

**FUNCTIONAL PROCUREMENT PROCESS AND FRAUD DETECTION
MECHANISMS IN TWANGIZA GOLD MINING, SOUTH KIVU PROVINCE
DEMOCRATIC REPUBLIC OF CONGO**

A Thesis

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Master of Business Administration in Supplies and Procurement**

BY

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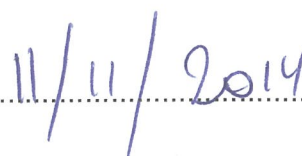
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I Alain Lusamba Muyaya, declare that this thesis is my original work and has never been submitted to any other academic award in any university or institution of learning for any academic reward.

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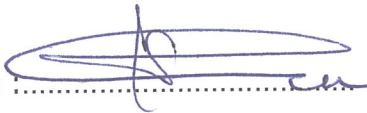
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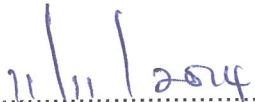
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DECLARATION B

"I confirm that the work reported in this thesis was carried out by the candidate under my/our supervision"

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DR. 
(SUPERVISOR)


.....

Date

DEDICATION

This piece of work is dedicated to my wife, mentor and friend, Ms. Pascaline Furaha Munganga as well as my daughter Michelle – Ange Lusamba Wa Lusamba and son Louange Lusamba Dibenisha who have kept me going all the way. May God bless them abundantly.

ACKNOWLEDGEMENT

I wish to extend my profound gratitude to all the people who have contributed to the successful completion of this report. Without their assistance and cooperation this report would not have seen the light of day.

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May God bless you all.

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LIST OF ACRONYMS

ACFE	:	Association of Certified Fraud Examiners
CIPS	:	Chartered Institute of Procurement and Supply
ICT	:	Information and Communication Technology
ITB	:	Invitation to Bids
PDU	:	Procurement Disposal Unit
PPDA	:	Public Procurement and Disposal Association
RFQs	:	Request for Quotation
RFPs	:	Request for proposals
SPPS	:	Statistical Package for Social Sciences

ABSTRACT

The study sought to establish the relationship between relationship between extent of functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo. The study was guided by three specific objectives, that included i) determining the extent of functional procurement process; ii) level of fraud detection; iii) the relationship between functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo. This research employed descriptive correlational design to describe the relationship between functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo, the study used a total population of 200 and a sample size of 133 respondents, and the questionnaire was used as the research instrument. Descriptive statistics used in this study included frequencies, means and PLCC on correlation of variables. The findings revealed the following: majority of respondents in this sample ranged between 31-40 years and these were male (68.4%) and had only attained diploma as their highest academic qualification (60.9%) and had an experience of 6-9 years (33.8%). Data analysis using means showed that extent of functional procurement process was found to be satisfactory (over all mean=2.90), and the level of fraud detection was found to be high and this was indicated by the overall mean (mean=2.85). The extents of functional procurement process and fraud detection are positive and significantly correlated. The researcher recommended that; the procurement officers in Twangiza Gold Mining Company should always start with identifying the need in relation the activity, this will lead to flow of functional procurement process, should make sure that the tendering data is always accessible for the suppliers who are willing to take such tenders, and always to display tendering opportunities to potential suppliers using emails.

CHAPTER ONE

THE PROBLEM AND ITS SCOPE

1.1 Background

1.1.1 Historical perspective

Procurement has a long history where by the earliest procurement order dates from between 2400 and 2800 B.C. The order was for "50 jars of fragrant smooth oil for 600 small weights in grain" (Coe, 1989, p. 87). Other evidence of historical procurement includes the development of the silk trade between China and a Greek colony in 800 B.C. In the United States, according to Page (1980), government procurement at the municipal level predates that of state and federal governments. In the settlements and colonies, printing was one of a few services contracted out by government. But there were no professional procurement officials; goods and services needed by government were supplied by commissioners or commissaries, who received a commission on what they bought for the militia or other administrative units. It was not until the late 1800s that state legislatures began to create boards or bureaus responsible for purchasing, but central purchasing was hardly a practice at that time. In 1810, Oklahoma was the first state government to create a board to procure centrally for all state departments and agencies (Page, 1980). Many local governments soon followed Oklahoma's example, according to Arthur Thomas (1919). Since then, centralized purchasing has gradually become common in organisations and local government. However, the centralization trend has been challenged in recent years. Many practitioners and researchers have contended that purchasing authority, especially in government and companies, must be decentralized in order to provide more responsive support to end users, eliminate bureaucratic obstacles to program accomplishment, improve inter-departmental coordination, and empower service delivery managers to procure what they need without impediment by a centralized organization (Jones, 1998).

1.1.2 Theoretical Perspective

The Milgrom's economic organization theory of 1992 states that through transactions, individuals and organizations plan and implement activities, and agree the terms on which resources will be exchanged. Contracts can be far broader than formal legal agreements in the corporate world. Contracts are the mechanism through which agreements between individuals and organizations are coordinated. They can be informal, verbal, not enforceable or even verifiable by a third party. They do, however, specify each party's actions and rewards for a range of circumstances or contingencies. Contracting is a continual process, with new agreements being reached as new contingencies arise. But why do they exist? A fundamental observation about the economic world is that people can produce more, and realize economic gains, if they specialize in activities to produce goods and services, transacting with one another to acquire inputs and also final products and services. Specialization leads to organizations. However, whereas these gains to specialization can be massive, they can only be realized if, first, people's actions and decisions are coordinated so that one person's contribution is compatible and consistent with another's, and second, people are motivated to make the appropriate contribution.

1.1.3 Conceptual perspective

According to Nair (2001), functional procurement process refers to organizational policies aimed at ensuring efficiency and proper controls on the purchasing function; functional procurement process was therefore conceptualized in terms of identifying the need, supplier identification and tender notification.

Fraud detection refers to the identification of actual or potential fraud within an organization (Carroll, 1999). Fraud detection was conceptualized in terms of risk assessments, staff training and awareness and manual checks and balances.

1.1.4 Contextual perspective

Twangiza is a 1,164 sq. km gold property is a collection of six separate mining concessions located in South Kivu province of D.R. Congo, 41 km to the south-southwest of Bukavu, the provincial capital and 35 km west of the Burundi border. The Twangiza deposit is a structurally and lithologically controlled hydrothermal gold deposit hosting 107.5 Mt of ore grading 1.60 g/ gold for 5.6 Moz. Pit optimizations were undertaken on the two principal deposits that were estimated to contain 60.88 Mt at 1.87 g/t gold for 3.67 Moz. The two deposits at Twangiza are planned to be mined simultaneously to provide throughput of 5 million tonnes of oxide ore to the processing plant in the initial years. The transitional and fresh ore types are planned to be stock piled during this period and processed once the oxide ore production begins decreasing. Process plant uses single stage crushing followed by a SAG and ball mill operating in closed circuit with hydrocyclones. A conventional Gravity-CIL (carbon-in-leach) processing facility was designed for an annual throughput of 5.0 million tonnes of oxides or 3.75 million tonnes of transitional and fresh ore, or combinations thereof. The gravity circuit will recover 20-25% of the feed to the plant as free gold. Gold production would total 2,615,807 ounces over 15 years life of mine, based on current resources.

The average annual production was estimated at 261,965 oz gold for the first five years of operation. The feasibility study envisioned the construction of a 30 MW, run-of-river hydroelectric scheme on the Ulindi River - Ulindi II site, 35 km from Twangiza site - utilizing a 600 meter natural drop in the river over a distance of approximately 8 kilometers. A valley close to the mine site has been chosen for tailings deposition. The tailings dam design had to take into account the region's high seismicity rate and appropriate river diversion. As there is no gold refining capability in East Africa and thus doré produced at Twangiza is to be refined off-shore, either in South Africa, Europe or Dubai.

The existence of fraud in Twangiza gold mining Company has been caused by failure to carry out frequent audits and poor accountability in this company, it has also resulted into misutilisation of company resources. Fraud control needs to be specifically

addressed and should be incorporated in an agency's governance activities such as risk management, internal audit and corporate governance.

