, and Minerals Commission should be implemented in the AKOBEN

framework to ensure appropriate reporting of corporate social responsibility. This framework should encompass key stakeholders, such as anti-mining NGOs and activists, community leaders, and company directors and officers. I also recommend the implementation of a national policy on corporate social responsibility in the mining sector. This policy should be backed by legislative instrument rolled out by the ministry of Mines and Natural Resources, including its affiliate agencies. Considering the level of corruption and lack of transparency in the mining industry regarding corporate social responsibility, I also recommend that efforts be made to establish a body for monitoring the activities of NGOs, including those focusing on mining companies. This agency would track the sources of funds and administration between mining companies and NGOs in mining.

As the results show, some potential financial detriments related to corporate social responsibility exist towards the community; I also suggest that the Ghanaian government work to make the social exchange fairer for the companies. The government could do so by reporting corporate social responsibility activities through the stock exchange. Disruptions of mining activities because of corporate social responsibility affect share prices, which have a domino effect on the performance of the stock exchange. Before listing on the stock market, a company should have to prove undertaking transparent and successful corporate social responsibility. This should be corroborated by indigenes of mining areas. This effort would boost the mining sector corporate social responsibility improvement and the reputation of mining companies and the respective stock markets in general.

### **Implications for Social Change**

The results of this study have implications for social change in diverse ways. In the developing world, corporate social responsibility is sometimes sacrificed so that mining organizations can profit (Armah et al., 2011; Standing & Hilson, 2013). In some cases, the indigenes are left to their fate after the wanton destruction of their resources during mineral exploration (Lawson & Bentil, 2014). The present study suggested that gold mining organizations in Ghana can reduce their influence on the environment without experiencing financial detriments. This revelation can provide information for gold mining organizations that may encourage their investment of resources in mitigating environmental impacts.

The results also pointed to the potential need for increased rigor in measuring corporate social responsibility at the organizational and governmental level. Gold mining organizations and the Ghanaian government should pay careful attention to resources allocated to addressing community complaints. This research revealed that despite the allocation of funds for community complaints, agitations still kept coming from these communities, implying that more has to be done to fully address the requests of these communities.

These stakeholders should also consider reviewing policies and practices for measuring corporate social responsibility through AKOBEN. These procedures, if undertaken, can improve the relationships between the community and gold mining organizations and ensure that Ghanaian citizens reap the benefits of corporate social responsibility. Resultant benefits may include (a) increased and improved social and



infrastructural facilities, which will address educational and health concerns; and (b) improvement in road infrastructure, which will address the transportation problems that local people in mining communities face regarding the transportation of their farm produce to markets of major cities in Ghana.

### **Conclusion**

The perceived inability of gold mining organizations to conduct socially responsible activities while maintaining profits led to a lack of corporate social responsibility within the Ghanaian gold mining industry (Quartey & Quartey, 2015). This situation was problematic because the lack of formal and consistent oversight from the Ghanaian government left corporate social responsibility largely to the gold mining organizations' discretion (Abugre, 2014). The purpose of this study was to investigate the relationships between corporate social responsibility, environmental policies, and community complaints, and the fiduciary responsibility of a corporation to its stakeholders within gold mining companies operating in Ghana.

The findings have implications for social changes within the Ghanaian system. I found that efforts to mitigate environmental influences had no relationship with fiduciary responsibility on the part of gold mining organizations. Gold mining organizations resultantly can invest their resources in this area with no fear that they may lose profitability, and they may gain increased branding and community reputation as a result. These investments may improve the Ghanaian environment and reduce the devastation mining has for Ghanaian communities. I also found that addressing community complaints negatively related to fiduciary responsibility. This provided an avenue for

further exploration at the research, organizational, and policymaking levels. Finally, as all organizations received a GOLD rating for corporate social responsibility, I identified a potential discord between the community and AKOBEN rating systems that should be investigated. Further investigation of these findings and their implications may lead to an increasingly fair social exchange and to more discretionary efforts toward socially responsible business practices in the Ghanaian gold mining industry.

