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Procurement Fraud Prevention Strategies in Ghanaian Gold Mining Companies

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Alfred Ekow Taylor

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Walden University
2022

Abstract

Procurement Fraud Prevention Strategies in Ghanaian Gold Mining Companies

by

Alfred Ekow Taylor

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

May 2022

Abstract

Procurement fraud occurs at various stages of the procurement lifecycle and can be very costly to organizations. Business managers are concerned with the enormous impact of procurement fraud on business revenue. Grounded in Cressey's fraud triangle theory, the purpose of this qualitative multiple case study was to explore strategies business managers use to detect, control, and prevent procurement fraud successfully. The participants were six procurement managers in Ghanaian gold mining companies who successfully detected, controlled, and prevented procurement fraud. Data were collected using semistructured interviews and a review of company documents. Through thematic analysis, three themes emerged: (a) internal control is effective to prevent, control, and detect procurement fraud; (b) effective communication through ethics and anti-fraud training for employees and suppliers; and (c) realistic job descriptions with fair remuneration. A key recommendation is for business managers to establish robust internal controls with regular reviews. The implication for positive social change includes the potential to reduce revenue losses, increase organizational cash flow, create employment, provide alternative livelihood programs for people in the community, and promote a good corporate image for business sustainability.

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Dedication

I would like to dedicate this study first to my late dad Kofi Atta Taylor, how I wish he were alive to see this, I am pretty sure the heavens will alert him. He was the one that gave me the foundation to understand the importance of getting knowledge and whet my appetite for exploits in academia.

I also dedicate this to my kids Alfred and Alfreda Taylor, I want this to be an inspiration to their life goals.

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Section 1: Foundation of the Study

Businesses worldwide are vulnerable to fraud within their procurement setup, and this affects revenue and corporate image. Although some managers in the Ghanaian mining industry have implemented strategies that have effectively detected, controlled, and prevented procurement fraud, others lack these strategies. Exploring successful strategies used to detect, control, and prevent procurement fraud in the mining industry will help save organizational revenue and reputation.

Background of the Problem

Procurement encompasses the acquiring goods and services required for the organization's operations (Rahmani et al., 2017). The incidence of procurement fraud in today's business environment is prevalent and has a far-reaching impact on the company's profitability and cost performance (Maniam & Peters, 2016). The complexity of the networks in the supply chain exposes companies to procurement fraud.

Procurement fraud is cross-sectorial and the costliest white-collar crime (Horne et al., 2018). Procurement fraud is a term for illicit acts like forgery, corruption, misappropriation, false representation, concealment, and conspiracy perpetrated by employees (Mufutau & Mojisola, 2016). The direct cost involved is enormous, but, in most cases, the indirect costs of time and resources required to deal with reputational damage and legal liabilities are higher (Chava et al., 2018). Declining commodity prices and escalating production costs affect the margins of gold mining companies (KPMG, 2017). The risk of procurement fraud further threatens the survival of the mining

business. In this study, I explored successful strategies some procurement managers in gold mining used to detect, prevent, and control procurement fraud.

Problem Statement

Procurement fraud has been rated second among the five most frequently reported forms of economic crime, and it represents a potentially significant risk in most organizations (McMahon et al., 2016; McNeal, 2019). In 2010, research estimated that businesses worldwide lose over \$2.9 trillion annually to economic crime (Maniam & Peters, 2016). A survey conducted by PricewaterhouseCoopers (PWC, 2014) found that procurement fraud constituted 29% of the losses from economic crime. The general business problem is that managers in the mining industry lack strategies to detect control and prevent fraudulent procurement practices resulting in loss of revenue. The specific business problem is that some Ghanaian gold mining industry managers lack the strategies to successfully detect, control, and prevent procurement fraud.

Purpose Statement

The purpose of this qualitative multiple case study is to explore the strategies used by managers in the Ghanaian gold mining industry to detect, control, and prevent procurement fraud successfully. The target population for this study was six procurement managers from the major gold mining companies in Ghana who have successfully detected, controlled, and prevented procurement fraud in their respective organizations. An implication of this study that could affect social change is that managers in the gold mining companies can increase funds budgeted for their corporate social initiatives by reducing revenue lost through procurement fraud. Such funds can provide schools, roads,

hospitals, and portable drinking water required for the social wellbeing of the people in communities.

Nature of the Study

I employed the qualitative methodology and a case study research design for this study. Using the qualitative method gives the researcher insight into social life, the experience, and people's attitudes (Arseven, 2018; Creswell & Creswell, 2018; Popescul & Jitaru, 2017). Nassaji (2015) argued that a researcher could collect quality data from diverse sources because the qualitative method is broad. It is on this premise that I chose the qualitative approach for this study. By contrast, the quantitative study method is about numbers and is more appropriate when the researcher examines the relationships among variables (Edmonds & Kennedy, 2017; Leavy, 2017). I did not intend to show relationships among variables, making the quantitative method inappropriate for this study. Lotte et al. (2018) explained that the mixed-method approach combines quantitative and qualitative methods. The mixed-method approach, however, was not appropriate for this study because it requires more significant resources and time than those needed to conduct a single method study.

A case study design is an empirical inquiry into a contemporary phenomenon in a real-world context (Mishra, 2018). Yin (2018) stated that the case study approach is more explanatory and deals with traceable operational links. Yin further suggested three situations where a case study design would be a preferred method, compared to the others: (a) answering "how and why" research questions, (b) where the researcher has little or no control over behavioral events and (c) where the focus of the study is

contemporary as opposed to entirely historical phenomenon. A narrative design is concerned with stories of individual lives (Mohajan, 2018). A phenomenology design helps determine a participant's experience of a phenomenon (Pisarik et al., 2017), and the object of ethnography design focuses on the culture of a group (Sharpe, 2018). The other three research designs were not appropriate for this study because this study is about a real phenomenon in the business environment, it is not about the culture of people or about telling stories individual lives.

Research Question

What strategies do managers in the Ghanaian gold mining industry use to successfully detect, control, and prevent procurement fraud?

Interview Questions

1. What is your understanding of procurement fraud?
2. What specific strategies do you have to detect, control, and prevent fraudulent procurement activities?
3. How are these strategies documented and communicated to stakeholders?
4. How were the strategies accepted as a working tool for detecting, controlling, and preventing procurement fraud?
5. What challenges have you encountered implementing the strategies to detect, control, and prevent procurement fraud?
6. How did you address the challenges of implanting the strategies to detect, control, and prevent procurement fraud?

7. How have you assessed the effectiveness of the strategies for detecting, controlling, and preventing procurement fraud?
8. What other comments or information would you want to share regarding managerial strategies in detecting, controlling, and preventing procurement fraud?

Conceptual Framework

Cressey created the fraud triangle theory in 1953. Cressey (1953) used the fraud triangle to explain the factors that must be present for fraud. There are three key features present when people commit fraud: (a) rationalization, (b) motivation or pressure, and (c) opportunity (Prabowo et al., 2016). The theory serves as a framework to assist managers in focusing on prevention and deterrence efforts.

Cressey (1953) suggested that rationalization is the primary trait of people committing fraud for the first time. It may not apply to individuals who have consciously planned to commit fraud or steal from an organization. Motivation or pressure examines the driving forces behind the one committing fraud. Pressure or incentive is a push factor for an individual to act illegitimately. Lastly, there should be an opportunity to commit fraud and hide it to avoid being punished. Opportunity is the right of entry to a situation where fraud occurs, such as weaknesses in internal controls, necessities of an operating environment, management styles, and corporate culture (Rodgers et al., 2015). Detection, prevention, and control of fraud require that management understands the causal factors present in any fraudulent situation. Successfully preventing and controlling procurement fraud would mean that management directs strategies towards the fundamental causes.

The fraud triangle applies to this study because it would be impossible for management to have the necessary tools to deal with procurement fraud if the motivational factors for committing fraud are unknown.

Operational Definitions

Corporate fraud: A sequence of illegal activities consciously and premeditatedly carried out by members of an organization to serve their interests and harm others (Gartner & Machado, 2018).

Economic crime: Includes all crime or illicit activities in the sphere of economics, crime against property, and crime against the interest of service in commercial and other organizations (Belousova, 2016).

Fraud: A situation where one person knowingly misrepresents a fact which induces another to act or fail to act, causing damage to the party, relying on the misrepresentation (Huber, 2017).

Procurement fraud: this is a situation where stakeholders within the procurement process engage in activities against the procurement policy resulting in financial losses, reputational damage to the entity they represent (Caulfield & Steckler, 2015).

Assumptions, Limitations, and Delimitations

Assumptions

A researcher's assumptions are facts considered accurate but not verified (Mir, 2018; Schoenung & Dikova, 2016). The first assumption of this study was that qualitative research is the most appropriate methodology for the study. Secondly, I assumed that the chosen participants and case study companies would be helpful with identifying the

strategies required to detect, prevent, and control procurement fraud in the gold mining industry. I assumed that the chosen participants understood the phenomenon under study and would answer questions sincerely. Finally, I assumed that the phenomenon under study is common to all gold mining companies.

Limitations

Limitations are circumstances in the research process beyond the researcher's control (Marshall & Rossman, 2016). One of the limitations of this study was that I focused only on gold mining companies for strategies to detect, control, and prevent procurement fraud. There may be more strategies for detecting, controlling, and preventing procurement fraud from other business sectors. Another limitation was the participants' reluctance to answer the questions honestly without fear of losing their jobs. I assured the participants of confidentiality to prevent such an occurrence. Lastly, the potential for researcher bias during data analysis was another limitation as I work in the same environment.

Delimitations

Delimitations are the scope or boundaries determined by the researcher for the study (Isenring et al., 2016; Yin, 2018). One of the delimitations of this study was interviewing procurement managers with experience in the subject matter from the case study companies. Their designation and expertise in procurement and commercial transactions for their respective companies portray their understanding of strategies to detect, control, and prevent procurement fraud. One other delimitation was the

geographical coverage of the study; I limited the study to Ghana to have easy access to the research participants during the interview and questionnaire distribution.

Significance of the Study

Managers and procurement practitioners can benefit from the results of this research by understanding the nature of procurement fraud, the motivators, and strategies to avert its occurrence. The study results might highlight strategies for corporate executives to improve their corporate fraud detection and prevention efforts and serve as a reference for procurement managers in the mining industry.

Contribution to Business Practice

Procurement fraud affects businesses in several ways: negative cost performance metrics, the reputational damage that will negatively affect the external business relationship with suppliers and customers alike, and loss of investor trust (Maniam & Peters, 2016). Fraud can also influence the overall morale of the organizations' workforce. Preventing or eliminating procurement fraud helps boost investor confidence in the organization, which may result in more capital inflow needed to increase productivity and profitability. External business partners (i.e., suppliers and customers) may also feel confident in their dealings with organizations with more robust systems to prevent fraud. Other groups that may benefit from the results of this research include financial policymakers, auditors, private-sector legislators, and corporate fraud investigators.

Implications for Social Change

Praszkeir and Nowak (2012) referred to the social change as an “alteration in society’s social order which describes a systemic transformation, over time, in patterns of thoughts, behavior, social relationships, institutions, and social structure” (p. 36). Social change may be a change in informal rules or policies guiding a group or a simple transformation in individuals’ social norms and values, status, or power. Understanding successful strategies to detect, control, and prevent procurement fraud in Ghanaian gold mining has the potential to effect positive social change.

The operations of mining companies have a positive impact on the surrounding communities. Through their social responsibility initiatives, managers of mining companies provide social amenities like schools, hospitals, and roads and create jobs through local content legislation and the payment of royalties to local authorities of the catchment communities where they operate (Rodon and Levesque, 2015). Revenue losses through procurement fraud affect companies financially (Rendon and Rendon, 2021). The identified strategies could help managers in the gold mining companies take proactive steps in dealing with fraudulent commercial practices that contribute to revenue losses, enabling them to continue their support for people in the community.

A Review of the Professional and Academic Literature

The purpose of this study was to explore strategies used by managers in the gold mining industry in Ghana to detect, control, and prevent procurement fraud. The literature review consists of information obtained from peer-reviewed academic journals, dissertations, books, professional trade journals, and professional reports. The topic for the study was analyzed using the fraud triangle as the conceptual framework.

The primary research databases and libraries used for this literature review include Walden University Library, Emerald Management Journals, Sage Premier, ProQuest, EBSCO Primary, ABI/Inform Complete, Thoreau, Business Source Complete, Google Scholar, Crossref Services, and Ulrich's Periodicals Directory. The terms/keywords that I used for my search include *procurement fraud*, *corporate fraud*, *fraud triangle*, *supply chain fraud*, *fraud detection*, *fraud prevention*, *fraud controls*, *occupational fraud*, and *fraud diamond theory*. I also used reference chaining to identify other relevant and current articles for this study. I also ensured that at least 85% of the sources for the literature review are 5 years or less to my anticipated completion date.

The structure of the literature review is on themes related to the topic for this study. The main themes I reviewed include (a) fraud triangle, (b) of the fraud triangle, (c) supporting/opposing theories to the fraud triangle, (d) corporate fraud, (e) procurement fraud, (f) procurement fraud schemes, and (g) fraud prevention and detection strategies.

Fraud Definition

The term fraud has diverse definitions. For the purpose of this study, fraud is defined as a deliberate, deceptive, and misleading act for personal gain or advantage (Zandian and Keyvanpour (2017). Gaining advantage through fabrication, falsification, misrepresentation, omission of facts, and plagiarism amounts to fraud (Tsegba & Upaa, 2015). Rajapakse and Malaba (2015) also argued that personal gain is a driving force when employees commit fraud.

Fraud Triangle

Cressey's (1953) theory, the fraud triangle, is a framework that explains the reasoning behind people's decision to commit fraud in the organization. It constitutes three elements of fraudulent behavior: pressure, opportunity, and rationalization. Cressey's work serves as a foundation for much research on occupational fraud (Boyle et al., 2015). Beyond academic research, Morales et al. (2014) claimed that the fraud triangle provides fraud investigators a template that individualizes fraud with the organization responsible for controlling it. From this perspective, the onus lies in the organization to ensure effective monitoring of the three elements of the triangle through a well-laid internal control. Fraud is not a social, political, or historical problem but a problem at the confluence of the individual and the organization. Cressey researched 200 prisoners arrested for embezzlement incarcerated at various prisons and developed the hypothesis that those in trusted positions believe that they can resolve their nonshareable financial problems by violating the position of financial trust. Mui and Mailley (2015) further argued that the nonshareable financial problem makes the perpetrator feel a

perceived financial burden motivating the crime. The perpetrator explores an opportunity, perceives limited risk of being caught, and finally justifies his behavior by considering his financial dilemma a unique situation. Gartner and Machado (2018) further argued that the motivation of fraud is the existence of problems typically of financial nature that cannot be shared or disclosed to others because of pride or ego. In essence, the fraudster sees an opportunity and would try getting out of this problem discreetly by violating financial trust and then rationalizing the fraudulent act by justifying it as necessary to resolve the financial problem. The argument of authors (Mui and Mailey, 2015; Gartner and Marchado, 2018) aligns with Cressey's motivation for fraud frequently of financial nature, the opportunity, and the justification. Cressey had inspiration from the work of Reimer (1941), who also argued that there is a three-fraud-causing element when someone commits a crime: the social pull (the opportunity), the social push (the emergency), and the psycho-pathological element (Levi & Schuchter, 2015). Both Reimer and Cressey's work identified the motives and elements for committing fraud. Therefore, the fraud triangle is a valuable tool that helps organizational managers identify the causes or motives behind fraud to devise strategies to avert its occurrence.