1.2 Statement Problem

Fraud has been a frequent phenomenon in Twangiza gold mining Company, South Kivu province, this is evidenced in 2006 when John Felderh the managing director in Ore department when he was accused of misusing 500,000\$, the trial of John Felderh was concluded on Tuesday, July 31, 2007, with a guilty verdict of illegal insider gold trading (Panapress, 2006). Managing the risk of fraud includes a range of proactive and reactive measures. Current leading practice in fraud risk management involves strategies which prevent, detect and respond to the risk of fraud, whether perpetrated by internal or external parties. Organisations should optimize procurement costs and achieving cost reductions by price management through pricing, reducing number of vendors across business units, increased coordination and integration of buying powers across mining, and demand optimization. The four stages of evolution in the procurement function that can reduce fraud include; transaction administration, purchase management, category management and procurement optimization. The procurement function needs to be transformed to show it understands and supports business needs and delivers tangible cost savings. This report looks at some of the risks associated with procurement fraud in the mining sectors and how these companies can reduce their exposure, the use of technology to detect procurement fraud, and how to leverage supplier audits to counter fraud and loss (Carol Francoise, 2003).

1.3 Purpose of the study

This study aimed at investigating the relationship between functional procurement process and fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

Objectives

This study was based on the following objectives:

- i) To examine the extent of functional procurement process in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.
- ii) To assess the extent of fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.
- iii) To determine the relationship between functional procurement process and fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

1.4 Research Questions

- i. What is the extent of functional procurement process in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo?
- ii. What are the fraud detection mechanisms used in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo?
- iii. Is there a significant relationship between functional procurement process and fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo?

1.5 Hypothesis

There is a positive significant relationship between functional procurement process and fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

1.6 Scope of the study

Geographical Scope

The study was carried out in Democratic Republic of the Congo taking Twangiza Mining as the case study. It holds 14 exploration permits covering an aggregate of 2,638

square kilometers of ground. The permits are located between and contiguous to the Company's Twangiza, Kamituga and Lugushwa properties and northwest of Namoya.

Content Scope

The study focused on functional procurement process in terms of identifying the need, supplier identification and tender notification. Still in terms of content, fraud detection mechanism was conceptualized in terms of risk assessments, staff training and awareness and manual checks and balances.

Theoretical scope

This study was guided by the economic organization theory of Milgrom (1992) which states that through transactions, individuals and organizations plan and implement activities, and agree the terms on which resources will be exchanged. He also added that contracts are the mechanisms through which agreements between individuals and organizations are coordinated. Contracts can be far broader than formal legal agreements in the corporate world. They can be informal, verbal, not enforceable or even verifiable by a third party. They do, however, specify each party's actions and rewards for a range of circumstances or contingencies. Contracting is a continual process, with new agreements being reached as new contingencies arise.

Time Scope

This research was conducted between February 2014 and July 2014 but activities and procedure are divided according to weekly and monthly sequence.

1.7 Significance of the study

Beneficiaries

The results of the study may form part of the reference material to scholars thus widening the knowledge and the study will help the researcher to conceptualize the phenomena and the report will act as a partial fulfillment.

The research results may be used as a tool for policy analysis by the government of Congo, donors and mining companies in particular and evaluate the achievements and failures as per this research.

The study is especially significant because it will add onto scanty information about procurement fraud in the country. As no such study has previously focused on the effect of functional integration of procurement fraud detections and prevention in procurement and contracting process in mining companies in Congo although some effort has been put into understanding of Congo's urban and peri-urban mining companies.

1.8 Operational definition of key terms

Procurement is the acquisition of goods, services or works from an outside external source. It is favorable that the goods, services or works are appropriate and that they are procured at the best possible cost to meet the needs of the purchaser in terms of quality and quantity, time, and location

Fraud is a deception deliberately practiced in order to secure unfair or unlawful gain

"Fraudulent practice" or "fraud" means a misrepresentation of facts in order to influence a procurement or selection process or the execution of a contract to the detriment of a person(s), and includes collusive practices among bidders or consultants (prior to the submission of bids or proposals) designed to establish prices at artificial, non-competitive levels and to deprive other parties, including the organization of the benefits of free and open competition.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

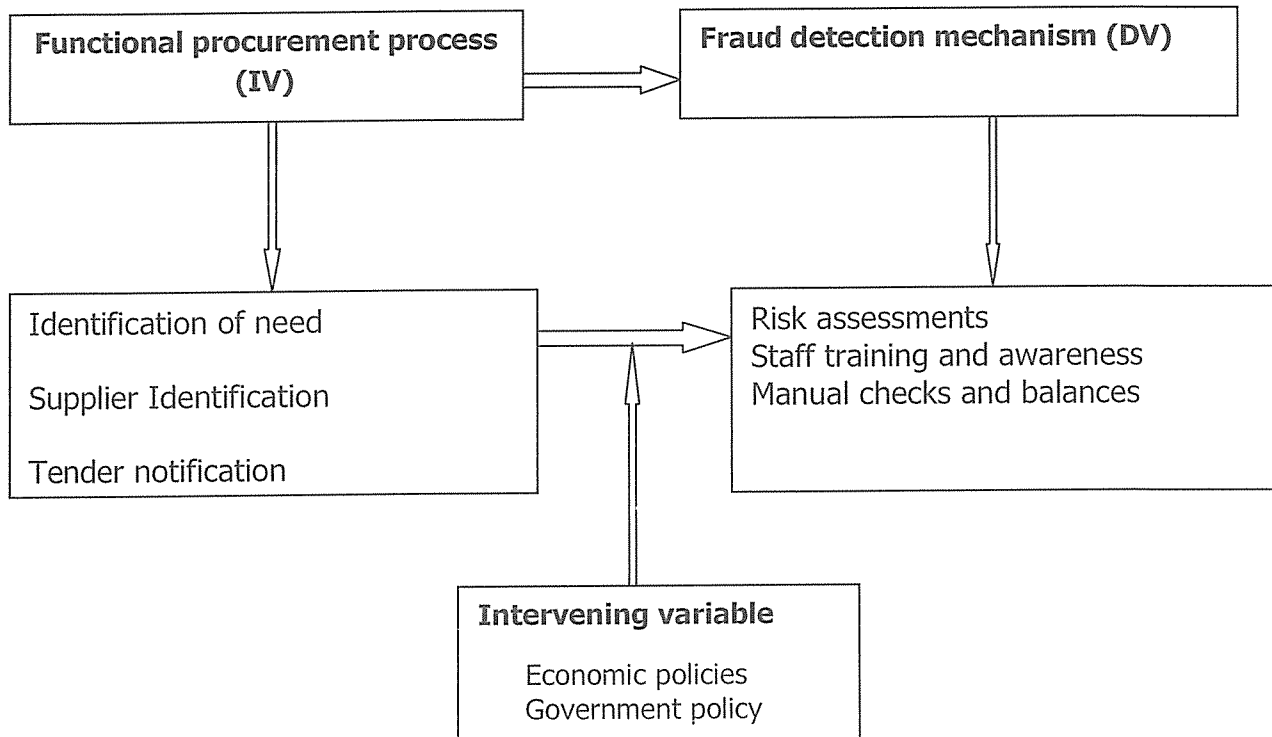
This chapter presented the theoretical review, conceptual review and reviews of some of the works of different researchers on the relationship between the study variables.

2.1 Theoretical Framework

The economic organization theory developed by Milgrom (1992) states that through transactions, individuals and organizations plan and implement activities, and agree the terms on which resources will be exchanged. Contracts are the mechanism through which agreements between individuals and organizations are coordinated. Contracts can be far broader than formal legal agreements in the corporate world. They can be informal, verbal, not enforceable or even verifiable by a third party. They do, however, specify each party's actions and rewards for a range of circumstances or contingencies. Contracting is a continual process, with new agreements being reached as new contingencies arise. But why do they exist? A fundamental observation about the economic world is that people can produce more, and realize economic gains, if they specialize in activities to produce goods and services, transacting with one another to acquire inputs and also final products and services. Specialization leads to organizations. However, whereas these gains to specialization can be massive, they can only be realized if, first, people's actions and decisions are coordinated so that one person's contribution is compatible and consistent with another's, and second, people are motivated to make the appropriate contribution.