## References

- Abugre, J. B. (2014). Managerial role in organizational corporate social responsibility: Empirical lessons from Ghana. *Corporate Governance, 14*(1), 104–119.  
doi:10.1108/CG-10-2011-0076
- Abugre, J. B., & Nyuur, R. B. (2015). Organizations' commitment to and communication of CSR activities: Insights from Ghana. *Social Responsibility Journal, 11*(1), 161–178. doi:10.1108/SRJ-06-2013-0066
- Acquier, A., Gond, J. P., & Pasquero, J. (2011). Rediscovering Howard R. Bowen's legacy: The unachieved agenda and continuing relevance of social responsibilities of the businessman. *Business & Society, 50*(4), 607-646.  
doi:10.1177/0007650311419251
- Adimazoya, T. N. (2013). Staying ahead of the curve: Meeting Ghana's commitment to good governance in the mining sector. *Journal of Energy & Natural Resources Law, 31*(2), 147–171. doi:10.1080/02646811.2013.11435326
- Akabzaa, T., & Darimani, A. 2001. Impact of mining sector investment in Ghana: A study of the Tarkwa mining region. Draft Report Prepared for Savannah Agricultural Research Institute (SAPRI), Tamale, Ghana. Retrieved from [http://www.saprin.org/ghana/research/gha\\_mining.pdf](http://www.saprin.org/ghana/research/gha_mining.pdf)
- Akabzaa, T., Seyire, J. S., & Afriyie, K. (2007). *The glittering facade: Effects of mining activities on Obuasi and its surrounding communities*. Accra, Ghana: Third World Network.

- Amaeshi, K., Adegbite, E., Ogbechie, C., Idemudia, U., Kan, K. A. S., Issa, M., & Anakwue, O. I. (2015). Corporate social responsibility in SMEs: A shift from philanthropy to institutional works? *Journal of Business Ethics*, *138*(2), 385–400. doi:10.1007/s10551-015-2633-1
- Amaladoss, M. X., & Manohar, H. L. (2013). Communicating corporate social responsibility: A case of CSR communication in emerging economies. *Corporate Social Responsibility and Environmental Management*, *20*(2), 65–80. doi:10.1002/csr.287
- Amponsah-Tawiah, K., & Dartey-Baah, K. (2011). The mining industry in Ghana: A blessing or a curse. *International Journal of Business and Social Science*, *2*(12), 62–69. Retrieve from [https://www.researchgate.net/profile/Kwasi\\_Dartey-Baah/publication/280557496\\_The\\_Mining\\_Industry\\_in\\_Ghana\\_A\\_Blessing\\_or\\_a\\_Curse/links/55b9045c08aed621de084c6c.pdf](https://www.researchgate.net/profile/Kwasi_Dartey-Baah/publication/280557496_The_Mining_Industry_in_Ghana_A_Blessing_or_a_Curse/links/55b9045c08aed621de084c6c.pdf)
- Andrews, N. (2014). Community expectations from Ghana's new oil find: Conceptualizing corporate social responsibility as a grassroots-oriented process. *Africa Today*, *60*(1), 55–75. doi:10.2979/africatoday.60.1.55
- Armah, F. A., Obiri, S., Yawson, D. O., Afrifa, E. K. A., Yengoh, G. T., Olsson, J. A., & Odoi, J. O. (2011). Assessment of legal framework for corporate environmental behaviour and perceptions of residents in mining communities in Ghana. *Journal of Environmental Planning and Management*, *54*(2), 193–209. doi:10.1080/09640568.2010.505818