The fraud triangle is the fundamental theory for explaining why people commit fraud. Several authors (see Boyle et al., 2015; Levi & Schuchter, 2015; Raval, 2016; Schnatterly et al., 2018) applied the fraud triangle to explain the causes of fraud and its implication on business. Most literature on fraud used the fraud triangle as a framework to understand how and why fraud occurs and analyze the risk to businesses (Andon et al., 2015; Kramer, 2015; Lenz & Graycar, 2016). In recent times, the fraud triangle has been

developed and refined further in different fields of academia. Cressey's (1953) work forms the basis of categorizing risk factors for many international auditing standards (Levi & Schuchter, 2015). Most of the current understanding of why people commit fraud is grounded in the fraud triangle. Kramer (2015) analyzed three case studies using the fraud triangle to explain the motivation for fraud in small businesses. Using the fraud triangle, the author suggested that business owners prevent fraud by not trusting employees too much and identifying perceived opportunities. Kramer further suggested that if managers can raise the fraudster's perception of detection and reduce perceived opportunity, fraud will reduce. The evidence in literature on the fraud triangle makes it a valuable tool to understand why people commit fraud.

Although the fraud triangle has contributed immensely to the fight against fraud, it has been reviewed and modified severally (Raval, 2016). Free (2015) reviewed popular frameworks for fraud examination and identified three areas of potential academic research and debate within organizations and regulatory bodies based on Cressey's fraud triangle. Free identified three underresearched areas: rationalization of fraudulent behaviors by offenders, the nature of collusion in fraud, and regulatory attempts to promote whistleblowing. Both authors (Raval, 2016; Free, 2015) improve the understanding of the human element on the act of fraud. While Raval sought to extend the fraud triangle to explain the role of human desire, intentions, and actions in fraud, Free's work expounds this to include systems within the organization that encourages the detection of fraud. The work of both authors set the pace for further research into

organizational strategies to detect, prevent, and control fraud with emphasis on procurement.

Elements of the Fraud Triangle

Pressure

Pressure constitutes factors that motivate people to commit fraud regularly of financial nature, where an individual find him/herself in a financial problem that cannot be shared to seek help (Cressey, 1953). The pressure is the “motivation” that ignites fraud. If an employee perceives that he or she can gain financially by committing fraud without been caught, then that knowledge can stimulate the act of fraud (Kumar et al., 2018). Mangala and Kumari (2015) referred to pressure as situations that accumulate stress and arouse the desire to commit fraud. Cressey classified the nonshareable financial factors into six categories: (a) difficulty in paying back debts, (b) personal failure, (c) business reversals, (d) physical isolation, (e) status gaining, and (f) employer-employee relations. Several other authors have given different examples of these categories. 95% of all fraud cases are because of financial pressure. On the same line, Albrecht et al. (2015) identified sudden financial shortfalls, living beyond one’s means, greed, imperfect credit standing, and inability to obtain credit, unexpected significant medical expenditure as examples of nonshareable financial pressure. Imoniana et al. (2016) also related the pressure to experience in the individual’s life that creates the need for funds pushing the person to defraud. In the above discussion the authors acknowledge that the key factor that pushes individuals to engage in fraudulent activities is the desire for money to meet certain

lifestyles that goes beyond their basic needs. The motivators raised by these authors as pressure element are personal to the individual committing the fraud.

The pressure to commit fraud could also come from organizational performance goals given to employees. Employees and management commit fraud to meet performance indicators and satisfy or exceed the expectations of key stakeholders (Mishra & Singh, 2017). An unethical organizational culture increases the risk of fraudulent activities (Judith, 2018; Sidorov, 2015). From the ongoing discussion, pressure was classified in diverse but interrelated ways. Free and Murphy (2016), however, outlined problems with the various categorization of pressure. They made two arguments against the categorization of pressure as external and internal. Firstly, the authors argued that they should be both an external and related internal push for an individual to be motivated by pressure to commit fraud. For example, an ill-treated employee in a workplace (an external pressure) is not likely to commit fraud unless the employee is angry or wants revenge (arguably an internal incentive). On the other hand, if an employee perceives a financial benefit (an external incentive) from committing fraud, then that employee will see this as an incentive to commit fraud if the employee is also greedy or is in an awful financial situation (intrinsic incentives). Secondly, there is always a bias in the perception of pressure because money is the result of fraud in most cases (Free and Murphy, 2016). The fraudster must, therefore, perceive an innate ability to take action to save the situation. (Suh et al., 2018). The fraudster's emotions and perceptions are critical to understanding the motivation to commit fraud (Suh et al., 2018).

In summary from the discussions by the various authors, pressure as an element of fraud arise from two main sources; an individuals financial situation and the organization's pursue to meet financial targets. There are also non financial organizational pressures that motivates fraud. For example workers' dissatisfaction and perceived unequal treatment in remuneration, promotion, and personnel development.

Opportunity

Opportunity is the second element needed for fraud to occur; it is the circumstances that exist making it possible to commit fraud typically created by weak internal controls or governance systems within an organization (Abdullahi & Mansor, 2015). According to Cressey (1953), opportunity does not necessarily have to exist; however, fraudster must believe or assume its existence. Many researchers have argued that among the factors that present opportunities for fraud, the more prevalent are weak controls, no internal control, weak or nonexistent audit procedures, and an internal environment that makes it easier to commit fraud (Boyle et al., 2015; Free & Murphy, 2016; Ghafoor et al., 2019; McNulty & Akhigbe, 2016)

The opportunity to commit fraud is seemingly always present for those who occupy senior-level positions (Wells, 2018; Lisa & Hermanto, 2018; Bire et al., 2019) because they have a comprehensive understanding and have access to critical information and data, which gives them the ability to override even the most effectively designed controls (Boyle et al. 2015). The underlying fact is that the fraudster has the knowledge and chance to commit fraud and will do so because he/she is in a position of trust, is aware of the weakness in the internal controls, and gathers enough information to be successful in

committing the fraud (Gartner & Machado, 2018; Ruankaew, 2016). For example, if an employee is in a position to award contracts and has the power to authorize payment, then the opportunity to commit fraud and conceal it is high because one person has control over the whole process. The weakness in internal controls tends to reduce the possibility of catching the fraudster, thereby offering the opportunity to commit fraud (Steinmeier, 2016). From the discussion it can be deduced that opportunity to commit fraud is present where the organizations internal controls are weak or does not exist and the fraudsters have access to critical information that can be used to their advantage. This also means that if an individual is pressured and can rationalize his fraud intentions, the absence of an opportunity will foil the fraudulent action.

Opportunity, according to Abdullahi and Mansor (2015), is in two forms: (a) the organizations' exposure and vulnerability to manipulation and (b) the internal environment that encourages fraud. Fraud occurs because internal controls break down, and perpetrators successfully conceal it. Power and authority that individuals have also given rise to opportunities if they are not regularly revised and supervised, or assigning too much responsibility to one employee, with no control and segregation of duties (Burke & Sanney, 2018). Some authors also have embraced certain organizational factors allowing fraud (Huisman, 2016; Zyglidopoulos & Fleming, 2016). They argue that some organizations are more prone to fraud because their structure, culture, and strategy make it easier for fraud to occur. In summary, even though fraud is perpetrated by individuals based on personal factors, organizational systems can also ease the fraud by presenting opportunities that may exist or perceived to exist. Business leaders will have to develop

internal controls that will erase the perception of opportunity to commit fraud. From the authors (Huisman, 2016; Zyglidopoulos & Fleming, 2016) opportunities arise from weak controls or weak culture. Opportunity to commit fraud comes from the environment in which the fraudster is. If the practices and culture reflects a support or depicts fraudulent conduct, then the tendency to commit fraud is high. This implies that promoting an ethical environment will influence the lack of opportunity to commit fraud.

Rationalization

Rationalization is the justification to make the wrong action or unethical behavior look like something other than a crime (Abdullahi & Mansor, 2015). Abdullahi and Mansor (2015) believed that an individual is more likely to engage in fraudulent behavior if he/she can justify the action. Rationalization has many forms. It is, however, an important factor encouraging the individual to act fraudulently (Dion, 2019). It is part of the motivation to commit fraud because the offender does not see himself as a criminal (Vousinas, 2019). The individual's moral compass influences the level of rationalizing fraud. However, according to Button and Shepherd (2019), this does not rule out the possibility of otherwise honest individuals from fraudulent acts, especially in a highly pressurized environment with very weak controls. Cressey (1953) suggested that fraudsters rationalize their actions to resolve the nonshareable problem. The fraudsters tend to make excuses such as, "I am just borrowing this, and I will pay it back later." They may think, "I am using this money to help my family"; they may also think what they take is insignificant compared to the revenue the organization makes (Gartner & Machado, 2018). From the discussions above, the individual mentally perceives that their

actions will not affect the company significantly and may not classify their actions as fraud because they lack personal integrity. For example, a procurement officer who engages a vendor to adjust prices to win a contract, may not see his action as fraudulent just because the vendor supplied the items as required. The tendency to engage in fraudulent activity is dependent on the individual's ethical values and circumstances (Alam et al., 2018). Abdullahi and Mansor (2015) also argued that an innate character and external factors influence individual ethical behavior, job insecurity resulting from downsizing, redundancy resentment from non promotion, and perceived unfairness in remuneration. External factors will include management attitudes towards fraud risk and disciplinary actions against perpetrators. The authors also argued that if previous fraudulent action has gone unpunished or weakly dealt with, others may feel they can also commit fraud and get away with it (Abdullahi and Mansor, 2015). The discussion on the fraud triangle is centered around research on the assumption that, people who lack integrity and morals are more likely to commit fraud and thereby placing the responsibility on organizational managers to establish strong controls to make it difficult for employees to commit fraud or easier to detect fraud. Although the fraud triangle formed the basis for fraud research, it has also been subjected to considerable debate and criticisms. These criticisms pushed research further to fill the gaps found in the fraud triangle introducing more theories for the motivation for fraud.

Criticisms and Limitations of the Fraud Triangle

Many professional auditors and standard setters have supported the fraud triangle with the argument that investigators can quantify the incentive that led to the fraud during

analyses of financial statements, assess the opportunity to commit the fraud, and the rationalization technique used to justify the fraud (Lokanan, 2018). Others have raised arguments against the fraud triangle, believing that the explanation given by its supporters has limitations and misinterpret the nature of fraudulent misconduct. Huber (2017) believed that the fraud triangle has been overstretched and misused and was originally not intended for the study of fraud. Huber argued that the fraud triangle only exists in name and that Cressey's (1953) initial study was on embezzlement, not fraud, which means the fraud triangle has, over the years, been misused or misapplied. Huber suggested that instead of the fraud triangle, Cressey should have called it the embezzlement triangle, which links up to the study's original purpose.

Opportunity does not consider situations where individuals come together to hatch a plan to commit fraud and put it into action (Lokanan, 2015). The fraud triangle does not assess the possibility of collusion and further fails to consider other social learning factors that influence criminal behavior (Ahmad et al., 2019; Free, 2015; Morales et al., 2014). Vousinas (2019) also argued that the fraud triangle does not help explain the nature of all fraud perpetrators, and Cressey's work is aging, making it quite unaligned to new societal changes. Nonshareable financial pressure is most stressed in the fraud triangle. Lokanan (2017) believed there are other sources of pressure other than financial that could motivate fraud as millionaires without financial pressure also commit fraud. All these arguments point to the fact that the fraud triangle does not cover every aspect of why fraud occur as it is limited and focused on the individual without considering other factors.

The principal motivation for the various limitations and criticism raised has been the interpretation and understanding given by the antifraud community. While these limitations and criticisms are valid of the fraud triangle, white-collar criminologists suggested that one single theory or framework cannot adequately explain why fraud occurs (Huber, 2017). Gill (2017) argued that the fraud triangle is not the ultimate for dealing with all fraud but for the basic understanding of conditions that favor the occurrence of fraud. Lokanan (2018) further stated that the fraud triangle, other than being a scientific theory based on the method of science, should be a helpful framework that aids in the understanding of why people commit fraud. Most of the authors agreed that the fraud triangle, to some extent, provided a basis as to why people commit fraud. It, however, falls short in considering other factors that may also play a role in fraudulent acts.

Supporting Theories/Opponents of the Conceptual Framework

Fraud Diamond

Wolfe and Hermanson (2004) further extended the Fraud Triangle into the fraud diamond by adding a fourth element; the capability of the person to engage in a fraudulent act. According to the authors, in the presence of pressure, opportunity, and rationalization, individual personality traits and abilities play a significant role in the fraud. Boyle et al. (2015) argued that capability reflects traits of the potential fraudster based on which he/she can identify, understand, and exploit weaknesses. The authors argued that many fraud cases would not have been possible if the fraudster did not have the capabilities to perpetrate the crime to its detail. The elements of the fraud diamond are

observable and non-observable (Puspasari, 2015). According to (Peltier-Rivest, 2018; Wolfe & Hermanson, 2004), there are four observable traits of the capability to commit fraud; the fraudster's authoritative position in the organization, the capacity of the fraudster to exploit weaknesses in systems, the confidence (ego) that no one can detect the fraud, and the capability to deal with the stress created within an otherwise good person when committing the fraud. Boyle et al. (2015) agreed and further added two more traits of the capability to commit fraud; the ability to coerce others to move along with him/her or to look away through persuasive skills and the ability to conceal the truth. The capability element is the convertor that turns the opportunity into reality. It involves the power to take decisions, technical knowledge, and trust (Mangala & Kumari, 2015). The fraudster identifies the opportunity and can turn it into reality. Lenz and Graycar (2016) also argued that the opportunity is a necessary element but not enough for fraud to occur. From the arguments of (Boyle et al., 2015; Mangala and Kumari, 2015; Lenz and Graycar, 2016), fraud can only be associated with the actions of the person who wills to commit it. Not condemning the fraud triangle, all the authors agreed that even if all the elements of the fraud triangle are present the fraudster should have the will power, skill or capability to commit the fraud diamond is the extension of the fraud triangle. The impetus to commit fraud, therefore, remains an internal human one. An individual motivated to defraud requires an opportunity and understanding of the real opportunity to defraud (Levi & Schuchter, 2015). The fraud diamond further expands the fraud triangle to cater for other elements that researchers have observed as lacking in the fraud triangle. The addition of capability requires organizational managers to understand the employees'

traits and abilities when assessing fraud risk and prevention. If there are employees whose capabilities present a high risk to fraud, then strong controls need to be established to prevent fraud from occurring.