2.2 Conceptual frame work

A Conceptual framework showing the relationship between functional procurement process and fraud detection mechanism



A conceptual framework in figure 1 illustrates that functional procurement process influences the level of fraud detection mechanism. Functional procurement process was conceptualized in terms of identifying the need, supplier identification and tender notification. Fraud detection mechanism was conceptualized in terms of risk assessments, staff training and awareness and manual checks and balances. The conceptual framework still denotes that functional procurement process directly affects the level of Performance fraud detection mechanism. However the relationship can be modified by nature of economic climate and government policy.

Procurement

Procurement is the acquisition of goods, services or works from an outside external source. It is favorable that the goods, services or works are appropriate and that they are procured at the best possible cost to meet the needs of the purchaser in terms of quality and quantity, time, and location. Corporations and public bodies often define processes intended to promote fair and open competition for their business while minimizing exposure to fraud and collusion (Smith, 2000).

According to Nair (2001), procurement procedures refer to organizational policies aimed at ensuring efficiency and proper controls on the purchasing function. Francoise (2003) adds that, every organization that purchases goods, services or works has standard procurement procedures and the methods they use to acquire those things. These procedures cover all aspects of the procurement cycle, including procurement planning, the selection of the supplier, contract negotiations, order placement and payment. In the ministry of public service the user department prepares a multi annual rolling work plan for procurement based on the approved budget which is normally submitted to the procurement and disposal unit to facilitate orderly execution of annual procurement activities.

Identification of need

The first step in the procurement process is to identify and fully define the need in relation to the activity. This is an internal step for a company that involves understanding of the company needs by establishing a short term strategy (three to five years) followed by defining the technical direction and requirements. Poor identification of needs may lead to assets being procured that do not fully meet the need of the agency, potentially incurring wasted time, effort and cost or inefficiencies and sub-optimal assets being procured. Having fully defined the requirements, all options for satisfying that need are carefully evaluated, and where the preferred solution is to procure goods or services or construct an asset (Trybus, 2003).

Supplier Identification

There are several ways of identifying potential suppliers to obtain competitive bids from the required goods and services. The amount of effort [market research] spent on identifying potential suppliers will depend on the estimated value of what is required: Lower value; local knowledge, previous suppliers, colleagues, trade magazines, yellow pages, visits from representatives, or peer group networks etc. Higher value but below EU Thresholds-as for lower value but also within your institution there may be a requirement to advertise the requirement in the local press; on the institution's web site; or on the sector's tender web site. Value above the EU thresholds; the requirement must be advertised in the Official Journal of the European Union (OJEU). It may also be advertised in the local press; on the institution's web site; on the sector's tender web site; however these advertisements must not be published before the advertisement has been dispatched to the OJEU and must not contain any additional information than that contained in the OJEU advertisement. Where there is a need to prepare a short list of suppliers from a longer list, this must be completed in a fair and transparent manner. Within the EU legislation there are specific selection criteria that a supplier must meet if it is to be considered. Note, as the spirit of the legislation should be followed regardless of the value of the proposed procurement, these criteria should be applied regardless of the value of the tender/quotation exercise (Linarelli, 2003).

Tender notification

A tender notification is normally an online delivery service in the form of an e-mail, which displays tendering opportunities. These opportunities are more than often open tenders, which allow any potential supplier to register interest in a tender opportunity. This could almost be included in some tender processes as an additional step as many open tenders are now found and applied for via this method. Many procurement systems are now incorporating the tendering data into packages to make the information more accessible for suppliers interested in various tenders. Direct; these are normally opportunities that are sent direct from the system they were created on. For

example if a government institution used a certain brand of tendering software, then this brand would also offer a tender service to notify the user of tenders on that specific system. Repacks; normally where feeds from multiple sources are combined, collated and then sent out. The aim is obvious here, to give the supplier as many opportunities as possible on a daily basis. However due to the information often being second or third hand, some data can be lost in the process, or may become inaccurate as it is passed down the line (Janet, 1991).

Fraud detection

Fraud detection is the identification of actual or potential fraud within an organisation. It relies upon the implementation of appropriate systems and processes to spot the early warning signs of fraud. Fraud, by definition, entails intentional misconduct, designed to evade detection. As such, the fraud risk assessment should anticipate the behavior of a potential fraud perpetrator. Fraud detection usually includes a combination of the following techniques (Carroll, 1999).

Risk assessments

All businesses are vulnerable to fraud. However, the fraud risk varies according to the nature and size of the business and the sector in which it operates. Build a profile of potential frauds that your organisation may be vulnerable to and identify where they might occur. Be aware of new and emerging fraud threats affecting your industry or sector and think about how these might be prevented or detected within your organization. A fraud risk assessment should be performed periodically to identify potential schemes and events that need to be mitigated. This provides guidance for conducting a fraud risk assessment; however, agencies will need to make modifications to meet their individual needs and complexities. An effective fraud risk management assessment should identify where fraud may occur and who the perpetrators might be. Therefore, control activities should always consider both the fraud scheme and the individuals within and outside the organization who could be the perpetrators of each scheme. If the scheme is collusive, preventive controls should be augmented by

detective controls, as collusion negates the control effectiveness of segregation of duties (Hunja, 2003).

Staff training and awareness

Educate management and staff about fraud and how to identify the warning signs of common frauds and scams. Include fraud awareness training as part of your induction programme for new joiners, in periodic management briefings and through ongoing staff training sessions. Ensure staff is aware of the procedure to follow in the event of a fraud being discovered or suspected, including how to report it. Fraud awareness training is one of the main tenets of a fraud strategy. Educating staff in respect of what to look for and how fraud happens empowers them to take the necessary action to mitigate the risk of it occurring or, when it does occur, address it in the correct way. It is therefore important that every staff member (management and non-management) have a general awareness of fraud and corruption and how he or she should respond if this type of activity is detected or suspected. Organisations should regularly communicate to staff a clear definition of the types of behaviour that constitute fraud or corruption, the fraud detection measures that are in place and an unequivocal statement that fraud and corruption within the organisation will not be tolerated. The primary purpose of fraud training is to assist in the prevention and control of fraud by raising the general level of awareness amongst all employees. A significant proportion of fraud and corruption is not identified at an early stage because of the inability of the organisation's staff to recognise the warning signs, because they are unsure how to report their suspicions or they have a lack of confidence in the integrity of the reporting system or the investigation process (Arehin, 1999).

Manual checks and balances

One should not rely solely on automated processes to detect fraud, one should introduce regular and ad hoc manual checks, such as pre-employment screening of prospective staff, staff rotation and compulsory vacation periods in high-risk areas, spot

audits of stock, sales and purchase ledgers, reviews of profit and loss accounts, independent checks and analysis of operational and transactional information, management reviews of procedures and policies and comprehensive and resilient controls over key processes. The financial impact of workplace fraud can be significant and can occur in the form of direct, indirect, and/or intangible costs. In addition to direct losses of tangible assets, such as cash, inventory, and securities, loss of competitive advantage, reduced ability to meet customer needs, reputation impairment, and disruption of business operations are some of the potential indirect and/or intangible costs to a business (Melissa, 1991).

Mullins (2003) in his study on procurement, he asserts that the contribution of procurement planning in facilitating an efficient and effective fraud detection in public sector organizations is generally undisputed in both developed and developing countries. Its contribution can be at both central and local government levels of public sector management. His findings revealed a significant positive relationship between procurement planning and service delivery in local government procurement. These results are compared to international research findings, and suggestions are offered for management, policy making, and future research. Procurement Policy Manual (2009), procurement planning drives different expected results which are different from business as usual such as: reduction in the number of overall contract awards, understanding and managing total cost of ownership, more purchasing options (lease vs. buy) , data-driven decision making, improved risk mitigation prior to award, more identification of opportunities where suppliers can add value, improved relationships with suppliers which reduces fraud an organization.

Mawhood (1983) further adds that effective procurement planning is an important route towards securing the right service to be delivered to the public, and also maximizing the level of risk assessment which can be achieved within the local staff. A procurement process plan helps Procuring entities to achieve maximum value for expenditures on services to be delivered and enables the entities to identify and address all relevant

issues pertaining to a particular procurement before they publicize their procurement notices to potential suppliers of goods, works and services.