- Arnold, D. G., & Valentin, A. (2013). Corporate social responsibility at the base of the pyramid. *Journal of Business Research*, 66(10), 1904–1914.  
doi:10.1016/j.jbusres.2013.02.012
- Atuguba, R., & Dowuona-Hammond, C. (2006). Corporate social responsibility in Ghana. Final Report submitted to Friedrich Ebert Foundation (FES). Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.465.5190&rep=rep1&type=pdf>
- Babalola, Y. A. (2012). The impact of corporate social responsibility on firms' profitability in Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, 45(1), 39–50. Retrieved from <http://www.europeanjournalofeconomicsfinanceandadministrativesciences.com/>
- Birtch, T. A., Chiang, F. F., & Van Esch, E. (2016). A social exchange theory framework for understanding the job characteristics–job outcomes relationship: The mediating role of psychological contract fulfillment. *International Journal of Human Resource Management*, 27(11), 1217–1236.  
doi:10.1080/09585192.2015.1069752
- Blunch, N. (2009). Introduction to structural equation modeling using SPSS statistics and AMOS. *Personnel Psychology*, 62(2), 454–456. doi:10.1111/j.1744-6570.2009.01143\_6.x
- Bondy, K., & Starkey, K. (2014). The dilemmas of internationalization: Corporate social responsibility in the multinational corporation. *British Journal of Management*, 25(1), 4–22. doi:10.1111/j.1467-8551.2012.00840.x

- Bordens, K. S., & Abbott, B. B. (2008). *Research design and methods: A process approach* (7th ed.). Boston, MA, USA: McGraw-Hill.
- Boulouta, I., & Pitelis, C. N. (2014). Who needs CSR? The impact of corporate social responsibility on national competitiveness. *Journal of Business Ethics, 119*(3), 349-364. doi:10.1007/s10551-013-1633-2
- Burke, L., & Logsdon, J. M. (1996). How corporate social responsibility pays off. *Long range planning, 29*(4), 495-502. Retrieved from [http://dx.doi.org/10.1016/0024-6301\(96\)00041-6](http://dx.doi.org/10.1016/0024-6301(96)00041-6)
- Calabrese, A., Costa, R., Menichini, T., & Rosati, F. (2013). Does Corporate Social Responsibility Hit the Mark? A Stakeholder Oriented Methodology for CSR Assessment. *Knowledge & Process Management, 20*(2), 77-89. doi:10.1002/kpm.1406
- Carroll, A. (2015). Corporate social responsibility. *Organizational Dynamics, 44*, 87-96. doi:10.1111/j.1468-2370.2009.00277.x
- Chang, H. H., Tsai, Y. C., Chen, S. H., Huang, G. H., & Tseng, Y. H. (2015). Building long-term partnerships by certificate implementation: A social exchange theory perspective. *Journal of Business & Industrial Marketing, 30*(7), 867-879. doi:10.1108/JBIM-08-2013-0190
- Charles, K., Germann, F., & Grewal, R. (2016). Washing Away Your Sins? Corporate Social Responsibility, Corporate Social Irresponsibility, and Firm Performance. *Journal of Marketing, 80*(2), 59-79. doi:10.1509/jm.15.0324

- Chaudhri, V. (2016). Corporate Social Responsibility and the Communication Imperative: Perspectives from CSR Managers. *International Journal of Business Communication*, 53(4), 419-442. doi:10.1177/2329488414525469
- Chung, K. H., & Pruitt, S. W. (1994): A simple approximation of Tobin's Q. *Financial Management*, 23(3), 70-74. <http://dx.doi.org/10.2307/3665623>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). St. Paul, MN: West. <http://doi.org/10.4324/9780203771587>
- Dahlsrud, A. (2008). How corporate social responsibility is defined: an analysis of 37 definitions. *Corporate social responsibility and environmental management*, 15(1), 1-13. doi:10.1002/csr.132
- Dashwood, H. S., & Puplampu, B. B. (2011). Corporate social responsibility and Canadian mining companies in the developing world: The role of organizational leadership and learning. *Canadian Journal of Development Studies/Revue canadienne d'études du développement*, 30(1/2), 175-196. Retrieved from <http://www.tandfonline-com>
- Dartey-Baah, K., Amponsah-Tawiah, K., & Agbeibor, V. (2015). Corporate Social Responsibility in Ghana's National Development. *Africa Today*, 62(2), 71-92. Retrieved from <http://www.resolver.ebscohost.com>
- Di Domenico, M., Tracey, P., & Haugh, H. (2009). The dialectic of social exchange: Theorizing corporate social enterprise collaboration. *Organization studies*, 30(8), 887-907. doi: 10.1177/0170840609334954.