Fraud Scale

Albrecht in 1984 proposed a more practical theory for detecting and preventing fraud; the fraud scale substitutes the rationalization element of the fraud triangle for personal integrity. The fraud scale provides that when pressures and opportunities are high, and people have low integrity, occupational fraud is more likely to occur. On the other hand, fraud risk is less likely to occur when pressure and opportunity are lower with high personal integrity. Albrecht described situational pressures as the immediate problem individuals experience within their environments; prevalent among these are high personal debts and financial losses. Because rationalization is not observable, the authors used personal integrity as a substitute for rationalization to increase the model's predictive ability. Albrecht believed that fraud is difficult to predict because of the lack of a reliable profile of occupational fraudsters and suggested that the likelihood of fraud is predictable by evaluating the relative forces of pressure, opportunity, and personal integrity. The introduction of integrity makes it possible to observe an individual's decision with the decision-making processes and monitor commitment to ethical decision-making (Vousinas, 2019). The personal integrity element is associated with everyone's code of ethical behavior. Albrecht's arguments are consistent with the arguments of at least one fraud expert (Belousova, 2016), who argued that an individual's moral compass determines or plays a significant role in

the individual's judgment. An individual's moral compass and integrity is one major factor that influences fraud. The introduction of personal integrity means that, it is possible for all the elements of the fraud triangle to be present but because an individual has a high personal integrity will not commit fraud. There are individuals who will not commit fraud despite the pressures they face, opportunities available, and the justification available. This also means that an individual who lacks personal integrity will not hesitate to commit fraud at the least opportunity and pressure.

Money, Ideology, Coercion, and Ego/Entitlement

Kranacher (2011) propounded the money, ideology, coercion, and ego/entitlement (M.I.C.E) model, which seeks to extend the pressure element of the fraud triangle beyond solely financial motivators. Fraudsters motivated by ideology tend to perpetrate fraud, believing that their actions will positively impact society. Ideology is typically linked with fraud schemes related to tax evasion and terrorism financing frequently moved by ideological beliefs other than personal financial difficulties. Coercion explains fraud schemes committed by individuals who, by themselves, will not commit a crime but are forced or influenced by others to do so reluctantly. Such individuals might be in a situation that weakens their ability to resist the act or defile the authority of the person forcing them. Finally, ego/entitlement refers to factors that protect a person's reputation or social status other than financial needs. For some people, fraud is the only way to keep their reputation or position of power in front of their society or families (Vousinas, 2019). This social pressure can be a compelling motive to commit a fraudulent act to keep their ego. Dorminey et al. (2012) argued that the MICE is easy to remember among the

fraud models, albeit it oversimplifies the motivations for fraud, and some motivations fall under several categories. The MICE provide a broader framework beyond pressure and rationalization to consider the probability of fraud by considering an expanded set of motivators and therefore clears the limitations of the fraud triangle.

Stimulus, capability, opportunity, rationalization, and ego

After analyzing all the other fraud models, Vousinas (2019), called for the need for a revision, which will consider current developments and enhance the understanding of the major factors why people commit fraud. He, therefore, developed the SCORE, also known as the fraud pentagon. The SCORE acronym for the words: stimulus, capability, opportunity, rationalization, and ego. Stimulus, just like pressure in the fraud triangle, according to the author, comes in different forms of high financial needs, the pressure to achieve high targets, work-related stress, desire to achieve high professional goals in a short period (Georgios, 2019). Capability is about the personal traits and abilities of the individual to commit fraud when all other factors are present. Opportunity is a situation that makes it easier to commit fraud. Rationalization has to do with justifying the fraud. The ego is unconscious push elements the individual may not be aware of that make him/her believe he/she can commit fraud without been caught (Georgios, 2019).

The discussions above show that, though the fraud triangle forms the basis for fraud to occur it does not cover all the possible elements of such a broader phenomenon. The subsequent theories enrich the discussion by expanding into other

elements that is not covered by the fraud triangle. The other theories discussed above underscore the fact that personal traits contribute to whether an individual will commit fraud or not. There are people who will never commit fraud even though opportunities exist with pressure and can justify their action. There are also people who will still commit fraud in the absence of opportunities, pressure and justification.

Corporate Fraud

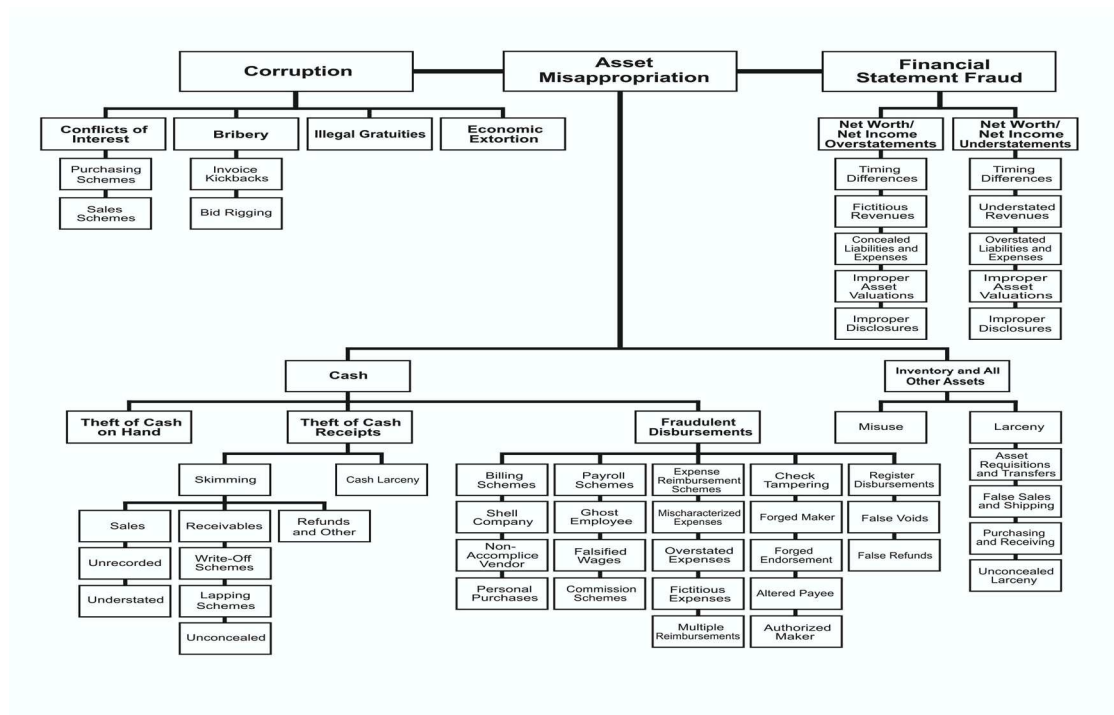
Corporate fraud is a challenge in today's dynamic business environment. Intense competition among businesses induced by globalization has forced organizations to fight for profits and market share. Corporate fraud results in significant profit losses and erodes investor confidence (Dong et al., 2018). Corporate fraud is simply the misuse of the organizational system (Riyanarto et al., 2020). Wood and da Costa (2015) defined corporate fraud as a chain of illegal actions done consciously by members of an organization who manipulates processes and systems to serve their parochial interest at the detriment of other parties. Such actions can result in losses for shareholders and other stakeholders, which may expose the organization to regulatory challenges. Financial misstatements, procurement irregularities, delay in disclosing information or non-disclosure, bribery, insider trading are few examples (Zhang et al., 2018). Singleton and Atkinson (2016) extended the definition to cover financial fraud committed by an employee or a group of employees. A situation where employees intentionally misuse or misappropriate the organization's financial resources (Wood & da Costa, 2015). The

impact of corporate fraud could be direct in monetary cost, including costs associated with investigating and remediation, and indirect in reputational damage, lost productivity, and the related loss of business (Lokanan, 2015). Indirect impact includes damages to employee morale, brand, company reputation, business relationships, consumer confidence, weakened public trust, and ruined market share value, which may cause a company to collapse eventually (Nawawi & Ahmad Saiful Azlin, 2018a). A bad reputation affects the business relationship between companies and their investors and other stakeholders. The detection of fraud also increases doubts on the credibility of information put out by the organization (Yuan & Zhang, 2016). Mishra and Singh (2017) argued that corporate fraud schemes are complex and economically affect the organization and its partners. Corporate fraud has an enormous impact on organizational sustainability, and managers and leaders need to ensure the right strategies are in place to avoid its occurrence.

Forms of Corporate fraud

There are various forms of corporate fraud. However, the most widely recognized forms according to (ACFE, 2018), are mainly three: asset misappropriation, corruption, and financial statement fraud. Understanding the various forms of fraud helps to establish mitigating strategies (Omar et al., 2015). The ACFE further stated that although these are the primary forms of fraud, a fraud scheme often involves a combination of different types of fraud. The association classified the different forms of corporate fraud in a diagram called the fraud tree.

Figure 1

The Fraud Tree

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Asset Misappropriation

This type of occupational fraud happens when a person, group, or entity wrongly diverts or misuses assets, money, or other resources for its benefit (Klein, 2015; Nawawi & Ahmad Saiful Azlin, 2018b). This type of fraud occurs most frequently and constitutes about 83% of all reported fraud cases. However, it records the lowest losses among the three categories (ACFE, 2018). It is prevalent, mainly where internal controls are weak (Lenz & Graycar, 2016). The ACFE reported asset misappropriations as theft of cash and

other financial resources by employees. Asset misappropriation schemes are in three subcategories composed of nine different offense types, as shown in Table 1. Klein (2015) argued that the most common among the subcategories of asset misappropriation is theft and misuse of inventory and supplies. Glodstein (2015) identified poor accounting records, inefficient data processing controls, frequent deficits in cash balances, lack of management commitment to internal controls, and ineffective internal controls as major red flags for asset misappropriation.

Table 1

Categories of Asset Misappropriation Fraud

Offense Type	Description
Theft of cash receipts	
Skimming	Any scheme in which employees steal cash from an organization before recording it in the organization's books and records
Cash larceny	Any scheme in which employees steal cash from an organization after recording in the organization's books and records
Fraudulent disbursements of cash	
Billing	Any scheme in which a person causes his or her employer to issue a payment by submitting invoices for fictitious goods

	and services, inflated invoices or invoices for personal purchases
Expense reimbursement	Any scheme in which an employee claims reimbursement of fictitious or inflated business expenses
Cheque tampering	Any scheme in which a person steals his or her employer's funds by intercepting, forging, or altering a cheque drawn on the bank accounts of the organization
Payroll	Any scheme in which an employee causes his or her employer to issue payment by making false claims for compensation
Cash register disbursements	Any scheme in which an employee makes false entries on a cash register to conceal the fraudulent removal of cash
Other Schemes	
Misappropriation of cash on hand	Any scheme in which the perpetrator misappropriates cash kept on hand at the victim organization's premises
Noncash misappropriation	Any scheme in which an employee steals or misuses non-cash assets of the victim organization

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Corruption

Corruption includes a range of activities and behavior from the misuse of position or power for personal advantage. There is no single generally accepted definition for corruption (Zyglidopoulos, 2016); however, it broadly includes bribery, illegal gratuities, economic extortion, and conflicts of interest (Wells, 2018). Gorsira et al. (2018) explained corruption on the line of individual and organizational factors. Gorsira et al. (2018) argued that corruption results from an individual's decision based on perceived, more significant gains and perceived lower costs of corruption to the organization also a bad culture or ethical climate induces unethical employee behavior (Jha & Panda, 2017). Although not common, like asset misappropriation, the cost implication on a victimized company is disruptive and potentially more significant. Peltier-Rivest (2018) claimed that the organization is the first to suffer in any corrupt act and that employee's knowledge of unethical or corrupt behavior of management personnel affects their trust in the organization's ethical values, and they are likely to commit the same act and justify them.

Financial Statement Fraud

Financial statement fraud is the deliberate misrepresentation of the financial condition of an organization in the financial statement given to stakeholders. The misrepresentation may result from a deliberate misstatement or omission of figures in the financial statement to deceive investors or other stakeholders (Mohamed & Handley-Schachelor, 2015). This fraud classification includes false financial statements and manipulation of accounting documents and reports that benefit the perpetrator. Repousis (2016) argued that financial gain and enrichment might not be the sole objective for

committing this category of fraud; management may commit such frauds to attract investors, demonstrate compliance with financial laws. Financial statement fraud includes altered revenues, timing differences, omitted liabilities and expenses, improper disclosures, and improper asset valuation. Mohamed and Handley-Schachelor (2015) further argued that the motives behind financial statement fraud are (a) to mislead investors and (b) to attain the organizations' expected goals. Whiles (Fligstein & Roehrkasse, 2016; Free & Murphy, 2015) analyzed the causes and consequences of financial statement fraud, (Albrecht et al., 2015) considered the ethics and motives of financial statement fraud. Simha and Satyanarayana (2016), Kulikova and Sadarova (2016) evaluated the role of internal auditors and internal controls in detecting financial statement fraud. Dimitrijevic et al. (2015), Kramer (2015), also researched into the corporate role in detecting financial statement fraud, and Brazel et al. (2015) studied how investor perceives financial statement fraud. One thing is common to the various forms of fraud in the organization, they all result in losses to the victim organization in areas like revenue, reputation, and litigation.

The Procurement Process

The procurement function in an organization is responsible for acquiring goods and services for various purposes (Stevenson, 2015). The procurement function has risen to a higher level of importance in recent years because of the levels of spend and cost implications (Weigel & Ruecker, 2017). Bildsten and Manley (2015) identified an eight-stage process in organizational procurement (a) identifying the need; (b) establishing the specification and scheduling the purchase; (c) identifying alternatives; (d) evaluating

alternative purchasing actions; (e) selecting the supplier; (f) negotiation and contracting; (g) issuing the contract or order and (h) following up to secure delivery. Although the stages highlighted above are generic, it also reflects a typical procurement process in the mining industry. Lysons and Farrington (2016) suggested that established relationships with vendors at the initial stages are necessary to ensure an effective procurement process. Vendors or suppliers are required to bring their technical expertise to bear during the specification stage of the procurement process, especially for first-time purchases (Baily et al., 2015). The procurement process can become complicated due to decision-making and communication over time, involving several project actors and relationships with external organizations (Münch, 2015). According to the author, this complexity arises because several people are making different decisions on goods and services that have technical complexities and involving large sums of money.

Procurement Fraud

Procurement fraud is defined as an intentional deception to negatively influence any stage of the procurement process to make a financial gain or cause a loss to the organization (University College London, 2013). Procurement fraud can occur at numerous stages across the procure to pay process and may involve both insiders and outsiders to the victim organization. Globally, research has found that fraud occurred most at the payment stage, followed closely by the vendor selection and invitation of quotes/bids stages of the procure to pay process (Patterson et al., 2018). The procurement process of a product or service can be complicated, especially in the mining industry, where too many parties are involved. Procurement in the mining industry involves a

complex network of suppliers and subcontractors with inherent legal, financial, and operational issues in the relationship (KPMG, 2017). This complexity opens the process to high fraud risk from, need identification schemes to invoice falsifications (Putra et al., 2018).

Investigating procurement fraud is often complicated because it can occur at any stage of the procurement process, and individuals who commit the fraud have a deeper understanding of the victim organization's process (Putra et al., 2018). The author further believes that the close working relationship between employees of the procurement and payable units with vendors may provide an opportunity for complex fraud schemes against the company by collusion. Caulfield and Steckler (2015) argued that fraud schemes within the procurement process do not happen by chance; the perpetrators willfully think through them. They get people to trust them and later take advantage of the trust for their benefit. Free (2015) also argued that the fraudster begins with minor incidents and then gets it to a bigger deal as he or she perceives no one knows and no one is looking. Fraudsters start innocently, then raise their confidence level, and get involved in more significant schemes (Sandhu, 2019). Rustiarini et al. (2019) argued that fraud is human behavior related, and those who perpetrate this crime do so deliberately. Caulfield and Steckler (2015) further argued that individuals who commit fraud are motivated by several factors and characterized the fraudster into five personality profiles; (a) situational fraudster; (b) deviant fraudsters; (c) multi-interest abusers; (d) well-intentioned noncompliance employee and (e) disengaged noncompliance employee.