2.3 Related studies

Ernest & Young (2010), found out that mining and metals companies need to demonstrate that they are making a valuable economic and social contribution to the countries in which they are operating. When the local community sees the distribution of wealth as unjust, they are likely to protest, causing damage to reputation and potential loss of social license to operate.

In Ernst & Young's 11th Global Fraud Survey, 76% of respondents were concerned about personal liability for actions carried out by the company. However, many who oversee corporate governance do not seem to be operating in a way that would increase their own protection. Half of the Chief Financial Officers (CFOs) interviewed as part of the survey said that the Board needs to have a better understanding of the enterprise-wide exposure to be an effective safeguard against fraud and corruption. Worryingly, it appears that the Board is doing little to educate itself. Only 28% of our CFOs had been asked for a fraud risk assessment and 40% for a review of anti-fraud, bribery and corruption internal controls.

Lewis (1971) noted that the management of conflicts of interest begins with disclosure. A conflict of interest should not be mislabeled as lack of personal integrity. Conflict of interest occurs when one's private interest interferes or appears to interfere in any way with the interest of the organization. Sliglitz (2003) argued that there is no conflict of interest because, based on Adam Smith's view, the individuals when pursuing their own self-interest are actually pursuing the general interest of society.

Basheka (2008) explains that needs identification is when user departments realize a need and draw the descriptions of that item for procurement. During this stage there is description of a service to be provided. Giving a good description of the item should be the objective of needs identification exercise with particular emphasis being put on the entire objective attribution of the item that you intend to procure for

example attributes of shape, usage, size, purpose capacity and functions should form the basis of your item description (Bialy, 1998)

Carol Francoise (2003) found out that every organization that purchases goods, services or works has standard procurement procedures and the methods they use to acquire those things. These procedures cover all aspects of the procurement cycle, including procurement planning, the selection of the supplier, contract negotiations, order placement and payment. In the ministry of public service the user department prepares a multi annual rolling work plan for procurement based on the approved budget which is normally submitted to the procurement and disposal unit to facilitate orderly execution of annual procurement activities.

2.4 Research Gaps

The literature review above has addressed important information about tender notification and risk assessment, staff training and awareness plus supplier identification, but it did not talk about how functional procurement process affects fraud detection, hence there is still need to carry out more research related to functional procurement integration and fraud detection mechanisms in mining companies in Congo.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter comprised of the research design, research population and sample size, sampling procedure, research instrument, validity and reliability of the instrument, data gathering procedures, data analysis, ethical consideration and limitations to the study.

3.1 Research Design

This study employed the descriptive survey design, descriptive studies are non-experimental researches that describe the characteristics of a particular individual, or of a group. It deals with the relationship between variables, testing of hypothesis and development of generalizations and use of theories that have universal validity. The use of above designs is because they are suitable and appropriate to describe and analyze the relationship between the study variables.

3.2 Research Population

The study was conducted in Twangiza Mining Company in DRC. For purposes of this study, the population was stratified into two strata and; the strata that belong to mining companies were selected to inform the study there by leaving out those who are not in mining companies, and the total population used in this study was 200.

3.3 Sample Size

In view of the nature of the target population where the number for both employees and administrators are many, a sample was taken from each category. The Sloven's formula was used to determine the minimum sample size.

Table 1: Respondents of the Study

Category of respondents	Total Population(N)	Sample Size
Workers	150	99
Administrators	50	33
Total	200	133

$$N = \frac{n}{1 + n(e)^2}$$

Where:

n = sample size

N = total population

e = level of confidence, 0.05

Using random sampling, a target population of 200 respondents will be taken.

n will be =113 and e=0.05

Thus

$$n = \frac{N}{1 + N (\alpha)^2}$$

$$n = \frac{200}{1 + 200 (0.05)^2} \quad n=133$$

3.4 Sampling Procedures

The purposive sampling was utilized to select the respondents based on these criteria:

Stratified sampling was employed first to identify the workers employed in Twangiza gold mining companies. Thereafter, random sampling was conducted to select departments where the responses used to work. Following selection of the sub counties, sampling frame of respondents within each department was obtained a random sampling was employed to select these respondents. In the same vein, from the mining company randomly selected, a sampling frame from membership registers was used. From the list of qualified respondents chosen based on the inclusion criteria, the systematic random sampling was used to finally select the respondents with consideration to the computed minimum sample size.

3.5 Research Instruments

The research tools that were utilized in this study include the following: face sheet to gather data on the respondents' demographic characteristics (gender, age, qualifications, number of years' experience,); researcher devised questionnaires to determine the levels of resource availability and utilization. The response modes and scoring system are as follows: for resource availability in terms of physical and human resources - very many; enough; few; not available; for capital/ financial resources - always available; sometimes available; seldom; not available. The response modes of the questionnaire on resource utilization are indicated as: strongly agree; agree; disagree; strongly disagree. The scoring system of this instrument is as follows: strongly agree (4); agree (3); disagree (2); strongly disagree (1).

Validity

Content validity was ensured by subjecting the researcher devised questionnaires on resource availability and utilization to judgment by the content experts (who estimated the validity on the basis of their experiences). To make sure that the questionnaire measured what was intended to measure, to ensure the clarity of questions, their effectiveness and the time required to complete the questionnaire, the researcher

assessed its content validity and reliability. To test the content validity, the researcher used a panel of ten experienced researchers in the domain in Uganda to assess their suitability and relevancy of the research objectives of the study and research questions. They were asked to assess the validity of the questions in the questionnaire by ranking them from 1 to 4 against objectives of the study and the research questions. 1-represented strongly disagree, 2-Disagree, 3-Agree, and 4 for strongly agree. From there, a Content Validity Ratio (CVR) and Content Validity Index (CVI) were calculated. CVR was calculated by subtracting the total number of items judged to strongly disagree (1), and disagree (2) from the total number of items judged to strongly agree (4) and agree (3), thereby dividing them to a half of people asked to judge the questionnaire. This CVI was accepted because normally it should be greater than 0.5, which means that the questionnaire could be administered. For the purpose of this study, using this formula, the CVI calculated was 0.85.

Reliability

The test-retest technique was used to determine the reliability (accuracy) of the researcher devised instruments to ten qualified respondents, five from mining company centre. The respondents were not included in the actual study. The test-retest method was used in order to test the reliability of the questionnaire; here the researcher pre-tested the questionnaire on a few teachers before administering it to the sample size. The researcher gave the questionnaire to a few respondents (10 workers) to answer it, after a period of two weeks; the researcher gave the same questionnaire to the same group (10 workers) to answer it again. Responses from the first time (test) were compared to responses of the second test (re-test), and used the t-test results indicated a significant difference which is supposed to be less than or equal to 0.05, the test-retest results were 0.03 and that is why the research instrument was declared reliable (Amin, 2005).

3.6 Data Gathering Procedures

Before the administration of the questionnaires

1. An introduction letter was obtained from the CHDR for the researcher to solicit approval to conduct the study from the mining company.
2. When approved, the researcher secured a list of the qualified respondents from the human resource department in charge and selected through systematic random sampling from this list to arrive at the minimum sample size.
3. The respondents were briefed about the study and were requested to sign the Informed Consent Form
4. Reproduce more than enough questionnaires for distribution was done.
5. The researcher selected research assistants who assisted in the data collection; brief and orient them in order to be consistent in administering the questionnaires.

During the administration of the questionnaires

1. The respondents were requested to answer completely and not to leave any part of the questionnaires unanswered.
2. The researcher and assistants emphasized retrieval of the questionnaires within five days from the date of distribution.
3. On retrieval, all returned questionnaires were checked if all are answered.

After the administration of the questionnaires

The data gathered was collated, encoded into the computer and statistically treated using the Statistical Package for Social Sciences (SPSS) and Micro Soft Excel.

3.7 Data Analysis

The frequency counts and percentage distribution were used to determine the demographic characteristics of the respondents.