- Doh, J., Husted, B. W., & Yang, X. (2016). Guest Editors' Introduction: Ethics, Corporate Social Responsibility, and Developing Country Multinationals. *Business Ethics Quarterly*, 26(3), 301-315. doi:10.1017/beq.2016.40
- Elving, W. J., & Kartal, D. (2012). Consistency in behavior of the CEO regarding corporate social responsibility. *Corporate Communications: An International Journal*, 17(4), 449-461. Retrieved from <http://dx.doi.org/10.1108/13563281211274149>
- Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology*, 2, 335–362. Retrieved from <http://www.jstor.org/stable/2946096>
- EPA AKOBEN. (2012). What is AKOBEN programme? Retrieved from <http://www.epaghanaakoben.org/>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2014). G\*Power Version 3.1.9 [Computer software]. Retrieved from <http://www.gpower.hhu.de/en/html>
- Fischer, M., Pinzger, M., & Gall, H. (2003, September). Populating a release history database from version control and bug tracking systems. In *Software Maintenance, 2003. ICSM 2003. Proceedings. International Conference on* (pp. 23-32). IEEE. <http://dx.doi.org/10.1109/icsm.2003.1235403>
- Forrester, C.M., & Ferber, C.S. (2008). *Fiduciary duties and other responsibilities of corporate directors and officers*. USA: Morrison and Foerster LLP.



Retrieved from [http://www.mainstreetforumnc.org/wp-content/uploads/2012/07/Fiduciary\\_Duties\\_and\\_Other\\_Responsibilities\\_of\\_Corporate\\_Directors\\_and\\_Offiers.pdf](http://www.mainstreetforumnc.org/wp-content/uploads/2012/07/Fiduciary_Duties_and_Other_Responsibilities_of_Corporate_Directors_and_Offiers.pdf)

- Garriga, E., & Melé, D. (2004). Corporate social responsibility Theories: Mapping the territory social responsibility corporate theories. *Journal of Business Ethics*, 53(1/2), 51–71. doi:10.1787/9789264122352-de
- García-Rodríguez, F. J., García-Rodríguez, J. L., Castilla-Gutiérrez, C., & Major, S. A. (2013). Corporate social responsibility of oil companies in developing countries: from altruism to business strategy. *Corporate Social Responsibility and Environmental Management*, 20, 371-384. doi:10.1002/csr.1320
- Ghana Chamber of Mines (2013). Performance of the mining industry in 2012. Retrieved from [http://ghanachamberofmines.org/media/publications/Performance\\_of\\_the\\_Ghana\\_Mining\\_Industry\\_in\\_2012.pdf](http://ghanachamberofmines.org/media/publications/Performance_of_the_Ghana_Mining_Industry_in_2012.pdf)
- Giuliani, E. (2016). Human rights and corporate social responsibility in developing countries' industrial clusters. *Journal of Business Ethics*, 133(1), 39-54. doi:10.1007/s10551-014-2375-5
- Gough, K. V., & Yankson, P. W. K. (2012). Exploring the connections: Mining and urbanisation in Ghana. *Journal of Contemporary African Studies*, 30(4), 651–668. doi:10.1080/02589001.2012.724867
- Grady, D. G., Cummings, S. R., & Hulley, S. B. (2013). Research using existing data. *Designing Clinical Research*, 192-204. Retrieved from

<http://freecontent.lww.com/wp-content/uploads/2015/09/Chapter-13-Research-Using-Existing-Data.pdf>

Greenen, S. (2015). Hybrid governance in mining concessions in Ghana. Institute of Development Policy and Management, University of Antwerp. Retrieved from [sarageenen.net/.../Geenen-2015-draft\\_Hybrid-governance-in-mining-concessions-in-](http://sarageenen.net/.../Geenen-2015-draft_Hybrid-governance-in-mining-concessions-in-)

Guo, W., Zhou, J., Yu, C., Tsai, S., Xue, Y., Chen, Q., & ... Wu, C. (2015). Evaluating the green corporate social responsibility of manufacturing corporations from a green industry law perspective. *International Journal of Production Research*, 53(2), 665-674. doi:10.1080/00207543.2014.972525