According to (Caulfield & Steckler, 2015), situational fraudsters are those individuals within the procurement environment who are generally frustrated because they perceive the organizational system has not treated them fairly or may have been affected financially by an event that happened in the organization. From Caulfield's argument, such employees may have never harbored that intention when they joined the company, but because of the situation they look out for weaknesses within the procurement process and exploit them to make up for their loss. They tend to rationalize their actions from the unfair treatment of their company.

Caulfield and Steckler (2015) describe deviant fraudsters as a significant threat to the organization, and they are always on the lookout for opportunities to commit fraud. They project themselves as hard working, always available to do any work, and hardly take holidays. They usually are liked and trusted by others, especially their superiors and colleagues, and usually will get people to stand in their defense when found culpable.

The multi-interest abuser is those individuals who will intentionally manipulate the procurement system or process for their benefit or to the benefit of a third party. They may not obtain any financial benefits but ensure a process favors their comrades or family members. They are found to abuse the procurement process; for example, they will draft product or contract specifications so that only their favorites will stand a chance to win the bid. From the fraud triangle perspective, the multi-interest abuser commits fraud because of the demands from friends or family members who need business, and they find opportunity in the position to abuse the process because it lies in their power to

do so and tend to rationalize their action as the product or contract got executed in any event (Caulfield & Steckler, 2015)

There are also the well-intentioned noncompliant employees present a significant risk to procurement. They are those who will not get involved in the fraud themselves but may directly or unnecessarily create the conditions for fraudsters to take advantage. They believe that their deviation from the laid down procurement process will not harm the company in any way or may believe it is to the cost advantage of the company to deviate from the norm (Caulfield & Steckler, 2015)

The disengaged noncompliance employees are disgruntled or dissatisfied because of perceived unfair remuneration or poor management of self-worth. They share similar characteristics with situational fraudsters. Caulfield and Steckler's categories of fraudsters aligns with the supporting theories that extend the elements of fraud to include personal traits of the fraudster. The discussion on the categories underscores the fact that that an individual's personal traits contributes to fraud.

Procurement Fraud Schemes

Procurement fraud is possible at every stage of the procurement process and involves insiders who are experts in the field or outsiders who do business with the victim company. Procurement fraud can be committed by individual actors or through a collusive arrangement among multiple individuals in the victim company. KPMG (2017) found that employees of the victim company commit 65 percent of fraud identified with the rest committed by external parties. Procurement fraud schemes include those committed by collusion between employees and vendors, collusion between competing

contractors or vendors against the victim company, and schemes by employees acting alone.

Collusion Between Employees and Vendors or Contractors

There are various schemes under this category, often involving individuals within the organization's procurement setup acting in collusion with the contractors or vendors to defraud the organization for their gains in kickbacks, bribes, gifts, and others (Rechtman, 2019). The association of certified fraud examiners (2018) identified bid tailoring, splitting, manipulation, unauthorized sole-source acquisition, conflict of interest, and need identification schemes as the primary schemes under this category.

A bid tailoring scheme often occurs when the employee or employees within the procurement setup strongly influence the requirement of the bid or the product specification to the extent they can change or modify it. The employee drafts bid specification in a way that gives an unfair advantage to a vendor. Bid tailoring includes broadening the scope of the service or specification of the product to get an otherwise disqualified vendor into the competition, narrowing the scope of the service or specification of the product to suit the capabilities of a favored contractor or vendor (McNeal, 2019). Additionally, specifying the service or product vaguely to make way for a price increase later, and order change abuse where the employee encourages the vendor to submit a lower bid to win the contract with an assurance of changing the scope later to accommodate price increases (ACFE, 2018). Some of the indicators of this kind of scheme include (a) only one or few contractors or vendors responding to RFP, (b) the similarity between specification and winning contractor's product or service, (c) a

comparative analysis of previous purchases show a significantly broadened or narrowed specification and, (d) a considerable number of sole sourcing to one contractor/vendor.

Bid splitting is where the procurement members break up larger projects of high value into smaller projects so that each fall within the threshold that does not require competitive bidding, encouraging sole sourcing to a favored contractor or vendor. Significant signs for this scheme include two or more similar contracts to the same contractor with a value just below the competitive bidding threshold separation of the various elements of a service into different orders, i.e., different order for labor and different order for materials with both below the threshold for competitive bidding but when put together exceeds the threshold; and (c) consistent changes in the orders that increase the value of the order (Wells, 2018)

Bid manipulation happens when the employee influences the bidding process to give preferred contractors/ vendors an unfair advantage. The employee manipulates the sourcing process by limiting the number of supplier bids are sought through means like opening bids too early, requesting for bids during holidays or closing hours before a weekend, leaking bid information to the preferred vendor, and shortening the submission timelines for bids (Wells, 2018)

Need recognition scheme is where the employee in collusion with the vendor assumes a need for a product or service for the victim company solely available from that vendor but not needed by the company then receives a share of the amount paid for the goods or service or even use the goods personally (ACFE, 2018; Haberbusch, 2000). Characteristics of such schemes include excessive inventory levels from excess

purchases, unjustifiable inventory write-offs to make way for the purchase of new items, and a sudden hike in user requests for the item.

An unjustified sole source awards scheme happens where procurement members choose to award contracts that should be competitive through a sole source without any justification. Often, such awards are made directly citing exceptional circumstances (Wells, 2018). Such schemes are characterized by; the bid amount just above or below the competitive bidding limits; previously awarded contracts suddenly become non-competitive, the lack of justifications or documentation for the decision, and split purchases to avoid competitive bidding limits (ACFE, 2018).

Conflict of interest occurs when employees that influence the procurement process have a personal interest that conflicts with their responsibilities. Wells (2018) identified five different ways conflict of interest may occur; (a) an employee buys goods or services through an agent who has control, (b) the employee is involved in other business ventures with a vendor or contractor or its employee, (c) the employee has an interest in a business that competes with the employer, (d) the employee accepts gifts, favors, travel, entertainment, or fees from a vendor or contractor, and (e) the employee is involved in unauthorized negotiation or accepts employment with current or prospective vendors or contractors. Conflict of interest is a clear indication of corruption in procurement (Deleanu et al., 2017). It arises when an employee in the procurement section has an undisclosed legal or other beneficial interest in the vendor.

Collusion Among Contractors/Vendors

Contractors/vendors can also collude or individually commit fraud against a company. The most common among schemes under this category is bid-rigging. Bid-rigging is usually a collusion among competing companies to ensure one company wins the bid at a pre-determined price (Chassang & Ortner, 2015; Conley & Decarolis, 2016). Competing companies pre-determine the winner and limits competition (Asllani & Statovci, 2018). The various schemes under bid-rigging include;

Bid Suppression occurs when competing contractors agree to allow only one among them to submit a bid or withdraw a previously submitted bid so that another competitor will win (Denise et al., 2013). Bid suppression agreements involve firms that would compete for a contract refraining from bidding so that a designated firm's bid is accepted (Jaspers, 2019). Clark et al. (2018) developed a model at a different level of suppression that considers the incentives for the cartel of suppliers to eliminate non-members from the market by refusing to share production technology with non-members or influencing legislature to favor members.

A Bid rotation occurs when competing vendors agree to schedule to win bids in turns (Wells, 2018). The vendors may decide to submit very high bids knowing those will not be competitive, so one of them with the lowest bid win (Connor & Werner, 2018). Bid rotation is an arrangement to ensure all companies get a fair share of the buying company's business. Bid rotation does not encourage competition, and the buying

company does not benefit from the advantages of competitive bidding (Denise et al., 2013)

Complementary bidding occurs when competing contractors agree to submit bids that will not pass the test. These contractors charge very high prices or even make unreasonable terms on their bids while creating the impression they genuinely want the business when they only want to complement the number of bids received (Connor & Werner, 2018) and are intentionally taking themselves off the competition for the agreed competitor to win (Denise et al., 2013). Here, one of the vendors refuses to bid, making way for the other party to win and later sublet a part of the work to them in exchange for not submitting a winning bid (Denise et al., 2013). Subcontracting is used to encourage minor bidders' participation. It is, however, an effective means to rig bids, especially when the subcontractor can be the main contractor (Tam et al., 2018).

Aside from the schemes already mentioned, there are others that employees of the victim company act alone. One such scheme is the creation of fictitious companies, customarily known as shell companies. In such schemes, an employee or a group of employees set up a company, get it registered as a vendor in the system, and award contracts to themselves. Characteristics of such scheme involve employees able to raise a purchase order, receive and approve payment for goods or services, paid vendors are not on the company's vendor list, employee or employees always following up on payment of a vendor, employee or employees always submitting invoices of a vendor, and invoiced goods cannot be physically seen (ACFE, 2018). Procurement fraud can take different forms as discussed above and may include; individual employees acting alone or

in collusion with external parties to the procurement process. Regardless of what form it takes, it is evident the fraudsters circumvent the procurement process for their own personal gains resulting in losses to the victim organization.

Risk Factors in Procurement Fraud

Dealing with Fraud, in general, requires the identification and assessment of the risk factors. Button and Shepherd (2019) identified two broad categories of fraud risk factors: organizational and individual factors, including remuneration, ethical work climate, justice, disciplinary measures, opportunity, and personal traits. The authors underscored that these factors together positively impact on the fraudster's intention to commit fraud. Bonny et al. (2015) identified some individual factors that make people commit fraud, including financial hardship, living beyond their means, gambling, sudden external financial pressure, internal/external pressure to steal, drug dependency, and alcohol. Sandhu (2016) makes a strong case for certain individual traits that are potential red flags for fraud; strong ambition, social loneliness, extended working hours, dissatisfaction with their current job, justifying unethical behaviors, personal and financial problems, and living beyond their financial means. In line with the organizational factors, (Mangala & Kumari, 2015) identified inadequate remuneration plans, unusual remuneration patterns, high industry competition, a close relationship with suppliers, inadequate segregation of duties, ineffective supervision, and weak internal controls as the most common risk factors in procurement fraud. Mufutau and Mojisola (2016) also further identified the following as potential risk areas or factors for procurement fraud to occur: (a) Unsuccessful implementation of controls in procurement,

(b) unknown vendor own recently established companies, (c) high turnover of purchasing staff, (d) offering favors to vendors, (e) social bond between employees of a vendor company and purchasing staff (e.g., joint vacation or leisure the activities), (f) non-competitive and low-quality vendors consistently winning bids, (g) frequent reports of suspicions of misconduct by purchasing staff. The above factors identified by the various authors are red flags to procurement fraud. Where such issues raised above are seen in the organization or in the procurement section of the organization there is a high risk of been committed.

Procurement Fraud Prevention and Detection Strategies

Preventing fraud means that managers must put proactive measures to avoid it from occurring (Adriana et al., 2018). Such measures to avoid fraud ensure an environment with less opportunity for fraudulent activities to occur (Button et al., 2015). Preventing and detecting procurement fraud requires an understanding of the fundamental motivations for fraud. The fraud triangle offers the opportunity to understand the motives behind the fraud. The motives for committing procurement fraud include looking for money for personal gains, taking advantage of the weakness in the control systems (Mufutau & Mojisola, 2016). Mangala and Kumari (2015) argued that gathering information on fraud and its impact on the organization is the first step to preventing its occurrence. Ach (2017), in his study on the prevention of procurement fraud in the public sector, identified that a controlled environment that enhances accountability, transparency, and professionalism is critical to maintaining a high standard of integrity in procurement. Zamzami et al. (2016) discussed the role of internal auditors in preventing

and detecting fraud. The authors suggested that the most effective ways of detecting and preventing fraud are operational audits, consistent internal controls, cash reviews, and an effective code of sanctions against vendors and procurement staff. McMahon et al. (2016) agreed and argued that because of the challenge in detecting fraud, preventing it from occurring should be management's top priority. The works of (Zamzami et al., 2016; McMahon et al., 2016) highlight the need for internal controls and management role in preventing procurement fraud. Patterson et al. (2018) also identified the need for management commitment to ensure that preventive and detection controls effectively deal with supply chain fraud. The authors argued that consistent interaction and communication between management and employees would help identify potentially fraudulent situations and prevent them.

The impact of procurement fraud on the victim organization can be very costly, aside from the cost of investigation, legal action, and remedial actions, procurement fraud also distracts management from its core focus negatively impacting productivity (KPMG, 2017). It is, therefore, critical for management and leaders alike to understand the vulnerability of the procurement system to fraud and establish an approach to prevent, detect, and control such misconduct. According to KPMG, such an approach should be integrated and multifaceted to include prevention, detection, incident response, and program maintenance.

Fighting fraud begins with a commitment from top management, developing and preserving the right organizational culture. A culture of honesty and sincerity is critical to preventing procurement fraud and ensures long-term business sustainability (Abdul Rasid

et al., 2018). Management also needs to ensure the promotion and communication of the ethical values of honesty to employees by showing its commitment to such a course (Mufutau & Mojisola, 2016). Gilbert and Wakefield (2018) also suggested the need to establish fraud prevention and detection mechanisms collaboratively with appropriate sanctions for offenders. In other words, management should be proactive with measures to make it difficult for fraud to occur (Adriana et al., 2018). An organization's code of ethics which reinforces the belief that ethical behavior is essential and pivotal in the organization's ethical culture communicated down from management to employees (McMahon et al., 2016)

Mufutau and Mojisola (2016) claimed that hiring the right people to undertake procurement is also essential in preventing fraud. Making the right recruitment decisions for key procurement positions is another way of preventing procurement fraud. Background checks and regular training for employees on ethical values is an excellent preventative strategy (Leistedt & Linkowski, 2016). Brody et al. (2015) reiterated the need for recruitment managers to conduct a background check on employees including resume verification, social media search, reference check, and a criminal record check. The authors further suggested the use of honesty/integrity tests as a pre-employment screening tool. All employees should be trained on policies and procedures to understand the expectations and consequences for nonconformance. These consequences should be deterring enough to include criminal prosecution and dismissal (An-An et al., 2017; Nawawi & Ahmad Saiful Azlin, 2018b). Employees that commit fraud have previous records from former engagements of dishonest behavior. An organization's anti-fraud

may include systems that monitor the behavior of employees to identify red flags for potentially fraudulent activity. Areas of fundamental interest when monitoring employees will include e-mail communications; this could indicate behavioral patterns and help detect employee's intent to commit fraud (An-An et al., 2017).