The mean and standard deviations were applied for the extent of functional procurement process and fraud detection mechanisms. An item analysis illustrated the strengths and weaknesses based on the indicators in terms of mean and rank. From these strengths and weaknesses, the recommendations were derived.

The following numerical values and response modes were used to interpret the means on functional procurement process;

Mean range	Response range	Interpretation
3.26 - 4.00	strongly agree	Very satisfactory
2.51 - 3.25	Agree	Satisfactory
1.76 - 2.50	Disagree	Unsatisfactory
1.00 - 1.75	Strongly disagree	Very unsatisfactory

The following numerical values and response modes were used to interpret the means on fraud detection;

Mean range	Response range	Interpretation
3.26 - 4.00	strongly agree	Very high
2.51 - 3.25	Agree	High
1.76 - 2.50	Disagree	Low
1.00 - 1.75	Strongly disagree	Very low

3.8 Ethical Consideration

To ensure confidentiality of the information provided by the respondents and to ascertain the practice of ethics in this study, the following activities were implemented by the researcher:

1. Seek permission to adopt the standardized questionnaire on school effectiveness through a written communication to the author.
2. The respondents were coded instead of reflecting the names.

3. Solicit permission through a written request to the concerned officials included in the study.
4. Request the respondents to sign in the Informed Consent Form
5. Acknowledge the authors quoted in this study and the author of the standardized instrument through citations and referencing.
6. Present the findings in a generalized manner

3.9 Limitations of the study

The following are some of the problems that the researcher faced during the study.

First are far most the time given to carry out this research in short, given the fact that the financial institutions on the successes of functional procurement process integration and fraud detection mechanism in mining company is not readily available in Democratic Republic of the Congo so the researcher has to visit different libraries, makes references from newspapers and the high costs in printing & surfing.

Some respondents are busy, mobile and were not easily found implying that their responses, opinions and attitudes were not obtained. However, the findings under this study were assumed not to be biased because the respondents were scientifically selected.

The use of research assistants can bring about inconsistency in the administration of the questionnaires in terms of time of administration, understanding of the items in the questionnaires and explanations given to the respondents. To minimize this threat, the research assistants were oriented and briefed on the procedures to be done in data collection.

This study being a case study was supposed to be carried out on the entire country but because of limited resources and time, the study covered only few mining institutions. Although few mining institutions will be used out of all the mining institutions in the district they scientifically selected to minimize the errors and as such the results were derived from the mining institutions, were reliable. Besides, mining

institutions used in this study would be have existed for a long time, be stable, have reasonable capital base. Hence the findings from the study will be assumed to be representative of the whole situation in the country.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.0 Introduction

This chapter shows the profile information of respondents, the extent of functional procurement process, level of fraud detection mechanisms and the significant relationship between the extent of functional procurement process and fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

4.1 Profile of respondents

Respondents were asked to provide information regarding their gender, age, education level and number of years spent in the business, their responses were summarized using frequencies and percentage distributions as indicated in table1 below;

Table 1
Profile of Respondents

Category	Frequency	Percent
Gender		
Male	91	68.4
Female	42	31.6
Total	133	100
Age		
below 19 years	16	12.0
20-30 years	36	27.1
31-40 years	53	39.8
41-50 years	28	21.1
Total	133	100
Educational qualification		
Certificate	1	.8
Diploma	81	60.9
Bachelors degree	41	30.8
Masters's degree	10	7.5
Total	133	100
Number of years spent in the business		
Below 1 year	18	13.5
2-5 years	40	30.1
6-9 years	45	33.8
10 years and above	30	22.6
Total	133	100

Source: Primary data, 2014

Table 1 revealed majority of the respondents in this sample were male (68.4%) as compared to 42 (31.6%) who were female, hence observing that majority of workers in Twangiza Gold Mining Company, are mainly men.

Concerning age, results in table 1 indicated that majority of respondents in this sample ranged between 31-40 years of age, this also implied that majority of respondents in this sample were in their middle adulthood and constituted 39.8%, these were followed

by those between 20-30 years of age constituting 27.1%, hence indicating that these were in their early adulthood.

With respect to education qualification; the study further showed that diploma holders (60.9%) dominated the study, bachelors degree (30.8%) and these were followed by Masters's degree holders (7.5%), hence observing that majority of workers in Twangiza Gold Mining Company are relatively qualified in academics.

Concerning number of years spent in the business, results in table 1 indicated that majority of workers in this sample have an experience of 6-9 years (33.8%), these were followed by those between 2-5 years (30.1%), hence implying that the workers in this sample are highly experienced in different fields of work.

4.2 Extent of functional procurement process

The independent variable in this study was functional procurement process, this variable (IV) was broken into three constructs and these are; identification of need (with four items/questions), supply identification (with four questions) and Tender notification (with four questions). Each of these questions was based on a four point Likert scale where workers were asked to rate the extent of procurement process and level of fraud detection by indicating the extent to which they agree or disagree with each question, and their responses were analyzed using SPSS and summarized using means and ranks as indicated in tables 2;

Table 2

Extent of functional procurement process

Items on Functional procurement process	Mean	Interpretation	Rank
Identification of need			
There is a strategy adopted in identifying the needs	3.41	Very Satisfactory	1
Always the technical direction during the procurement process are defined	2.93	Satisfactory	2
You always define the need during your procurement process	2.87	Satisfactory	3
To always start in identifying the need in relation the activity	2.41	Unsatisfactory	4
Average mean	2.91	Satisfactory	
Supply identification			
You always read trade magazines in order to identify potential suppliers	3.34	Very Satisfactory	1
Peer group network always help you in identifying potential suppliers	3.27	Very Satisfactory	2
You always consider suppliers with local knowledge to supply you with products	2.77	Satisfactory	3
You always choose high-value suppliers to supply you products	2.33	Satisfactory	4
Average mean	2.93	Satisfactory	
Tender notification			
You always allow potential supplier to register their interests in different tender opportunities	3.31	Very satisfactory	1
Your company always provides open tenders to the willing suppliers	3.21	Very satisfactory	2
The tendering data of your company is always accessible for the suppliers who are willing to take such a tender	2.60	Satisfactory	3
You always display tendering opportunities using an email	2.28	Unsatisfactory	4
Average mean	2.85	Satisfactory	
Overall mean	2.90	Satisfactory	

Source: Primary Data, 2014

Mean range	Response range	Interpretation
3.26 - 4.00	strongly agree	Very satisfactory
2.51 - 3.25	agree	Satisfactory
1.76 - 2.50	disagree	Unsatisfactory
1.00 - 1.75	strongly disagree	Very unsatisfactory

Results in table 2 denoted that the extent of functional procurement process in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo is generally satisfactory and this was indicated by the overall mean of 2.90, implying that the functional procurement processes are favorable in that the goods, services or works are appropriately procured in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

For identification of need; results indicated that the identification of need was rated as satisfactory and this was indicated by the average mean (mean=2.91), implying that the procurement officer in Twangiza Gold Mining Company always first understand the company needs by establishing a short term strategy.

With respect to supply identification; results in table 2 indicated that four items were used to measure this construct and it was also rated satisfactory on average and this was indicated by the average mean of 2.93, implying that the procurement officers in Twangiza Gold Mining Company always read trade magazines in order to identify potential suppliers.

For tender notification; results in table two connoted that Tender notification as the last construct on functional procurement process was also measured using four items (questions) and it was rated satisfactory on average (mean=2.85), implying that majority of potential suppliers are allowed to register their interests in different tender opportunities.