Hajian-Tilaki, K. (2014). Sample size estimation in diagnostic test studies of biomedical informatics. *Journal of biomedical informatics*, 48, 193-204. Retrieved from <http://dx.doi.org/10.1016/j.jbi.2014.02.013>

Hilson, G. (2010). Child labour in African artisanal mining communities: Experiences from Northern Ghana. *Development and Change*, 41(3), 445–473. doi:10.1111/j.1467-7660.2010.01646.x

Hilson, G. (2013). *Distributing mining wealth to communities in Ghana*. Retrieved from <http://www.u4.no/>

Hilson, G., & Garforth, C. (2012). “Agricultural poverty” and the expansion of artisanal mining in sub-Saharan Africa: Experiences from southwest Mali and southeast

Ghana. *Population Research and Policy Review*, 31(3), 435–464.

doi:10.1007/s11113-012-9229-6

Hilson, G., & Garforth, C. (2013). “Everyone now is concentrating on the mining”:

Drivers and implications of rural economic transition in the eastern region of Ghana. *Journal of Development Studies*, 49(3), 348–364.

doi:10.1080/00220388.2012.713469

Hilson, G., Hilson, A., & Adu-Darko, E. (2014). Chinese participation in Ghana's

informal gold mining economy: Drivers, implications and clarifications. *Journal of Rural Studies*, 34, 292-303. Retrieved from

<http://www.sciencedirect.com/science/article/pii/S0743016714000357>

Hinson, R. E., Renner, A., & van Zyl, H. (2016). Bank customers' preferences and

responses to Corporate Social Responsibility (CSR) initiatives in Ghana. *African Journal Of Business Ethics*, 10(1), 1-18. doi:10.15249/10-1-107

Holthausen, J. (2013). *Scientific review of the social exchange theory and its contribution to solving purchasers' decision making issues* (Bachelor's thesis). Retrieved from

<http://essay.utwente.nl/63634/>

Homans, G. (1958). Social behavior as exchange. *American Journal of Sociology*, 63(6),

597–606. Retrieved from <http://www.jstor.org/stable/2772990>

Howell, D. C. (2013). *Fundamental statistics for the behavioral sciences* (8th ed.).

Belmont, CA: Brooks/Cole-Thompson Learning.

Idemudia, U. (2014). Corporate social responsibility and development in Africa: Issues

and possibilities. *Geography Compass*, 8, 421-435. doi:10.1111/gec3.12143

- Ioannou, I., & Serafeim, G. (2015). The impact of corporate social responsibility on investment recommendations: Analysts' perceptions and shifting institutional logics. *Strategic Management Journal*, 36(7), 1053-1081. doi:10.1002/smj.2268
- Jenkins, H., & Obara, L. (2006). Corporate Social Responsibility (CSR) in the mining industry the risk of community dependency. ESRC Centre for Business Relationships, Accountability, Sustainability and Society (BRASS), Cardiff University. Retrieved from [www.dlist.org/.../CSR\\_mining%20industry\\_risk%20of%20community%20dependenc](http://www.dlist.org/.../CSR_mining%20industry_risk%20of%20community%20dependenc)
- Kang, S. W., Byun, G., & Park, H. J. (2014). Leader-follower value congruence in social responsibility and ethical satisfaction: A polynomial regression analysis. *Psychological Reports*, 115(3), 725–740. doi:10.2466/01.14.PR0.115c33z9
- Kuada, J., & Hinson, R. E. (2012). Corporate social responsibility (CSR) practices of foreign and local companies in Ghana. *Thunderbird International Business Review*, 54(4), 521–536. doi:10.1002/tie.21481
- Lawson, E. T., & Bentil, G. (2014). Shifting sands: Changes in community perceptions of mining in Ghana. *Environment, Development and Sustainability*, 16(1), 217–238. doi:10.1007/s10668-013-9472-y
- Leedy, P. D., & Ormrod, J. E. (2015). *Practical research: Planning and design* (11th ed.) Upper Saddle River, NJ: Merrill Prentice Hall.
- Lincoln, Y. S., & Guba, E. G. (2004). The roots of fourth generation evaluation. *Evaluation Roots: Tracing Theorists' Views and Influences*, 225-241.