Assessing the organizations' internal controls is also key to preventing fraud. Internal controls are policies and procedures built by management and employees to ensure that an organization's objective will be achieved (Manh & Thi, 2018). The organization developed five-element internal control systems that constitute; (a) control environment, (b) risk assessment, (c) control activities, (d) information and communication, and (e) monitoring activities. The controls ensure consistent and reliable financial reporting, protect assets against theft and misuse, and compliance with applicable laws and regulations (Mufutau & Mojisola, 2016). The authors further argued that procurement fraud often occurs when employees override internal controls intentionally. Chiu et al. (2019) argued that it is necessary to regularly assess the adequacy and effectiveness of the internal control system to identify and correct any weakness that makes fraud possible. When internal controls are robust, more accountability in managing resources enhances efficient operations and makes fraud unattractive (Feng et al., 2015). Hajiha and Bazaz (2016) also believe that more robust control systems enhance a higher level of compliance with set out policies and procedures and deter employees from behaving unethically (Eklund et al., 2016). However, weakness in the control systems provides an opportunity for fraud to occur, leading to a decline in sales and the organization's market value (Nawawi & Ahmad

Saiful Azlin, 2018a). Peltier-Rivest and Lanoue (2015) suggested that ultimately a robust internal control system is an assurance mechanism for achieving the best performance and protecting an organization from unexpected events, which includes a reduction in fraudulent activities. Ensuring the effectiveness of existing controls is a crucial part of prevention measures to fraud; this should be a regular exercise to identify and improve weak areas. Although it is impossible to eradicate fraud, knowing where the risk lies increases the possibility of preventing or detecting its occurrence (Rendon, 2016). Internal control efforts require periodic review and improvement (Nusa et al., 2016)

Another effective way of preventing procurement fraud is the segregation of duties (Bennett et al., 2015). Segregation of duties is to ensure that no one person takes total control over the whole procurement transaction. An effective mechanism to minimize procurement fraud is the segregation of duties (Andon et al., 2015; Imoniana & Murcia, 2016; Bennett et al., 2015).

One of the internal control measures to control and deter fraud is the establishment of a whistleblowing policy. Such a policy is an effective mechanism to receive information about employees on illegal acts such as fraud (Near & Miceli, 2016). Managers can detect fraudulent procurement acts through an effective whistleblowing mechanism. (Gao et al., 2015). The channel for whistleblowing must be adequate to conceal the blower's identity to encourage people to use it. Most employees may prefer the reporting channels to be managed outside the organizational environment by an external party to ensure protection from retaliation and victimization (Gao et al., 2015). Near and Miceli (2016) suggested that encouraging employees to have confidence in a

whistleblowing system requires management to disclose any wrongful act reported to all employees so that reporting would mean management will investigate and act on the information given. An effective whistleblowing system helps detect fraud, financial losses, increase employee loyalty, and protect the organization's image (Near & Miceli, 2016).

Legal action or prosecution of fraud perpetrators is not very common in many organizations; however, it effectively prevents and controls procurement fraud. (Mangala & Kumari, 2015). Initiating legal action against fraudulent employees is an excellent strategy to communicate management intolerance for fraud and deter employees from engaging in fraud (Kanapickienė & Grundienė, 2015)

The United Nations Global Compact on the fight against corruption in the supply chain provides specific guidelines for organizations in preventing fraud in the procurement process. The guidelines provide the need to establish clear procedures for the selection of suppliers, providing anti-corruption training, employees background check, the giving or receipts of gifts, procedures for goods receipt, evaluating corruption risk before entering a customer-supplier relationship, performing due diligence on suppliers, customers, and intermediaries involved in the bidding process (UNGC, 2016).

Mufutau and Mojisola (2016) recommended that a preventative measure be extended beyond the organization to consider its business partners. The authors suggested that it is essential for the organization to know its suppliers and manage subcontractors through background checks to avert any possibility of a conflict of interest and assess the supplier's capability to undertake a job. The (UNGC, 2016) further provides guidelines

worth considering in preventing procurement fraud from the perspective of the supplier; (a) the organization should establish a code of conduct for suppliers, including expectations on corruption; (b) the organization must ensure that the supplier's personnel receive training on anti-corruption laws and policies, the consequences of bribery, and corruption for the supplier and employees; (c) monitor suppliers' anti-corruption efforts through audits.

A regular audit of procurement procedures and systems is also an effective means of preventing and detecting procurement fraud. (Ghafran & Sullivan, 2017; Hoopes et al., 2018) The organization should use both internal and external auditors to evaluate adherence to procedures. Employees will not commit fraud if they are aware of these audits. Gilmore-Allen (2015) suggested surprise audits on information systems to detect alterations or tampering. The use of auditors as a tool for preventing fraud could be beneficial but require complement with other controls as auditors at some point could also be compromised (Gilmore-Allen, 2015). From the discussion, detecting and controlling procurement fraud requires managements focus not only on personnel but also the organizational systems that makes ir easy for fraud to occur. For any controls to be effective the focus should be on both internal and external motivational factors.

Transition

Procurement fraud is very complex because there are various ways to commit it, and managers need to consider all possible options when preventing or controlling it (Mufutau & Mojisola, 2016). Procurement fraud is on the rise and has become a threat to managing supply chains (Khan & Varma, 2017). In section 1, I introduced an overview

of the nature of procurement fraud and the various forms it takes. I also discussed various strategies to detect, prevent, and control procurement fraud. Furthermore, section 1 included a discussion on the general and specific business problem, the purpose for conducting this study, and the foundation of the study to explore the strategies used by managers in Ghana's gold mining industry to detect, prevent, and control procurement fraud. I also presented a qualitative research methodology, the problem statement, purpose statement, research questions, conceptual framework, and an academic literature review of current knowledge on procurement fraud.

In section 2, I will restate the purpose statement, the role of the researcher, the participants for this study, and the research method and design. Section 2 will also include the sample, data analysis plan, data collection methods, and ethical considerations.

Section 2: The Project

In Section 2 of this qualitative study, I will include the purpose statement and a discuss my role as the researcher regarding data collection. I will also discuss the study participants, the research method and design, and population and sampling. Finally, I discuss ethical research, data collection instruments, techniques, data analysis, reliability, and validity.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the strategies used by managers in the Ghanaian gold mining industry to successfully detect, control, and prevent procurement fraud. The target population for the study consisted of six procurement managers of the major gold mining companies in Ghana who have successfully detected, controlled, and prevented procurement fraud in their respective organizations. I assumed that managers in the mining companies can increase funds budgeted for their corporate social initiatives by reducing revenue lost through procurement fraud and using these funds to provide schools, roads, hospitals, and portable drinking water required for the social well-being of the people in communities.

Role of the Researcher

The researcher plays an essential role in research. The researcher's role is to collect, analyze, organize, interpret, and understand data to determine the meaning of a phenomenon (Kornhaber et al., 2015) and report the research outcome (Yin, 2018). Additionally, the researcher's role involves having an objective without bias, meaning

there is no initial definitive objective before enacting a qualitative study (Creswell & Creswell, 2018).

Qualitative researchers are the primary instruments for data collection, interpreting data through their lens (Ho, 2012). As the researcher, my role was to collect, organize, and interpret data to report on the results and draw conclusions from them. I conducted semistructured interviews with open-ended questions as I explored strategies that managers in the mining industry use to detect, control, and prevent procurement fraud. As the primary data collection instrument, I was responsible for avoiding biases because they can affect the research outcome (see Berger, 2013). To mitigate biases, researchers must identify their personal views to understand that of the participants (Marshall & Rossman, 2016; Yin, 2018). I avoided biases by using member checking to validate the participants views and recorded interviews for accurate transcription for data integrity (see Yin, 2018). Using member checking in qualitative research maintains validity and it is an integral part of creating trustworthiness in a qualitative study (Candela, 2019).

Knowing that my professional and personal experience gives me knowledge on the topic, I ensured that participants answered interview questions without any interference or imposition of answers reflecting my views. I also ensured my personal biases, ideas, and judgments did not influence the research through bracketing, a process of disregarding personal biases, ideas, and judgment in research (see Sorsa et al., 2015). Additionally, the researcher needs to be aware of personal and professional bias through self-reflection or self-evaluation (Berger, 2013). As a young professional and the head of the supply chain

of a mining company in Ghana with two supply chain-related professional qualifications, I am aware of the challenges in the sector when it comes to procurement. I joined my current employer as a supervisor and witnessed several fraudulent acts in the procurement process, influencing my choice of study. I have been part of an investigative team on a fraud case and called to defend an action perceived to have breached established procedures. I understand that this experience raised the possibility of bias as the researcher and the primary data collection instrument. However, even though I was familiar with the procurement process of the mining industry and had knowledge of the phenomenon, I had no personal or professional relationship with the participants. I did not expect any form of influence on the study. It is also the researcher's role to ensure the study was conducted ethically by protecting the participants as required by the National Institute of Health regarding the protection of human research participants. I applied the 1979 Belmont Report, which covered consent, disclosure, confidentiality, anonymity, and biases. I ensured participants understood the intent of the research and gained informed consent from them by transparently disclosing every material fact in terms of their risk exposure as participants in this study.

Using the same semistructured, open-ended questions for all participants also helped to ensure consistency in the data collection. An interview protocol with open-ended questions guides and enables a researcher to elicit the best possible responses from participants. There are four stages for an interview protocol: (a) aligning research questions with interview questions; (b) formulating an inquiry-based discussion on specific information; (c) receiving helpful feedback on participants to enhance reliability;

and (d) orchestrating the interview protocol in actual conditions simulating space, process, recording, rapport, and consent (Castillo-Montoya, 2016). I followed this protocol with the same questions for each participant for consistency and fairness (see Fusch & Ness, 2015).

Participants

Conducting a study requires the researcher to engage a sample of people to represent the broader population. The population refers to organizations that share some characteristics of the phenomenon under study (Asiamah et al., 2017). In a case study, the selection of research participants depends on the research question. (Yin, 2018).

Participants should have characteristics that relate to the overarching research question and the purpose of the study (Dasgupta, 2015; Zupancic et al., 2019). Developing strategies to deal with procurement fraud lies with top management. Participants for this study were procurement managers in the mining industry who successfully controlled, detected, and prevented procurement fraud in their organizations.

There are several ways to access research participants. The sponsor approach allows the researcher to access the participants through an executive leader (Fletcher et al., 2016). The use of highly influential trusted people can influence the attitudes, opinions, beliefs, and behaviors of people in the organization (Lim et al., 2018). Gatekeepers are also an effective way a researcher can gain access to research participants and establish a working relationship with them (deGama et al., 2016). I used the gatekeeper approach by contacting the secretariat of a supply chain technical committee as a gatekeeper for the contact details of the participants. I sent an initial email

to the participants and followed it up with a call to solicit their readiness to be part of this study.

To get participants to be part of the study, the researcher must build a working relationship. The researcher needs to build a rapport with the participants to avoid anxiety in answering the interview questions. Rapport building facilitates working relationships and allows the researcher to elucidate the rules of engagement to the participants (Bowden & Galindo-Gonzalez, 2015). I used the interview protocol to establish a working relationship with the participants. At the start of each interview, I reminded the participants of the voluntary nature of their participation, assured them of confidentiality, and explained my expectations.

Research Method and Design

Research Method

The choice of a research method and design is dependent on the topic and the purpose of the study. The three critical elements of a research method are (a) the forms of data collection, (b) analysis, and (c) interpretation (Abutabenjeh & Jaradat, 2018). The researcher has a choice to use the quantitative method with close-ended questions, using statistical analysis and interpretation method to get the overall results, or the qualitative method with open-ended questions, using text and image analysis or interpreting themes and patterns to get the overall results (Corbin & Strauss, 2015). Researchers may also use the mixed method: a combination of quantitative and qualitative methods. The researcher may choose a combination of qualitative and quantitative methods because of the phenomenon's complexity (Khoo-Lattimore et al., 2019). Other factors like time

available for the study, the purpose of the study, and the researcher's personal experience also influence the choice of research methods (Creswell & Creswell, 2018).

The quantitative methodology covers a range of specialized topics and approaches. Within the scope of quantitative methodology, inferential statistics cover the techniques researchers use to explore in-depth relationships between variables (Wang et al., 2016). Generally, the underlying principles of quantitative research are deduction and logic, focusing on measurable variables in human experience (Fan-Ko et al., 2018). The researcher uses the quantitative method to establish the prevalence of practices, behaviors, and beliefs and estimate how the strength of reciprocal causal associations changes over time (Abutabenjeh & Jaradat, 2018). The purpose of this study was to explore strategies used by managers in the mining industry in Ghana to deal with the challenge of fraud in the procurement process, which made quantitative methods inapplicable.

The mixed-method employs both quantitative and qualitative approaches. The mixed method is increasingly becoming an accepted approach (Coyle et al., 2018; Creswell, 2015). Mixed-methods include sequential mixed methods where the researcher uses one method to expand further the findings of the other method, concurrent mixed methods where the researcher uses both methods simultaneously and the transformative methods where the researcher uses a theoretical lens as an overarching perspective within a design that contains both quantitative and qualitative data (Abutabenjeh & Jaradat, 2018). Mixed-methods have been encouraged because of the flexibility to integrate with other research approaches (Plano Clark & Ivankova, 2016), making it easier to address

complex problems (Ivankova, 2015). The underpinning objective of mixed-method research is to infuse data sets from both quantitative and qualitative to arrive at justifiable conclusions in one study (Ivankova, 2017). Despite the advantages of mixed methods, the approach did not apply to the purpose of this study.

I employed the qualitative methodology for this study to explore strategies used by managers to detect, control, and prevent procurement fraud. Using the qualitative method gives the researcher insight into social life, the experience, and people's attitudes (Creswell & Creswell, 2018). In the qualitative method, the focus of the study is on a natural setting with a phenomenon that the researcher does not seek to manipulate (Dasgupta, 2015). Using qualitative method the researcher focuses on subjectivity, individuality, and integrity to understand meanings, functions, goals, and intentions (Bansal et al., 2018). Researchers also use qualitative methods to understand the meaning people bring to a phenomenon (Wang et al., 2016). Qualitative methods are flexible and adaptable and allow the researcher to adapt the methods to their specific research questions, samples, or context of data collection, which means researchers can mold the method to the needs of the data and the sample (Denzin & Lincoln, 2017; Gehman et al., 2017). The qualitative method offers the researcher variety among different approaches regarding the data and materials that can be analyzed, the assessed content, and the coding and treatment (Bansal et al., 2018). Further, the qualitative method is most appropriate, where the researcher's focus is to understand how something happens rather than the results (Dasgupta, 2015). I chose a qualitative method for this study because the

method was ideally suited to explore and understand strategies procurement managers use to deal with procurement fraud, not to measure the phenomenon.

Research Design

The research design options for a qualitative study include ethnography, for exploring beliefs and ideas of a group; phenomenology where the researcher explores the collective experiences and meanings of several individuals about a given phenomenon or event (Quay, 2015; Symeonides & Childs, 2015); and a narrative design where researchers explore individuals' life experiences and form a narrative (Marshall & Rossman, 2016). These designs were not appropriate for this study because I did not intend to explore individuals' experiences or beliefs of a group. In contrast, a case study design is most appropriate for answering *how* and *why* research questions in a study when investigating a phenomenon within a real-life context (Yin, 2018), which gives a fuller understanding of the nature and complexity of the phenomenon (Moghadam et al., 2018). The design is also appropriate for understanding complex social phenomena and events surrounding organizational and managerial processes. Additionally, case study research has more flexibility than other qualitative approaches such as grounded theory or phenomenology. The design of case studies suits the case and research question (Sanders, 2019). Further, a case study gives an in-depth understanding of the viewpoint of several participants using multiple data sources (Yazan, 2015).