4.3 Level of fraud detection

Fraud detection is the dependent variable in this study and was broken into three constructs and these are; risk assessment (with four questions), staff training and awareness (with four items) and manual checks and balances (with four questions). Each of these questions was based on a four point Likert scale and respondents were asked to rate the extent to which fraud is detected using different mechanisms by indicating the extent to which they agree or disagree with each question, their responses were analyzed using SPSS and summarized using means as indicated in tables 3;



Table 3

Level of fraud detection mechanisms

Items on fraud detection	Mean	Interpretation	Rank
Risk assessment			
Our fraud control activities always consider both the fraud scheme and the individual within and outside the organization	3.72	Very high	1
Our fraud risk assessment always identify where fraud may occur and who the perpetrators might be	2.79	High	2
You always perform fraud risk assessment periodically	2.56	High	3
You always prepare and get aware of new and emerging fraud threats which might affect your business	2.31	Low	4
Average mean	2.85	High	
Staff training and awareness			
Our company has carried out periodic management briefing on fraud through ongoing staff training sessions	3.47	Very high	1
Our company always makes sure that either awareness of fraud and corruption and how he or she should respond if fraud and corruption are detected	3.29	Very high	2
Our company has carried out different fraud awareness trainings as part of the induction program for the new joiners.	2.62	High	3
Our company always educates staff about fraud at free costs	2.59	High	4
Average mean	2.99	High	
Annual checks and balances			
Independent checks and analysis operational and transactional information has helped you detect fraud and corruption in this company	2.98	High	1
You always carryout staff rotation and compulsory vacation periods in high-risk areas as a way of detecting fraud	2.74	High	2
You always rely on only manual processes to detect fraud	2.60	High	3
You always carryout pre-employment screening of prospective staff	2.15	Low	4
Average mean	2.62	High	
Overall mean	2.82	High	

Source: Primary Data, 2014

4.4 Significant relationship between the extent of Functional procurement process and level of fraud detection mechanisms

The last objective in this study was to establish whether there is a significant relationship between the extent of functional procurement process and level of fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo. The researcher stated a null hypothesis that there is a significant relationship between the extent of functional procurement process and level of fraud detection mechanisms in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo. Therefore to achieve this objective and to test this null hypothesis, the researcher correlated the means on both variables by using the Pearson's Linear Correlation Coefficient as indicated in table 4;

Table 4

**Significant relationship between Functional procurement process
and fraud detection mechanisms**

Variables correlated	r- value	Sig	Interpretation	Decision on Ho
Functional procurement process Vs Fraud detection	387	.000	Significant correlation	Rejected

Source: Primary Data, 2014

Results in table 4 indicated a positive significant relationship between the extent of functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo, since the sig. value (0.000) was less than 0.05 which is the maximum level of significance required to declare a significant relationship in social sciences. This implies that better functional procurement processes increase the level of fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo, and poor functional procurement processes reduce it, here the stated null hypothesis was rejected basing on these results and hence concluding that improvement in functional procurement

processes increases the level of fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

4.5 Regression Analysis

Table 5

Regression Analysis between Fraud detection (DV) and Functional procurement process (IV)

Variables regressed	Adjusted r²	F- value	Sig.	Interpretation	Decision on H₀
Fraud detection VS Functional procurement process	.534	25.812	.000	Significant effect	Rejected
Coefficients	Beta	t-value	Sig		
(Constant)	2.146	4.034	.000	Significant effect	
Identifying of need	.522	6.289	.000	Significant effect	
Supplier identification	.483	4.651	.000	Significant effect	
Tender notification	.638	6.484	.003	Significant effect	

Source: Primary Data, 2014

Regression analysis results in table 5 above revealed that functional procurement process accounted for 53.4% on fraud detection and this was indicated by adjusted r squared of 0.534 leading to a conclusion that functional procurement process significantly affect the level of fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo. The coefficients table indicated that of all the aspects of functional procurement process, tender notification accounted for the biggest influence on fraud detection ($\beta=0.638$, Sig=0. 000).

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presented the findings, conclusions, recommendations and suggested areas that need further research following the study objectives and study hypothesis.

5.1 Discussions

This study was set to find out the relationship between extent of functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo, three specific objectives guided this study and these were i) determining the extent of functional procurement process; ii) level of fraud detection and (iii) the relationship between functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo. The findings of the study indicated that majority of respondents in this sample ranged between 31-40 years and these were male (68.4%) and had only attained diploma as their highest academic qualification (60.9%) and had an experience of 6-9 years (33.8%).

Data analysis using means indicated that the extent of functional procurement process in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo was rated satisfactory on average (overall mean= 2.90), implying that the functional procurement processes are favourable in that the goods, services or works are appropriately procured in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo. This finding is also in line with Smith (2000) who noted that corporations and public bodies often define processes intended to promote fair and open competition for their business while minimizing exposure to fraud and collusion (Smith, 2000).

Identification of need was rated high on average (mean=2.91), implying that the procurement officers in Twangiza Gold Mining Company always first understand the company needs by establishing a short term strategy, this is also in line with Trybus (2003) who noted that the first step in the procurement process is to identify and fully define the need in relation to the activity, she also added that this is an internal step for a company that involves understanding of the company needs by establishing a short term strategy (three to five years) followed by defining the technical direction and requirements. Poor identification of needs may lead to assets being procured that do not fully meet the need of the agency, potentially incurring wasted time, effort and cost or inefficiencies and sub-optimal assets being procured (Trybus, 2003).

The extent of supply identification; this construct was measured using four items (questions) and results indicated that it was rated satisfactory on average (mean=2.93), hence confirming that the procurement officers in Twangiza Gold Mining Company always read trade magazines in order to identify potential suppliers, this also agrees with Linarelli (2003) who noted that the amount of effort [market research] spent on identifying potential suppliers will depend on the estimated value of what is required: Lower value; local knowledge, previous suppliers, colleagues, trade magazines, yellow pages, visits from representatives, or peer group networks etc. It may also be advertised in the local press; on the institution's web site; on the sector's tender web site; however these advertisements must not be published before the advertisement has been dispatched (Linarelli, 2003).

Concerning tender notification; results in table two indicated that tender notification as the last construct on functional procurement process was measured using four items and it was rated satisfactory on average (mean=2.85), implying that majority of potential suppliers are allowed to register their interests in different tender opportunities, this is also in agreement with Janet (1991) who noted that a tender notification is normally an online delivery service in the form of an e-mail, which displays tendering opportunities. These opportunities are more than often open tenders,

which allow any potential supplier to register interest in a tender opportunity. This could almost be included in some tender processes as an additional step as many open tenders are now found and applied for via this method (Janet, 1991).

The level of fraud detection mechanisms is generally high and this was indicated by the overall mean of 2.85, hence implying that there are appropriate systems and processes implemented to spot the early warning signs of fraud in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo, this is in line with Carroll (1999) who noted that functional procurement process relies upon the implementation of appropriate systems and processes to spot the early warning signs of fraud (Carroll, 1999).

The level of risk assessment was measured using four items/ questions and it was rated high on average (mean=2.85), hence implying that the fraud control activities carried out in Twangiza Gold Mining Company always consider both the fraud scheme and the individual within and outside the organization and this helps them detect fraud as early as possible, this is also in line with Hunja (2003) who noted that any fraud risk assessment should be performed periodically to identify potential schemes and events that need to be mitigated. Hunja (2003) also added that an effective fraud risk management assessment should identify where fraud may occur and who the perpetrators might be. Therefore, control activities should always consider both the fraud scheme and the individuals within and outside the organization who could be the perpetrators of each scheme. If the scheme is collusive, preventive controls should be augmented by detective controls, as collusion negates the control effectiveness of segregation of duties (Hunja, 2003).

The level of staff training and awareness was rated high on average and this was indicated by the average mean of 2.99, hence implying that Twangiza Gold Mining Company has always carried out periodic management briefing on fraud through ongoing staff training sessions, this finding is also in line with Arehin (1999) who noted that educating staff in respect of what to look for and how fraud happens empowers

them to take the necessary action to mitigate the risk of it occurring or, when it does occur, address it in the correct way. It is therefore important that every staff member (management and non-management) have a general awareness of fraud and corruption and how he or she should respond if this type of activity is detected or suspected (Arehin, 1999).

The level of manual checks and balances was found to be high on average (mean=2.62), hence implying that Twangiza Gold Mining Company carries out independent checks and analysis of operational and transactional information which has helped them to detect fraud and corruption in this company, this finding is in line with Melissa (1991) who argued that one shouldn't rely solely on automated processes to detect fraud, one should introduce regular and ad hoc manual checks, such as pre-employment screening of prospective staff, staff rotation and compulsory vacation periods in high-risk areas, spot audits of stock, sales and purchase ledgers, reviews of profit and loss accounts, independent checks and analysis of operational and transactional information, management reviews of procedures and policies and comprehensive and resilient controls over key processes (Melissa, 1991).