Retrieved from

[https://books.google.com.gh/books?hl=en&lr=&id=swDMkRzVCRIC&oi=fnd&pg=PA225&dq=Lincoln,+Y.+S.,+%26+Guba,+E.+G.+\(2004\).+The+roots+of+fourth+generation+evaluation.+Evaluation+Roots:+Tracing+Theorists%27+Views+and+Influences,+225-241.&ots=jaTxaeRafJ&sig=4JCajkaKcOooqBQpGLueLm\\_BzfU&redir\\_esc=y#v=onepage&q&f=false](https://books.google.com.gh/books?hl=en&lr=&id=swDMkRzVCRIC&oi=fnd&pg=PA225&dq=Lincoln,+Y.+S.,+%26+Guba,+E.+G.+(2004).+The+roots+of+fourth+generation+evaluation.+Evaluation+Roots:+Tracing+Theorists%27+Views+and+Influences,+225-241.&ots=jaTxaeRafJ&sig=4JCajkaKcOooqBQpGLueLm_BzfU&redir_esc=y#v=onepage&q&f=false)

Lohr, S. L. (2010). *Sampling: Design and analysis* (2nd ed.). Boston, MA: Brooks/Cole.

<http://dx.doi.org/10.1080/10543406.2011.532765>

Luiz, J. M., & Ruplal, M. (2013). Foreign direct investment, institutional voids, and the internationalization of mining companies into Africa. *Emerging Markets Finance and Trade*, 49(4), 113–129. doi:10.2753/REE1540-496X490406

Lund-Thomsen, P., Lindgreen, A., & Vanhamme, J. (2016). Industrial clusters and corporate social responsibility in developing countries: What we know, what we do not know, and what we need to know. *Journal of Business Ethics*, 133(1), 9-24. doi:10.1007/s10551-014-2372-8

MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological methods*, 7(1), 19. doi: 10.1037//1082-989X.7.1.19

Macauley, N., Wong, K. H., Watson, M., & Kjeang, E. (2015). Favorable effect of in-situ generated platinum in the membrane on fuel cell membrane durability. *Journal of Power Sources*, 299, 139-148. <http://dx.doi.org/10.1016/j.jpowsour.2015.08.096>

- Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues in educational research*, 16(2), 193-205. Retrieved from <http://www.iier.org.au/iier16/mackenzie.html>
- Mensah, A.K., Mahiri, I.O., Owusu, O., Mireku, O.D., Wireko, I., & Evans A. Kissi, E.A. (2015). Environmental impacts of mining: A study of mining communities in Ghana. *Applied Ecology and Environmental Sciences*, 3 (3), 81-94.  
doi:10.12691/aees-3-3-3
- Mishra, S., & Modi, S. B. (2016). Corporate Social Responsibility and Shareholder Wealth: The Role of Marketing Capability. *Journal of Marketing*, 80(1), 26-46.  
doi:10.1509/jm.15.0013
- Mitchell, T. R. (1985). An Evaluation of the Validity of Correlational Research Conducted in Organizations. *Academy Of Management Review*, 10(2), 192-205.  
doi:10.5465/AMR.1985.4277939
- Murombo, T. (2013). Regulating mining in South Africa and Zimbabwe: Communities, the environment and perpetual exploitation. *Law, Environment and Development Journal*, 9(1), 20. Retrieved from <http://www.lead-journal.org/content/13031.pdf>
- Nielsen, R. P., & Massa, F. G. (2013). Reintegrating ethics and institutional theories. *Journal of Business Ethics*, 115(1), 135–147. doi:10.1007/s10551-012-1384-5
- Ofori, D. F., & Hinson, R. E. (2007). Corporate social responsibility (CSR) perspectives of leading firms in Ghana. *Corporate Governance: The international journal of business in society*, 7(2), 178-193. <http://dx.doi.org/10.1108/14720700710739813>