In qualitative research using a case study, a researcher may choose a single or multiple case design. A multiple case study is a strong base for theory building (Yin, 2018). Moreover, comparing different organizations gives rich data necessary for

discovering categories and developing and relating their theoretical properties, which are necessary for further developing the emergent theory (Dasgupta, 2015). The reasons supplied by these researchers helped me decide to use the multiple case study design for this study.

Population and Sampling

The population for a study is the broader group the researcher wants to conclude on (Etikan et al., 2016). Making population and sampling decisions in research has a link to decisions on which research method to use (Abutabenjeh & Jaradat, 2018). The target population for this study was six procurement managers from the major gold mining companies in Ghana who have successfully implemented strategies to detect, control, and prevent procurement fraud in their respective organizations.

I used the purposeful sampling method to choose the participants. A researcher uses purposeful sampling to select cases that give in-depth and rich information to provide insight and understanding of a phenomenon or topic of interest (Benoot et al., 2016). This sampling method can be appropriate for case study research to validate a sample because the researcher can establish common themes to cover multiple variations of the topic of interest (Knechel, 2019; Thorne, 2016). Purposeful sampling is also a way to avoid sample bias by selecting firms based on their relation to the phenomenon under study (Bristowe et al., 2015; Morse, 2015). Purposive sampling is most used for qualitative studies because rich data is collected and requires fewer resources with a small sample size (Barratt et al., 2015). The criteria for selecting the participants included the following: (a) have been in the current position at least 3 years, (b) have been in the

gold mining industry for at least 5 years, and (c) have implemented strategies for detecting, controlling, and preventing procurement fraud.

Achieving data saturation is essential to qualitative research (Rowlands et al., 2015). In qualitative research it is a way the researcher ensures the data collected is accurate and valid. Data saturation is necessary to determine the sample size for a study and it allows a combination of rich quality and a thick quantity of data (Fusch et al., 2016). The sample size can influence data saturation, and even a small sample size of one may be enough to achieve data saturation (Etikan et al., 2016). Data saturation is when no new data is collected, no new patterns evolve, and no new codes emerge (Fusch & Ness, 2015; Tran et al., 2016). Using purposeful sampling with a small number of case study participants assures the researcher of data saturation (Charles et al., 2015; Malterud et al., 2016). Although achieving data saturation is high when using purposive sampling, empirical generalizability is impossible during data analysis (Mikkonen et al., 2015). I ensured data saturation by looking out for evidence of replication when I analyzed the data (see Parker & Bull, 2015).

Ethical Research

Conducting ethical research and respecting and protecting participants' human rights and privacy is an essential requirement. The researcher's responsibility is to ensure that participants are protected (Scherzinger & Bobbert, 2017). The researcher must adhere to the ethical guidelines to protect the right of human participants and ensure that participants are respected (Metcalf & Crawford, 2016; Roberts, 2015). The researcher is

also responsible for protecting the anonymity of the research participants and storing the collected data in a confidential manner (Mazorodze & Buckley, 2019).

I ensured approval from the institutional review board (IRB) before engaging the interview participants. Upon IRB approval, I solicited voluntary participation from the participants by sending them an email of a consent form, and they consented by reply to the email with 'I consent' (see Wallace & Sheldon, 2015). The consent form adds to the importance of ethically conducting a study with participants' free will (Aarons et al., 2015). I included in the consent form a statement of participants' right to withdraw from the study at any point without any challenge by writing to inform me of their withdrawal. I also included a statement of assurance of confidentiality, an essential requirement in ethical research (see Harriss & Atkinson, 2015). In protecting the participant's identity, I assigned alpha-numeric codes (i.e., A1, B1, C1) to each participant, where the letter represents the company and the numbers of the participants. For clarity and verification, I informed the participants of my intention to audio record the interviews. All consent forms received are documented and electronically filed to verify agreement to contribute to the study (see Yin, 2018). I did not offer any incentives to the participants.

I completed the National Institute of Health web-based training on protecting human research participants and understand its requirements. I followed the guidelines where applicable to protect the participants and refrained from data collection until IRB approval. I also adhered to the Walden code of conduct and the guidelines provided in the Belmont Report. I stored all data gathered from participants during the interviews and all

other documents in a protected external hard drive in a safe area. I intend to keep them for 5 years before destroying them by burning.

Data Collection Instruments

The researcher in a qualitative study serves as the primary data collection instrument (Rich & Misener, 2017). As the primary instrument, I could not have separated myself from the research (see Fusch & Ness, 2015), and was responsible for asking questions, listening to participants, taking records of responses, developing themes from participants, giving feedback, and analyzing data gathered (see Rich & Misener, 2017). The other data collection instrument I used was semistructured interviews, which required developing questions from established themes prepared to solicit in-depth insight into the participants' views on the phenomenon (DeJonckheere & Vaughn, 2019). Interviews are the most used data collection instrument in qualitative studies (Yin, 2018). Using semistructured interviews with open-ended questions allows the researcher to collect rich data, as participants express their experiences in their own words (Twining et al., 2017). The use of semistructured interviews also allows the researcher to ask the same set of questions that will facilitate comparisons among responses from the participants with the flexibility of asking follow-up questions (Yin, 2018).

I conducted face-to-face interviews with some of the participants, and for some, the interview was virtual. The face-to-face approach helps the researcher observe participants' body language and gestures (Seitz, 2016). Additionally, researchers must ask questions following an interview guide for structure and consistency (DeJonckheere & Vaughn, 2019; Vohra, 2014), which helps achieve data saturation (Fusch & Ness,

2015). I developed and followed an interview protocol, which contained my introduction to the participant, a summary of the purpose of the study, assurance of confidentiality, and their role as participants (Appendix C)

To ensure that I did not miss any information given, I recorded the interviews electronically, which helped me to capture exact responses from the participants, preserving the full content of the interview and facilitated data analysis (see Bahraminejad et al., 2015; Bristowe et al., 2015; Starr, 2014). I also took notes to compliment the audio recording. To ensure the validity and reliability of the data collected, I shared the initial analysis with the participants to review and confirm their responses and possibly provide feedback. Allowing participants to review and confirm responses is the process of member checking, which ensures reliability and validity (Birt et al., 2016).

Organizational records and documentation are also good data sources for qualitative research following a case study design. Combining data from documents and interviews enriches the study's outcome (Bayram et al., 2016). Assessing multiple data sources leads to triangulation, another means of achieving saturation and validity (Fusch et al., 2016; Morgan et al., 2017; Turner & Danks, 2014). Some participants shared with me copies of the organization's policy on commercial transactions and code of conduct.

Data Collection Technique

Data collection involves gathering and determining information that helps the researcher find answers to research questions and evaluate results (Mays & Pope, 2019). There are various techniques for collecting data in a qualitative study: (a) documentation,

(b) archival records, (c) interviews, (d) direct observation, (e) participant observation, and (f) physical artifacts (Yazan, 2015). I conducted semistructured, face-to-face, and virtual interviews with open-ended questions using audio recording, and reviewing company documents. For the convenience of participants and to avert any distractions, the location for the interview were decided by the participants. At the beginning of each interview, I read out the consent form to the participants (see Appendix D). The interviews were audio-recorded to capture the exact response from the participants for accuracy during transcribing (see Speer & Stokoe, 2014). I ensured the validity and reliability of data collected through the audio recording (see Neal, Neal, VanDyke, & Kornbluh, 2015). Using audio recording has limitations; there is the likelihood of skipping responses during transcription. Also, the audio quality can be affected if the interview location is noisy (Neal et al., 2015). To avert this, I used two different devices at the same time for the recording.

Using interviews in research comes with numerous advantages. Interviews are a rich and vital source of evidence in a study (McIntosh & Morse, 2015). Interviews also allow both researchers and participants the flexibility to express themselves in an open discussion, enhancing the collection of valuable data (Anna-Maija et al., 2016).

Additionally, the researcher has contact with the respondent either face to face or via phone, so there is the flexibility of clarifying all ambiguities and discussing other issues that may come up (Buytaert et al., 2016). The researcher can rephrase questions that are not clear to the participants (Laura et al., 2016).

Interviews as a data collection technique also have some disadvantages too. Disadvantages include the likelihood of bias, poor recall, inaccurate articulation on the part of the respondent, and the researcher may have to complement data gathered from the interview with other sources of evidence to ensure reliability (Alderete & Davies, 2019). Also, there is a potential lack of interest in the topic by the participants despite agreeing to participate (Drew, 2014). However, a face-to-face interview allows the researcher to observe participants and gain a deeper understanding of the phenomenon, and multiple observations may be required to enhance reliability (Marshall & Rossman, 2016).

Observation as a data collection technique allows the researcher to observe the interviewees' body language and gestures that impact their verbal responses (Marshall & Rossman, 2016). During the interview, I also observed the participants. Using observation allows for very accurate and reliable data to be collected; it improves the precision of the research results and limits challenges from depending solely on participants' responses (Mike, 2017; Onwuegbuzie & Smit, 2018). Some limitations to observation are that; the researcher cannot use observation to study past events, observation alone cannot give a complete and factual reflection of an issue (Onwuegbuzie, & Smit, 2018).

Using organizational records or documents in qualitative research complements and enriches data collected during interviews. Documentation could be a source of background information with broad coverage of data that is useful in contextualizing one's research within the subject or field and can also be a source of unobservable data

details (Bowen, 2009). Yin (2018) also suggested that documentation can contain the exact names, references, and details of events covering a long period and several settings. However, organizational documentation will require some investigative skills because preparing it is without a research agenda (Bowen, 2009). O’Leary (2014) argued that it is essential to subject documents to a thorough evaluation and investigation so not to undermine the credibility of the research. Access to documents may be deliberately withheld or cannot be easily retrieved (Yin, 2018).

Further, I sent participants a summary of the transcribed data to achieve validity and reliability, emphasizing key points to check if it represents their responses. Using the member checking process enhances the integrity of the study and removes biases. Member checking is a quality control process (Birt et al., 2016). It allows the participants to review collected data for accuracy and make corrections to enrich it (Roche et al., 2015). After completing the analysis, I asked participants to review a summary of the findings.

Data Organization Technique

Organizing data in a qualitative study is essential for the researcher to analyze data, support findings, and protect participants’ confidentiality (Bernard et al., 2016; Yin, 2018). The data organization technique enhances the reliability of the study (Roer-Strier & Sands, 2015). There are four principles of data collection: using multiple sources of evidence, creating a case study database, maintaining a chain of evidence, and exercising care in using data from electronic sources (Yin, 2018). Six sources of evidence for

qualitative study include documentation, archival records, interviews, direct observations, participant-observation, and physical artifacts (Yin, 2018).

I used a reflective journal to make some notes of the depth of knowledge that participants shared. A reflective journal is another means of ensuring the quality and validity of qualitative data (Vicary et al., 2016). Researchers also use reflective journals to avert biases and influences on the study's conclusions (Peters & Halcomb, 2015). Microsoft Excel and NVivo software are tools researchers use in qualitative data organization, analysis, and reporting. The software can identify themes, evaluate findings, and interpret them in answering the research questions (Robins & Eisen, 2017; Zamawe, 2015). During the data analysis, I labeled and coded the data to identify patterns and common themes. A coding system makes it easier to search, compare, and analyze data by identifying patterns and themes (Bernard et al., 2016). Using codes also helps the researcher translate specific responses into broader meanings and themes (Skjott Linneberg & Korsgaard, 2019). I identified participants with alphanumeric codes such A1, B2, and a generic name for all documents such as Document 1. To ensure an organized data, I created a folder for each of the participants and case company. In that folder, I kept respective documents from each participant labeled alphanumerically (e.g., A1 consent form, B2 interview transcript)

It is critical to secure data collected during research against loss, misuse, unauthorized access, alteration, destruction, and disclosure (Schneider & Iacobucci, 2020). Researchers can ensure the protection of participants and the information collected by putting in security measures that prevent unauthorized access to the data (Johnson,

2015). I stored all data collected on a password-protected external drive, together with transcripts and audio recordings, in a locked cabinet to be destroyed after 5 years by burning.

Data Analysis

When data is collected or gathered, the next step for the researcher is to analyze and interpret the data to draw meaning from it (Cridland et al., 2015). Analyzing data at this point means examining, categorizing, tabulating, and testing the data to come out with findings (Noble & Smith, 2015). Triangulation is the process of combining data from different sources to ascertain the reliability and trustworthiness of findings and study results (Modell, 2015). The researcher uses triangulation to collect and evaluate data of various levels and perspectives regarding document and interview materials (Fusch & Ness, 2015). The researcher also uses triangulation to identify themes in data from multiple sources (Johnson, 2015; Modell, 2015). Patton (2015) identified four types of triangulation (a) data triangulation is the use of multiple sampling strategies, (b) investigator triangulation involves multiple researchers, (c) theory triangulation is the use of multiple theories to analyze the data (Modell, 2015), and (d) methodological triangulation involves comparing multiple data sources in analyzing the data. I achieved methodological triangulation by conducting semistructured interviews and reviewing company documents. Methodological triangulation aids the researcher in overcoming the weakness or the potential bias of using only one source of data (Joslin & Müller, 2016). Fusch and Ness (2015) also advised that using a single data analysis method is insufficient to represent a research phenomenon. Methodological triangulation allows the

researcher to combine data from interviews, company documents, and published literature enhancing data validity (Wilson, 2016; Yin, 2018)

The data analysis process helps the researcher to draw meaning by categorizing the data into groups or themes (Bengtsson, 2016). Data analysis, according to (Yin, 2018) involves five steps below.

The compiling phase is the process of organizing the data to create a database. The objective is to organize the data systematically before formal analysis starts. Yin (2018) claimed that more orderly data is a prerequisite to more vital analyses and quality. After the initial compilation, the researcher breaks down the data into fragments to reduce and remove consistent themes of the phenomenon under study.

The reassembling process involves clustering and categorizing the labels into a sequence of groups. At this point, the researcher makes connections with the data collected and identifies patterns and themes. This stage involves developing the narratives from the sequence of groups. Yin describes this stage as the craft of giving meaning to the reassembled data and patterns.

According to Yin, the conclusion is an overall statement that captures the broader significance of the study. Conclusion is the final stage where the researcher completes the study and presents the results. Here the researcher states the processes and the methods of the research and details any limitations.

I followed Yin's suggestion to analyze the data for this study. I used the NVivo software to arrange, analyze, and attain themes of the collected data. The NVivo software can evaluate nodes within a complex matrix (Woods et al., 2016). Researchers have used

the software successfully to identify relations in the data and obtain new meanings and patterns, evaluating consistencies and convergences in data (Mertens & Hesse-Biber, 2015).

To adequately represent a research phenomenon (Fusch & Ness, 2015), advise using multiple data analysis methods. After collecting data through semistructured face-to-face interviews, virtual interviews (telephone and teams), and review of company documents. I transcribed the audio recording of each interview into a Microsoft word document. I then uploaded the transcription into the NVivo software to code identify emerging themes. The NVivo software can analyze interview data and create codes and themes quicker for the study (Ruggunan, 2016).