The findings also indicated a positive and significant relationship between the extent of functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo ($r = .389$ & $\text{Sig} = 0.000$ respectively), this is because the significant value was less than 0.05, which is the maximum level of significance required to declare a relationship significant. Findings from regression analysis revealed that functional procurement process accounted for 53.4% on fraud detection and this was indicated by adjusted r squared of 0.534 leading to a conclusion that functional procurement process significantly affects the level of fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

5.2 Conclusions

From the findings of the study, the researcher concluded that majority of respondents in this sample ranged between 31-40 years and these were male (68.4%) and had only attained diploma as their highest academic qualification (60.9%) and had an experience of 6-9 years (33.8%).

The extent of functional procurement process in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo was rated satisfactory on average (mean= 2.90), hence concluding that functional procurement processes are favourable in that the goods, services or works are appropriately procured in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

The level of fraud detection mechanisms is generally high and this was indicated by the overall mean of 2.85, hence concluding that there are appropriate systems and processes implemented to spot the early warning signs of fraud in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

There is a positive and significant relationship between the extent of functional procurement process and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo ($r = .389$ & $\text{Sig} = 0.000$ respectively), hence concluding that better functional procurement processes increase the level of fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo, and poor functional procurement processes reduce it. Functional procurement process significantly affects the level of fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo, still the researcher concluded that of all the aspects of functional procurement process, tender notification accounted for the biggest influence on fraud detection ($\beta = 0.638$, $\text{Sig} = 0.000$).

5.3 Recommendation

- 1) The procurement officers in Twangiza Gold Mining Company should always start with identifying the need in relation the activity, this will lead to flow of functional procurement process.
- 2) The researcher recommends to the procurement officers in Twangiza Gold Mining Company to make sure that the tendering data is always accessible for the suppliers who are willing to take such tenders.
- 3) The researcher recommends to procurement officers in Twangiza Gold Mining Company always to display tendering opportunities to potential suppliers using emails.
- 4) The researcher still recommends to the management of Twangiza Gold Mining Company to always prepare and get aware of new and emerging fraud threats which might affect their businesses.
- 5) The management of Twangiza Gold Mining Company should always carryout pre-employment screening of prospective staff in order to detect fraud and corruption.

5.4 Areas for further research

Prospective researchers and even students are encouraged to research on the following areas;

- 1) Tender notification and fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.
- 2) Functional procurement process and risk assessments in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.
- 3) Functional procurement process and Staff training on fraud detection in Twangiza Gold Mining Company, in South Kivu Province of Democratic Republic of Congo.

REFERENCES

- Arrow Smith, S.; Linarelli, J;& Wallace, D.jr. (2000). *Regulating Public Procurement: National and International Perspectives*. Kluwer Law International
- Arrowsmith,S. & Trybus, M (Eds.)(2003). *Public Procurement: The Continuing Revolution*. Kluwer international
- Bailey, P; Farmer, D; Jessop, D;& Jones, D.(1998). *Purchasing Principles and*
- Baucus, Melissa S. & Near, T. Janet P. 1991. "Can Illegal Corporate Behavior Be Predicted? An Event History Analysis." *Academy of Management Journal*. 34 (1), 9-36.
- Betz, Joseph (1998). "Business Ethics and Politics." *Business Ethics Quarterly*. 8 (4). 693-702.
- Brenner, Steven H. & Molander, Earl A. (January – February, 1977). "Is the ethics of business changing?" *Harvard Business Review*. 57-71.
- Business and Government," <http://www.csc.gov.ph/>
- Carroll, Arehin B., (Summer, 1978). "Linking Business Ethics to Behavior in Organizations" *SAM Advanced Management Journal*. 4-11.
- Civil Service Commission of Philippines; (May, 2000), "Enhancing Ethical Behavior in
- Ernest and Young; Fraud and corruption in mining and metals 2010
- Fraud & Corruption in Public Procurement – Comprehensive Review of the bank's Procurement Policy 2014
- Government of Uganda, (2003). *The Public Procurement and Disposal Regulations 2003*. Kampala, Uganda: Government of Uganda
- Hunja, R.R.(2003) .Obstacles to public procurement reform in developing countries. In *Management*, eight edition. Prentice Hall. Financial Times: Great Britain
- Shepard, R.J. (2002). Ethics in exercise science research. *Sports Med*, 32 (3): 169-183.

APPENDICES

APPENDIX I

RESEARCH INSTRUMENT

SECTION A: Profile of respondents

1 Age: (a) below 19 years, (b) 20-30 years, (c) 31-40 years, (d) 41-50 years, (e) 51 and above

2. Gender

_____ (1) Male

_____ (2) Female

3. Educational qualification

1) Certificate ()

2) Diploma ()

3) Bachelors degree ()

4) Master's degree ()

5) PhD ()

4. Number of years spent in the business

a) Below 1 year

b) 2-5 years

c) 6-9 years

d) 10 years and above

SECTION B: FUNCTIONAL PROCUREMENT PROCESS

Direction 1: Please write your rating on the space before each option which corresponds to your best choice in terms of **functional procurement process** in your Company. Kindly use the scoring system below:

Response Mode	Rating	Description	Legend
Strongly Agree	(4)	You agree with no doubt at all.	SA
Agree	(3)	You agree with some doubt	A
Disagree	(2)	You disagree with some doubt	D
Strongly disagree	(1)	You disagree with no doubt at all	SD

Identification of need

1. -----To always start in identifying the need in relation the activity
2. -----You always define the need during your procurement process
3. -----There is a strategy adopted in identifying the needs
4. ----- always the technical directions during the procurement process are defined.

Supplier identification

1. -----You always choose high-value suppliers to supply you products
2. -----You always consider suppliers in local knowledge
3. -----You always read trade magazines in order to identify potential suppliers.
4. -----Peer group network always help you in identifying potential suppliers

Tender notification

1. -----You always display tendering opportunities using an email
2. -----Your company always provide open tenders to the willing suppliers
3. -----The tendering data of your company is always accessible for the suppliers who are willing to take such a tender
4. -----You always allow potential supplier to register their interests in different tender opportunities.

SECTION C: FRAUD DETECTION

Direction 1: Please write your rating on the space before each option which corresponds to your best choice by using the rating system below:

Response Mode	Rating	Description	Legend
Strongly Agree	(4)	You agree with no doubt at all.	SA
Agree	(3)	You agree with some doubt	A
Disagree	(2)	You disagree with some doubt	D
Strongly disagree	(1)	You disagree with no doubt at all	SD

Risk assessment

1. -----You always prepare and get aware of new and emerging fraud threats which might affect your business
2. -----You always perform fraud risk assessment periodically
3. -----Your fraud risk assessment always identify where fraud may occur and who the perpetrators might be
4. -----Your fraud control activities always consider with the fraud scheme and the individual within and outside the organization.