- Papasolomou-Doukakis, I., Krambia-Kapardis, M., & Katsioloudes, M. (2005). Corporate social responsibility: the way forward? Maybe not! A preliminary study in Cyprus. *European Business Review*, 17(3), 263-279. Retrieved from <http://dx.doi.org/10.1108/09555340510596661>
- Pagano, R. R. (2009). *Understanding statistics in the behavioral sciences* (9th ed.). Belmont, CA: Wadsworth Cengage Learning.
- Pallant, J. (2013). *SPSS survival manual* (5th ed.). New York, NY: McGraw-Hill.
- Pecorino, P. (2016). A Portion of Profits to Charity: Corporate Social Responsibility and Firm Profitability. *Southern Economic Journal*, 83(2), 380-398. doi:10.1002/soej.12158
- Preuss, L., Barkemeyer, R., & Glavas, A. (2016). Corporate social responsibility in developing country multinationals: identifying company and country-level influences. *Business Ethics Quarterly*, 26(3), 347-378. doi:10.1177/1077150116642
- Quartey, S. H., & Quartey, E. H. (2015). Institutional stakeholder-driven corporate social responsibility understanding and practices among managers: The case of Ghana's high-risk industries. *International Journal of Business and Management*, 10(7), 145–158. doi:10.5539/ijbm.v10n7p145
- Rogerson, C. M. (2012). Mining-dependent localities in South Africa: The state of partnerships for small town local development. *Urban Forum*, 23(1), 107–132. doi:10.1007/s12132-012-9141-5
- Rutti, R. M., Helms, M. M., & Rose, L. C. (2013). Changing the lens: Viewing the mentoring relationship as relational structures in a social exchange

framework. *Leadership & Organization Development Journal*, 34(5), 446–468.

doi:10.1108/LODJ-11-0097

Sackey, J., Fältholm, Y., & Ylinenpää, H. (2013). Working with or against the system:

Ethical dilemmas for entrepreneurship in Ghana. *Journal of Developmental Entrepreneurship*, 18(1), 1. doi:10.1142/S1084946713500052

Sadik, A. (2013). *Corporate social responsibility and the gold mining industry: The Ghana experience* (Doctoral dissertation, Montclair State University). Available from ProQuest Dissertations and Theses database. (UMI No. 3549965)

Sarantakos, S. (2005). *Social Research. 3rd. Hampshire: Palgrave Macmillan.*

<http://dx.doi.org/10.7748/nr.13.2.88.s11>

Shaukat, A., Qiu, Y., & Trojanowski, G. (2016). Board Attributes, Corporate Social Responsibility Strategy, and Corporate Environmental and Social Performance. *Journal of Business Ethics*, 135(3), 569-585. doi:10.1007/s10551-014-2460-9

Siegel, S. (2013). The missing ethics of mining. *Ethics & International Affairs*, 27(1), 3–18. doi:10.1017/S0892679412000731

Siegel, S., & Castellan, N. J. Jr. (1988). *Nonparametric statistics for the behavioral sciences* (2nd ed.). Boston, MA: McGraw Hill.

<http://dx.doi.org/10.1177/014662168901300212>

Slawotsky, J. (2016). Hedge fund activism in an age of global collaboration and financial innovation: The need for a regulatory update of United States disclosure rules, *Review of Banking & Financial Law*, 35 (1), 272-233. Retrieved from <https://www.bu.edu/rbfl/files/2016/05/Slawotsky-Final-Formatted-2.pdf>