I used the NVivo software to create labels from the data and break down words, phrases to make meaning from the data (Bengtsson, 2016). I further used the NVivo software to analyze the data and categorize similar responses from participants to form larger groups of themes. I then identified the key themes by reassembling them until no new ones emerged, achieving data saturation. (Hennink et al., 2017). I employed thematic analysis to interpret the data gathered from the interviews to identify patterns (Crowe, Inder, & Porter, 2015). According to Crowe et al. (2015), researchers using thematic analysis follow a five-step process; (a) building familiarity with the research data by the repetition of the interview transcripts, (b) generating initial codes from the reading while keeping the research question in mind, (c) identifying and grouping themes by related ideas, (d) defining and naming the themes, (e) illustrating with reference to the interview transcripts.

In interpreting the data, I used the emerging themes and patterns to create narratives in line with the overarching research question and the literature review specifically, aligning the identified themes through the lens of the fraud triangle. I also compared the results of this study with other studies to explore strategies for managers in gold mining companies to detect, control, and prevent procurement fraud.

Reliability and Validity

Researchers in qualitative studies are required to build trust in their research conclusions and findings by ensuring that they present a statement of facts, uniformity, and accuracy (Eisner, 2017). Building trust in a study requires an effective data analysis technique that projects the reliability and validity of the study (Roller & Lavrakas, 2015). Research reliability and validity encompasses several attributes (Taylor et al., 2015), dependability, credibility, transferability, and confirmability (Morse, 2015; Roller & Lavrakas, 2015).

Reliability

The decisions made by a researcher during a study may influence the result of the study one way or the other, especially in a qualitative study when the researcher is the primary data collection instrument. Researchers must be aware of their influence and review their decision to prevent an impact on the reliability of the study (Yin, 2018). Reliability is a critical element that supports the conclusions and results (Marshall & Rossman, 2016). Reliability explains the extent to which study results and conclusions drawn will be the same under similar conditions by repeating the study using the same process (Yin, 2018). Reliability also means other researchers could repeat the study in

similar conditions and time and get consistent results (Marshall & Rossman, 2016; Rose & Johnson, 2020). Reliability also relates to the consistency of the research findings over time (Hayashi et al., 2019). I used a rigorous interview protocol and member checking technique to enhance the dependability of this study. The researcher uses member checking to ascertain the accuracy of the data collected because participants will have the opportunity to confirm or challenge the responses recorded and any anomalies corrected (Birt et al., 2016). All participants answered the same questions, and I used this technique to ensure the study's dependability and data saturation. (Rubin & Babbie, 2016).

Validity

Validity refers to the extent to which the findings of a study reflect the data (Noble & Smith, 2015) According to (Leung, 2015) the suitability of research method, design, sample size, data collection and analysis technique, and how they relate to the overarching research question influences the validity of the study. Also, credibility, transferability, and confirmability characterize the study's validity (Roller & Lavrakas, 2015).

Credibility

The result of a qualitative study is a generalization from the sample to the target population (Cypress, 2017; Leung, 2015; Noble & Smith, 2015). A study is said to have credibility when the findings reflect the accurate picture of the phenomenon, and readers and other researchers can trust without a doubt (Nyhan, 2015; Percy et al., 2015). Merriam (2015) puts credibility as adopting the appropriate research method, effective sampling technique, and data triangulation using diverse sources. I selected the research

participant through purposeful sampling, maintained a rapport with them throughout the study, and used methodological triangulation and NVivo software to ensure credibility. Several researchers have commended member checking as an effective means of ensuring the credibility of a study (Connelly, 2016; Marshall & Rossman, 2016; Yin, 2018). When participants can confirm their responses to interview questions as recorded by the researcher, it enhances the credibility of the information used to draw the findings and conclusion of the study (Milosevic et al., 2018). I ensured that the data analysis and interpretation were based on the participants' knowledge and understanding based on their responses and avoided imposing my personal view. I also ensured credibility through member checking by sharing the analysis summary with participants and ensuring that all feedback received were incorporated in the final analysis.

Transferability

Transferability is the extent to which research data and findings apply to another study sometime in the future. Other researchers should use the results and findings of a study for other research of similar interests (Bengtsson, 2016). Transferability also refers to the extent to which the results and findings of a study apply to other organizations with a similar phenomenon (Nowell et al., 2017). To ensure transferability, I recorded every detail of data, and provided a complete description of findings and results so readers and future researchers can assess transferability. According to Lub (2015), a detailed description of the context, location, participants, and study analysis facilitates transferability.

Confirmability

Yin (2018) argued that the researcher establishes confirmability by ensuring that research findings reflect participant responses while mitigating researcher bias. The researcher should demonstrate that the data represents and reflects the participants' responses, not the researcher's viewpoint. I ensured confirmability by recording, transcribing, and reviewing responses from participants (Noble & Smith, 2015; Yardley, 2017). Using member checking will help the researcher avoid the possibility of misinterpretation and misrepresentation (Leung, 2015). I have also kept copies of all documents reviewed for verification and to substantiate findings (Venkatesh et al., 2016). I used reflective journals and data triangulation to ensure confirmability (Tong & Dew, 2016).

Data Saturation

According to Fusch and Ness (2015), reaching data saturation means that no new themes relevant to the research question will emerge when other researchers replicate the study. The authors claimed that qualitative researchers could reach data saturation by (a) selecting an appropriate sample size, (b) using purposive sampling, (c) asking the same questions to multiple participants, and (d) using data triangulation. Charles et al. (2015) used the term informational redundancy to describe data saturation, a point where additional data collection will have no value or contribution to the study. I ensured data saturation by repeatedly asking the same question from all participants until no new information emerged.

Transition and Summary

In section 2, I have discussed the different stages of the research project. These steps included discussions on the purpose of the study, the role of the researcher, participants, population, the research design, and methods. I have also discussed the data collection instruments, techniques, data analysis, ethical considerations, and how I will ensure the study's reliability and validity. In Section 3, I present the research findings, how the study results were appropriate for strategies to prevent, detect and control procurement fraud, recommendations for action and further research, implications for social change, and applications to professional practice.

Section 3: Application to Professional Practice and Implications for Change

The purpose of this qualitative multiple case study was to explore the strategies used by managers in the Ghanaian gold mining industry to detect, control, and prevent procurement fraud successfully. I used an interview protocol to conduct a semistructured interview with six procurement managers who have at least 5 years of experience in Ghana's gold mining industry and 3 years of experience in their current position. I conducted four of the interviews at the participants' place of work, one outside the work environment, and one through telephone conversation. I used the data collected from the participants to address the overarching research question: "What strategies do managers in the Ghanaian gold mining industry use to detect, control, and prevent procurement fraud successfully?" I used member checking to validate findings with participants and ensured validity and reliability through methodological triangulation by examining published literature and company documents which included (a) company code of conduct, (b) whistle-blowing policy, and (c) procurement policy and standard procedures.

This section describes the emerging themes from the interviews with procurement managers regarding successful strategies for preventing, detecting, and controlling procurement fraud in the gold mining industry. This section also includes the findings of the study and addresses how the findings apply to professional practice, the implication for social change, the recommendation for action, future research, and the conclusion of the study.

Presentation of the Findings

The overarching research question for this multiple case study was “What strategies do managers in the Ghanaian gold mining industry use to detect, control, and prevent procurement fraud successfully?” I made audio recordings of all interviews, transcribed them into Microsoft Word files, and sent the responses back through email to participants for member checking to validate their responses and ensure accuracy. I then uploaded the validated responses into the NVivo software for analysis and theme identification. From the data analysis, the following three themes emerged: (a) internal control is effective in preventing, controlling, and detecting procurement fraud; (b) effective communication through ethics and anti-fraud training for employees; and suppliers (c) realistic job descriptions with fair remuneration.

Table 2

Strategies Used to Prevent, Detect, and Control Procurement Fraud

Strategy	Frequency mentioned.	Percentage of participants
Internal controls	6	100%
Policy communication and training	5	83%
Realistic job descriptions with fair remuneration	6	100%

Theme 1: Internal Control is Effective in Preventing, Controlling and Detecting Procurement Fraud

The first theme that emerged from the data analysis is internal controls. From all the participants, the organization's internal controls are crucial to preventing and controlling procurement fraud. The participants mentioned various internal control measures established to avert the occurrence of procurement fraud: (a) periodic audit of commercial transactions; (b) established company policies which include whistle-blower policies, established code of conduct, procurement policies, and established anti-bribery and corruption policies; (c) authority levels for transaction approval; and (d) the use of information technology in the procurement process (procurement software). Table 3 below presents the frequency of the emerging themes and percentage responses.

Table 3

Frequency of Internal Control Measures by Participants

Internal control measures	Frequency mentioned	Percentage of participants
Periodic audit of commercial transactions	5	83%
Established company policies (whistle-blower, code of conduct, conflict of interest)	6	100%
Authority levels for transaction approval	5	83%
The use of Enterprise Resource Planning procurement software	6	100%

Organizations adopt internal controls to secure their assets, improve the reliability of their accounting records, prevent, and detect fraud (Mangala & Kumari, 2017). The findings from the theme internal control reflected the literature on the effectiveness of internal controls in preventing and detecting procurement fraud. For example, Mufutau and Mojisola (2016) highlighted internal controls to prevent procurement fraud. The authors suggested a combination of audit, code of conduct, whistleblowing, fraud risk assessment, antifraud professionals' services, reference check, data mining, firewall, antifraud policies, and training as effective to fight against fraud. Salleh and Othman (2016) also suggested that regular monitoring of internal controls and corporate governance effectively reduces the occurrence of fraud.

The responses from all the participants showed that the establishment of various internal control measures has averted or reduced the occurrence of fraud in their respective organizations. P1 stated:

I think what has worked for us over the years is the measures we have put in place internally, I mean the checks and balances, it starts from the very time an employee joins the team, you go through an orientation of the company's policies, and after the orientation, you sign off as commitment to abide by the rules. There are disciplinary actions attached to some of the policies, for example, the conflict of interest, code of conduct, and anti-bribery and corruption (ABC policy). The fact that people were required to sign these documents after the orientation makes them scared to go contrary to the provisions.

P2 said,

Our internal controls are very tight, and this deters people from engaging in anything unethical; even managers cannot just approve any transaction, you have your limit, it is not possible to approve beyond your limits the system will not allow it, there are half-year and end of year audits where procurement or the entire supply chain is the focus.

From the responses, there are approval thresholds for initiated purchase orders for goods and services. For most mining companies, the procurement officers are responsible for initiating purchase orders in the electronic system, and then an alert can be automatically sent to another officer depending on the value of the order. This response also reveals that no one person can initiate an order and approve it himself. All the participants confirmed that procurement officers responsible for initiating the orders in the system have no authority to approve even a dollar value purchase order. On the other side, no manager has a system authorization to raise an order. Aside from the controls in the ERP system, these are explicit in the companies' procurement policies. P3 stated:

We have in place policies and specific controls, e.g., periodic audits that include midyear and end of year inventory counts and procurement audits by internal and external auditors. This is a norm, and so you know you cannot hide any wrong deed. The ERP procurement software is also a way of deterring people from fraudulent deals; it has been programmed to have integrity functions that can raise red alerts of any suspicious activity for scrutiny.

P4 disclosed:

For this company, we have come a long way in the fight against fraudulent procurement activities, I can say that at the very beginning of the project, things were not very structured, and people did things their way. However, as we started production and established structures and procedures, people do things per the rules. I will not say the policies have eliminated unethical or under-hand dealings, but we will get there with periodic reviews of the procedures and policies.

The responses from all the participants showed that a robust internal control system effectively prevents and detects procurement fraud. The responses confirmed research by Manh and Thi (2018), who argued that achieving the objective of an organizational policy is only possible through a robust internal control system. Mufutau and Mojisola (2016) also argued that internal controls ensure compliance with applicable laws and regulations. Some of the participants also explained that a consistent review of internal controls makes it more robust over the period to avert fraud. This confirms the argument of Chiu et al., (2019), Feng et al., (2015), and Hajiha and Bazaz (2016), who argued that those robust internal controls make fraud unattractive to employees. Peltier-Rivest and Lanoue (2015) further claimed that a robust internal control is an assurance mechanism.

Theme 1 is consistent with the conceptual framework of the fraud triangle, which stipulates that for fraud to occur, an opportunity should exist. The study's findings revealed that a weak internal control, as suggested by Nawawi and Ahmad Saiful Azlin (2018a), presents opportunities to commit fraud. As explained by P4, at the project construction stage of the mine there are no policies and rules, creating opportunities for

fraud to occur. Such employees could rationalize their actions because they perceived they were not flouting any rules. From the findings, robust internal controls could eliminate the opportunities to commit fraud. Cressey (1953) said that employees commit fraud when they identify opportunities, rationalize their thinking, and are under pressure. The employee's perception of a robust internal control influences their perceived opportunity to commit fraud (Brown et al., 2016).

To ensure triangulation, I reviewed some of the policy documents of the companies from which the participants were drawn. I observed specific details on the code of conduct and ethical values; the procurement policy had specific thresholds and responsibilities. I also reviewed a few training resources and documents on the issue of ethics. I observed a common trend in the policies of the participating companies. The numerous internal control policies revealed the organizational commitment to fight fraud. This finding confirms Peters and Miniam (2016) argument that an organization's culture, environment, and ethical strategy play a role in whether employees have opportunities to commit fraud.

Theme 2: Effective Communication Through Ethics and Antifraud Training for Employees and Suppliers

The analysis showed that effective communication of policies on fraud through training for both the company's staff and its suppliers effectively prevents and detects procurement fraud in the gold mining industry. Five of the participants mentioned communication and training for supply chain stakeholders as one of the effective means their companies have used to avert procurement fraud. The participants mentioned that it

was not enough to disseminate the company's policies to its staff but periodically organizing refresher training and roadshows to include the staff of major suppliers and contractors has been critical in preventing procurement fraud. Apart from this, the companies' policies like antibribery and corruption, code of conduct, and conflict of interest are summarized, printed, and pasted on major notice boards. They are also electronically displayed on big screens at the lunch halls. Almost all the participants mentioned that the organizational policies are on the company's intranet easily accessible to all workers. The findings of this study revealed that the system of communicating the organizational policies, particularly on ethical business practices, helps maintain a high level of ethical standards. P1, P2, P4, P5, and P6 discussed the periodic training of procurement staff and suppliers on the company's commitment to ethical business dealings, and the various policies have been effective in preventing procurement fraud. P2 noted,

Almost every quarter, there is training on the ABC and conflict of interest.

Anytime this training is organized, employees feel someone has done something wrong. Sometimes an external expert facilitates the training on how to identify fraudulent activities within the procurement process.

P4 stated

Our suppliers and contractors are also not left out on the quest to prevent fraud; we believe they can influence employees to act unethically, so we organize roadshows for them to understand our policies and the need to act ethically. They are also informed of the whistleblower procedure, so they feel ok to report any

fraudulent act.

P5 agreed, stating,

When there is effective communication of policies, and the implications of going against it, are clear to employees, they become conscious of their actions. When procurement staffs are aware that suppliers or contractors know the policies with the access to the whistleblowing line, they are careful how they conduct themselves as they do not know which supplier can blow the whistle on them; we have these policies. Just as we take safety issues on the mine seriously, so it is with issues of fraud.

P6 explained,

Our employees do not commit fraud alone; they will collaborate with suppliers or contractors in most cases. So, it is very effective to communicate and train both sides; even if your employees are not doing it, suppliers can defraud the company. For us, our training includes all and sundry in any transactional dealings. After every training, everybody signs off attendance and gets small booklets that summarize the main points discussed. If there is any breach, the first point of investigation is to check these attendances and take the necessary action.

Most of the participants found effective communication of company policies and antifraud training as effective in preventing procurement fraud. This finding aligns with literature, as Robinson and Jonker (2017) suggested, training employees help them deal with ethical dilemmas. Other authors (Aborbie, 2015; Albrecht et al., 2015; Kramer, 2015; Kummer et al., 2015) also confirmed that communication, training, and awareness

creation empowers managers and employees to eliminate opportunities for fraud in the organization. Communication and training are also required for employees to understand and appreciate management's tone and commitment. This finding aligns with Suh and Shim's (2019) argument that a vibrant and proactive managerial efforts such as having an 'ethical management tone' with effective ethical training positively affect employees' perceived corporate anti-fraud strategies. Participants acknowledged that an effective communication and training program aids the understanding of the employee's mindset. They further confirmed the claim of Free and Murphy (2016) and Negurita and Ionescu (2016) that the employee's rationalization to commit fraud is quite elusive and challenging and requires a greater sense of awareness. The participants also stated that through communication and training, management gets to understand employees' motives which confirms Cressey's (1953) argument that it is vital to understand the motive for committing fraud to deal with it. The theme aligns with the conceptual framework in that managers can limit the rationalization of unethical behaviors and eliminate opportunities for committing fraud through training and communication.

Theme: 3 Realistic Job Descriptions and Fair Remuneration.

From the findings, all participants believed that establishing clear and realistic job descriptions with fair remunerations is key to preventing procurement fraud. The participants noted when employees feel not well paid for their roles, they are likely to feel cheated and use that as a rationale to commit fraud, especially for the procurement staff who have access to the funds of the organization. The participants further noted that when an employee is given too much responsibility over time, he may use that as a

rationale to indulge in fraud. Kennedy (2016) argued that providing incentives other than regular income to employees who perform additional tasks well will take their minds off fraud.

Participants identified as P1, P3, P4, and P5 noted that the perception about the remuneration of mining workers puts much pressure on their finances. People perceive mining workers as very well paid and rich, making them targets for financial assistance from friends and family. In such an instance, they will resort to fraud to meet society's demands and status. The participants also discussed that the social recognition of mining workers as very rich also makes some of them adopt a high social standard of living; if they do not get what it takes to maintain that status, they may resort to fraud. e.g., P3 stated,

We know how people perceive the financial status of mine workers, and we also know how some workers hold themselves in their various communities and the lifestyle they adopt; if their remuneration is not reasonable, then it is a recipe for disaster. Therefore, management and industry players have ensured fair remuneration to prevent fraud occurrence.

P4 said,

Apart from monthly salaries, the company has instituted other monetary incentives to complement the employees' earnings. These incentives include annual bonuses, profit sharing, performance-induced earnings, and access to flexible compassionate loans just to ensure workers have sound minds to give their best and avoid fraudulent acts.

The findings align with the arguments in the literature that confirm financial pressure as the primary motivation for fraud (Albrecht et al., 2015; Imoniana et al., 2016). Mishra and Singh (2017) argued that when employees are under much pressure to perform and meet task goals, they are likely to commit fraud. Whiles Moorthy et al. (2015) support the use of other incentives, they also caution the need for close monitoring to avert mismanagement. The theme aligns with the conceptual framework; the fraud triangle as the pressure element considers the lack of finance, lifestyle, social status as motivators for fraud. The discussions revealed that employees who are well motivated according to their job descriptions are less likely to engage in fraudulent acts. The financial need creates the motivation for fraud and once provided, the likelihood for fraud to occur is low.

Applications to Professional Practice

As companies expand and extend their geographic presence, the procurement cycle becomes more complex and involves high monetary value and many transactions. Such a situation gives rise to the temptations and opportunities to commit fraud and presents significant challenges in detecting and preventing it from occurring. Global statistics show that procurements occur at almost every stage of the procurement process (Patterson et al., 2018). The risk is eminent in all business sectors. Business managers across sectors can apply the findings of this study by incorporating some of the strategies implemented by participants to detect, prevent, and control procurement fraud. It is evident from the findings that procurement fraud can have a significant impact on the organization. The findings of this study provide rich information and strategies for all

business managers for dealing with procurement fraud. The three emerging strategies from this study contribute to applied business practice for detecting and preventing procurement fraud. Using the findings of this study, business managers will understand the use of internal controls, ethics and antifraud training, and clear job descriptions and remuneration as a way of averting procurement fraud.

Internal controls, when effectively established, discourage unethical behavior and solicit commitment to adhere to policies (Kumar et al., 2018). Business managers can use communication and training to create awareness of antifraud policies, existing controls, identifying fraud, and their impact on the organization. When employees are aware of these, they are less likely to commit fraud. This will eliminate any justification to commit fraud. Business managers can apply a realistic job description and realistic remuneration to avert the occurrence of fraud.

Implications for Social Change

The findings of this study could benefit other business managers by implementing strategies that managers in the gold mining companies have used to detect, prevent, and control procurement fraud. Implementing such strategies will help business managers to safeguard revenue losses from procurement fraud. Business managers will understand from this study that having robust internal control in place prevents procurement fraud. Also, ensuring that employees are given the right jobs and paid well will eliminate the rationale for fraud. When implementing these identified strategies eliminates procurement fraud, the organization will save money and other resources. Such savings or resources could fund welfare projects for the companies' communities, impacting

social change. The findings of this study impact social change in that implementing identified strategies will impact the moral compass of employees to desist and change from their fraudulent deeds. When procurement fraud is eliminated, revenue will increase, which will improve the organization's sustainability to create more avenues for employment.

Recommendations for Action

The findings of this study lead to some suggestions for actions of business managers in both public and private sectors to develop strategies to deal with procurement fraud. Procurement and commercial managers also need to pay attention to the findings of this study. Accountants and auditors can also use the findings of this study. These groups of people influence the commercial transactions of most organizations. I will make a few recommendations for action.

The establishment of robust internal control is critical to the fight against procurement fraud. Not only should internal control be present, but managers must also ensure a review of existing controls and update them to suit current happenings. Such reviews will reveal and eliminate the inherent risk of fraud. Internal controls require monitoring and review to achieve the objective of preventing fraud. From time to time, internal auditors may query the procurement system just in case something has gone wrong; in most cases, auditors will act after the fraud has occurred, which could be too late. Managers need to establish procedures that will allow robust background checks on suppliers and major contractors. Such background checks can ensure suppliers and

contractors have a reputable record and reveal any form of conflict of interest that may lead to procurement fraud.

Managers need to ensure due diligence and adherence to established procedures for every procurement initiated. Where there are shortfalls, there should be training to close the gaps. The training of procurement staff should not be in isolation, but for the staff of suppliers too. This is because, in most cases, procurement fraud results from the collusion of these two parties. Finally, managers must pay fair wages to employees with other incentives.

I hope to publish the findings of this study in academic and business journals. I intend to present a summary of the findings through a report to the participants. I also intend to hold conferences, seminars, and training programs and present the findings to supply chain professionals. Through these means, I can disseminate the findings of this study.

Recommendations for Further Research

One of the areas I would recommend for further research is analyzing the limitations of internal controls' effectiveness in preventing and detecting procurement fraud. Also, I would recommend further quantitative research on the impact of procurement fraud on organizational financial performance. This study was limited to only gold mining companies in Ghana. I would recommend further research to cover a wider geographical area across other sectors to confirm the effectiveness of identified strategies in detecting, preventing, and controlling procurement fraud.

Reflections

As I reflect on the Doctor of Business Administration journey, it has been quite challenging, and this study has broadened my understanding of procurement fraud and the mitigating strategies in an organization. The extensive literature gave me an understanding of the complexity of procurement fraud and the diverse ways to mitigate it. In conducting the study, I ensured I put aside all my prejudice and bias. I collected and analyzed the data without bias using an interview protocol to ensure I focused on the participants' responses.

I found the information and responses the participants gave interesting. I was not very surprised when most of the responses showed some similarities because participants came from the same industry. Another exciting part was that participants were so passionate to share information on issues of fraud with me. Results from this study could provide other business managers an insight into how to detect and prevent procurement fraud in their organizations.

Conclusion

Every organization is vulnerable to procurement fraud. Because the procurement function is the spending department of the organization and is responsible for all levels of spending, the risk for fraud is very high. There are numerous reasons why fraud may occur: greed, financial pressure, weak internal controls, which present employees with opportunities to commit fraud and lifestyle. The impact of procurement fraud is enormous as it does affect not only the organization's revenue but also its corporate image (Omar et al., 2015). It is imperative that business managers adopt effective

strategies to detect, prevent and control procurement fraud. The purpose of this qualitative multiple case study was to explore successful strategies managers in gold mining companies use to detect, prevent, and control procurement fraud. The findings of this study have revealed three important strategies business managers can adopt to detect, prevent, and control procurement fraud: internal controls, communication and training, and realistic jobs with realistic remuneration. Also, establishing facilities that allow employees to have access to funds outside their regular salaries is also effective in preventing them from engaging in fraudulent acts. From the research findings, it is a fact that business managers that establish robust measures to detect, prevent, and control procurement fraud can eliminate opportunities and the rationalization factor of employees to win the fight against fraud.

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Appendix A: Permission Emails

My name is Alfred Ekow Taylor a doctoral student in Global supply chain management in Walden University with a research interest in procurement fraud in the mining industry of Ghana. I intend to use the table of Asset misappropriation fraud in your 2016 report to the nations on occupational fraud as part of my dissertation literature review, per the ethical code of research I require your permission to use such from your outfit.

I had sent a previous mail to Sarah on the fraud tree and had permission to use it and am back again for this one. Could you assist in this regard.

hoping to hear from you very soon.

> Show original message



To: alfred taylor

Hi Alfred,

Thanks for reaching out. Would you like to view our most recent report from 2018 to locate an updated graph? Here is the link to that report: <https://s3-us-west-2.amazonaws.com/acfepublic/2018-report-to-the-nations.pdf>.

Best,



To: alfred taylor

Hi Alfred,

Thanks for reaching out. Yes, you have our permission to use the fraud tree figure in your project, just please make sure it has attribution to the ACFE. Also, we have a more up-to-date version of the report, released in 2018. You can find it here: <https://s3-us-west-2.amazonaws.com/acfepublic/2018-report-to-the-nations.pdf>. I just wanted to let you know so you have the most recent data.

Best of luck to you!

My name is Alfred Ekow Taylor a doctoral candidate of Walden university researching on procurement fraud in the mining industry in Ghana..West Africa.

I downloaded your 2016 report of the nations as it seem quite a good resource for my project. As part of meeting the ethical requirement of a research am not able to use any figure or table as part of my work without the consent of the original owner. I by this email requesting your permission to use the fraud tree on page 11 of your 2016 report to illustrate the various forms of corporate fraud.

will be grateful to receive your feed back soon.

regards,

Alfred



Appendix B: Certificate for Protecting Human Research Participants.



Appendix C: Interview Protocol

Interview Protocol

Location _____

Date/Time _____

No of People Attending _____

Researcher Conducting the Interview _____

Participant _____

I am Alfred Ekow Taylor, a doctoral student at Walden University, and I will be conducting this interview as part of a research study. I will provide you with a brief background of the research study and address any questions or concerns you may have before the interview begins. The purpose of this research study is to explore strategies some managers in the Ghanaian gold mining industry use to prevent, control, and detect procurement fraud.

Procurement fraud is believed to be the costliest white-collar crime that is cross-sectorial and cross-boundary (Horne, Lochner, & Venter, 2018), mostly used to describe illicit acts like forgery, corruption, misappropriation, false representation, concealment, and collusion perpetrated by employees, business owners, board members and public officials (Mufutau & Mojisola, 2016). The direct cost involved is huge but, in most cases, it is overshadowed by the indirect costs of time and resources required to deal with reputational damage and legal liabilities (Chava, Huang & Johnson, 2018). Gold mining companies are faced with falling margins resulting from declining commodity prices and escalating production costs (KPMG, 2017). The survival of the mining business is further

threatened by the risk of procurement fraud. Only the knowledge gained from the research and the research findings will be shared publicly through publications so that further research can be conducted or interested persons can benefit from the research. You were invited to participate in this research study because of your experience and knowledge of the phenomenon. Your position as a procurement manager is great for the interpretation of findings for this study. Please note that your participation in this study is strictly voluntary and you may withdraw at any time.

Before this interview, you were provided with a consent form that was signed by you and the researcher. This consent form included an introduction, a certificate of consent, and a researcher statement. A copy was presented to you to keep for your records. The researcher will also retain a copy. Do I need to provide you with another copy of the consent form? Do you have any questions concerning the consent form?

The interview will be between you and myself with no other party present and an estimated length of one hour. After the main interview, there may be follow-up interviews if necessary. Refreshments are available and you are welcome to partake in them at any time. Do you have any questions about the interview process?

Do you have any further questions before the interview begins? Feel free to stop me if you do not understand a question or wish to address a prior question. To obtain a full understanding of your responses, I may ask you to give me an example or elaborate more on the topic. If you have no further questions, we can start the interview.

Let us first begin the interview by introducing ourselves. Just a brief introduction will be fine.

- What is your understanding of procurement fraud?
- What specific strategies do you have in place to detect, control, and prevent fraudulent procurement activities?
- How are these strategies documented and communicated to all stakeholders?
- How were the strategies accepted as a working tool for detecting, controlling, and preventing procurement fraud?
- What challenges have you encountered implementing the strategies to detect, control, and prevent procurement fraud?
- How did you address the challenges of implementing the strategies to detect, control, and prevent procurement fraud?
- How have you assessed the effectiveness of the strategies for detecting, controlling, and preventing procurement fraud?
- What other comments or information would you want to share regarding managerial strategies in detecting, controlling, and preventing procurement fraud?

This concludes our interview. You will receive a summary of the interview questions along with your responses within 14 days. A follow-up interview will be scheduled with you to allow you the opportunity to review your answers, make corrections, and/or provide additional information if needed. I will be conducting all follow-up interviews. Thank you for taking the time to contribute to this study.

Appendix D: E-Mail Invitation to Participate in Research

I am a doctoral student at Walden University conducting a research into Procurement fraud in the gold mining industry. The title of the study is Procurement Fraud: A Case Study of Ghanaian Gold Mining Companies. The purpose of the study is to explore the strategies that procurement managers in the gold mining industry have successfully used to prevent, control, and detect procurement fraud. To ensure privacy in the event the interview takes the form of a face-to-face interaction, you are welcome to choose a meeting place of your convenience. I assure you that apart from the researcher no other persons will know about your participation. It is my expectation that I would learn more about which strategies have been successful and why they were effective. The results of the study may be beneficial to managers in reducing revenue losses because of fraud.

I am looking to interview six procurement managers from gold mining companies. The interview would be in person, through phone or video conferencing like zoom, teams whichever is convenient to you. The interview is expected to take about 60 minutes, with ample time for further discussions.

If you are interested in participating in the study, please review the attached Informed Consent form for participation requirements. If you meet the participation requirements and want to know more about participating in the study, please contact me via e-mail or by phone (8AM – 10 PM GMT) . I would greatly appreciate to receive your response by....., to begin the study as soon as possible.

I am excited about conducting the study and sharing what I learn during my research.

Sincerely,

Alfred Ekow Taylor