- Solomon, M. (2013). South African mining in the contemporary political – Economic context. *Journal of the Southern African Mining Institute of Mining and Metallurgy*, 113, 1–2. Retrieved from <http://www.saimm.co.za/>
- Spiegel, S. J., Ribeiro, C. A. A. S., Sousa, R., & Veiga, M. M. (2012). Mapping spaces of environmental dispute: GIS, mining, and surveillance in the Amazon. *Annals of the Association of American Geographers*, 102(2), 320–349.  
doi:10.1080/00045608.2011.641861
- Standing, A., & Hilson, G. (2013). Distributing mining wealth to communities in Ghana: Addressing problems of elite capture and political corruption. U4 Issue, 5, 2013. Retrieved from <https://www.cmi.no/publications/file/4791-distributing-mining-wealth-to-communities-in-ghana.pdf>
- Stapenhurst, R., & Pelizzo, R. (2012). Improving democracy and accountability in Ghana: The importance of parliamentary oversight tools. *Governance*, 25(2), 335–346. doi:10.1111/j.1468-0491.2012.01573.x
- Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences (5th ed.)*. Mahwah, NJ: Routledge Academic. doi:10.1111/j.1751-5823.2009.00095\_13.x
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics, 6<sup>th</sup> ed.* London, UK: Pearson.
- Tanskanen, K. (2015). Who wins in a complex buyer-supplier relationship? A social exchange theory based dyadic study. *International Journal of Operations & Production Management*, 35(4), 577–603. doi:10.1108/IJOPM-10-2012-0432

- Teschner, B. A. (2012). Small-scale mining in Ghana: The government and the galamsey. *Resources Policy*, 37(3), 308-314. doi:10.1016/j.resourpol.2012.02.001
- Trochim, W. M., & Donnelly, J. P. (2001). Research methods knowledge base. Retrieved from <http://www.anatomyfacts.com/research/researchmethodsknowledgebase.pdf>
- Tyrie, A., & Ferguson, S. (2013). Understanding value from arts sponsorship: A social exchange theory perspective. *Arts Marketing: An International Journal*, 3(2), 131–153. doi:10.1108/AM-10-2012-0018
- United Nations Department of Economic and Social Affairs, UNDESA. (2010). A report on Ghana's mining sector for the 18th Session of the UN Commission on Sustainable Development. Retrieved from [http://sustainabledevelopment.un.org/dsd\\_aofw\\_ni/ni\\_pdfs/NationalReports/ghana/ining.pdf](http://sustainabledevelopment.un.org/dsd_aofw_ni/ni_pdfs/NationalReports/ghana/ining.pdf)
- Usman, A. B., & Amran, N. A. B. (2015). Corporate social responsibility practice and corporate financial performance: Evidence from Nigeria companies. *Social Responsibility Journal*, 11, 749-763. doi:10.1108/SRJ-04-2014-0050
- Wan, P. M. J. (2014). Environmental justices and injustices of large-scale gold mining in Ghana: a study of three mining communities near Obuasi, *The Extractive Industries and Society*, 1 (1), 38–47. <http://dx.doi.org/10.1016/j.exis.2013.12.001>
- Weber, S. (2004). The success of open source (Vol. 368). Cambridge, MA: Harvard University Press.

- Wilson, S. A. (2015). Corporate social responsibility and power relations: Impediments to community development in post-war Sierra Leone diamond and rutile mining areas. *The Extractive Industries and Society*, 2(4), 704-713.  
<http://dx.doi.org/10.1016/j.exis.2015.09.002>.
- Yeboah, J.Y. (2008). Environmental and health impact of mining on surrounding communities: A case study of Anglogold Ashanti in Obuasi. A Master Thesis Submitted to the Kwame Nkrumah University of Science and Technology. Retrieved from  
[ir.knust.edu.gh/bitstream/123456789/631/1/Joseph%20Yaw%20Yeboah.pdf](http://ir.knust.edu.gh/bitstream/123456789/631/1/Joseph%20Yaw%20Yeboah.pdf).
- Yidana, R. (2012). Socionationalism in Ghana: History, insights, and lessons for Africa. *Journal of Third World Studies*, 29(1), 103. Retrieved from  
<http://apps.gsw.edu/atws/journal.htm>
- Yin, J., & Jamali, D. (2016). Strategic Corporate Social Responsibility of Multinational Companies Subsidiaries in Emerging Markets: Evidence from China. *Long Range Planning*.49, 541- 558.doi:10.1016/j.lrp.2015.12.024
- Zucker, L. G. (1986). Production of trust: Institutional sources of economic structure, 1840–1920. *Research in Organizational Behavior*. Retrieved from  
<https://www.econbiz.de/Record/production-of-trust-institutional-sources-of-economic-structure-1840-1920-zucker-lynne/10001042807>