Staff training and awareness

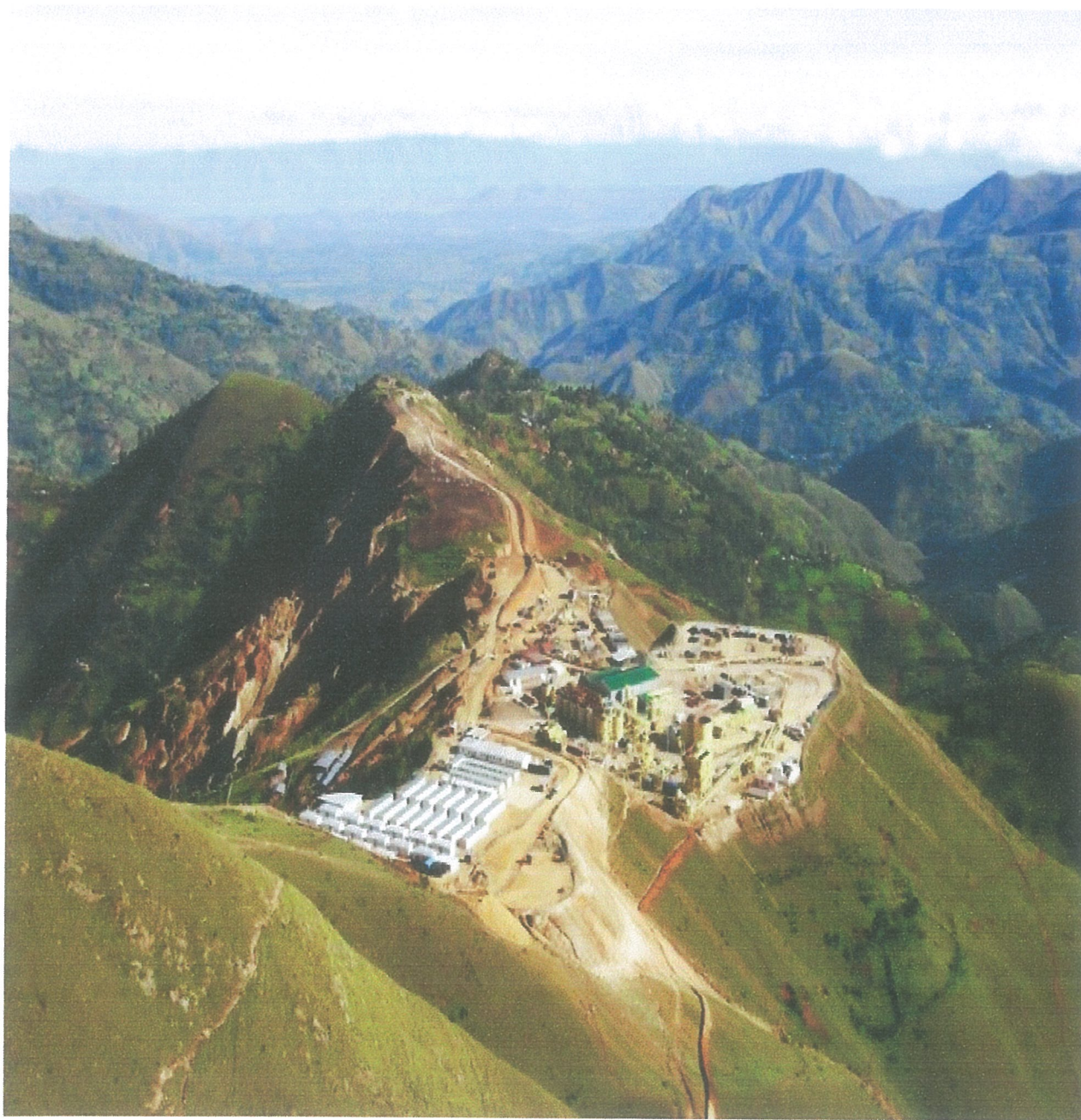
1. -----Your company always educates staff about fraud at free costs.
2. -----Your company has carried out different fraud awareness trainings as part of the induction program for the new joiners.
3. -----Your company has carried out periodic management briefing on fraud through ongoing staff training sessions
4. -----Your company always makes sure that either awareness of fraud and corruption and how he or she should respond if fraud and corruption are detected.

Manual checks and balancers

1. -----You always rely on only manual processes to detect fraud
2. -----You always carryout pre-employment screening of prospective staff.
3. -----You always carryout staff rotation and compulsory vacation periods in high-risk areas as a way of detecting fraud
4. -----Independent checks and analysis operational and transactional information has helped you detect fraud and corruption in this company

THANK YOU FOR YOUR COOPERATION

APPENDIX II: MAP OF TWANGIZA MINING COMPANY



APPENDIX III: TRANSIMMITAL LETTER



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COLLEGE OF HIGHER DEGREES AND RESEARCH

DEPARTMENT OF ECONOMICS, BUSSINESS AND MANAGEMENT (OPEN AND DISTANCE LEARNING)

April 15th, 2014

INTRODUCTION LETTER FOR ALAIN LUSAMBA MUYAYA REG.NO. MBA/40189/131/DF TO CONDUCT RESEARCH IN YOUR ORGANISATION

The above mentioned candidate is a bonafide student of Kampala international University pursuing a Master's of Business Administration (Supplies and Procurement).

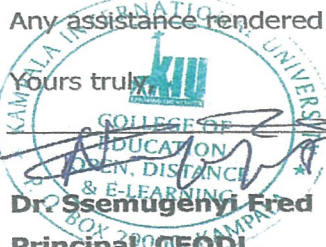
He is currently conducting a field research for his dissertation entitled "**Functional Procurement Process and Fraud Detection Mechanisms in Twangiza Gold Mining, Democratic Republic of Congo**".

Your organization has been identified as valuable source of information pertaining to his research project. The purpose of this letter then is to request you to avail him with pertinent information he may need.

Any information shared with him will be used for academic purposes only and shall be kept with utmost confidentiality.

Any assistance rendered to him will be highly appreciated.

Yours truly,



Dr. Ssemugenyi Fred
Principal, CEODL.

"Exploring Heights"

APPENDIX IV

CURRICULUM VITAE

Alain LUSAMBA MUYAYA

Supply Chain Management
CITS & Engineering Warehouses

United Nations Mission in South Sudan

Wau, Western Bar el Ghazal Tel: (+211)954027410 / (+256)7588308059 **E:**
alainlusamba@gmail.com / muyaya@un.org

Career Overview

Hard-working and responsible logistics professional with 8 years' experience managing successful warehouses and storerooms. Team oriented and safety conscious, I am keen to apply my organizational skills to a dynamic warehouse, logistics, distribution or inventory team.

Education and Training

Master of Business Administration (Supplies and Procurement Management)

Distance learning

Kampala International University, Kampala, Uganda
Student: January 2013- Jan 2015

Master's degree in project Management

Online

Fondation Universitaire Mercure, Brussels, Belgium
Graduated: January 2011

Certificate in Humanitarian Logistics

Face to face training

Institut Supérieur de Spécialisation du Congo

Auditoire de Bukavu

Bachelor's degree in Marketing

Face to face

Université du Cepromad, Bukavu, D R Congo

Graduated: October 2007

Certificate in 1-01 the Procurement Fundamentals

Online training

United Nations Procurement Training

IPSAS 12 & IPSAS 17 CERTIFICATES

Accounting for Inventories and Accounting for Property Plant and Equipment

Online Training

United Nations IPSAS Training

Key Skills and Characteristics

Used Substantial warehouse experience

Used a holistic approach to deal with all aspects of supply chain management of Communications and Information Technology Section(CITS) and resources, including but not limited to, planning; budgeting; acquisition; receipt; issuing; dispatching; tracking; reporting; and disposal.

Organizational and time management skills

Experienced managing inventory and coordination of orders and deliveries, with ability to prioritize conflicting demands.

Interpersonal skills.

Ability to create rapport quickly and maintain positive business relationships with clients and staff, demonstrating dedication to a high standard of customer service.

Technical Skills

Knowledge of various computer programs and technologies to intermediate level including Microsoft Word/Excel/Access, Galileo and Business Object.

Work Experience

October 2012 – Up to now
Supply Chain Assistant, CITS & Engineering Warehouses

United Nations Mission in South Sudan

Wau, Western Bar el Ghazal

Responsibilities:

- Coordinate incoming and outgoing stock, deliveries and logistics
- Maintained adherence to internal audit requirements.
- Assured the efficiency and profitability performance of the whole supply chain process.
- Monitor stock levels and carry out periodic stock takes and update bin card
- Supervise up to 12 staff members, including preparing weekly rosters and leading staff evaluations
- Interview prospective employees and train and mentor new floor staff members
- Dispatched goods via road and air to 3 states (Lakes State, Northern Bar el Ghazal and Warrap State)
- Liaise with major stakeholders both internally and external parties in Logistics process
- Complete paperwork for domestic movement and customs
- Record all stock movement and deliveries in database and prepare regular reports
- Manage warehouse costing, budgeting and forecasting
- Ensured effective returns of obsolete, faulty or error items
- Arranged a green disposal of specific items in most appropriate and efficient manner

Achievements:

Successful met the Key point indicators (KPIs) in implementation of UN IPSAS framework in terms of Property Plant & equipment and inventory, business processes and data information.

March 2009 – September 2012
Store Clerk, Engineering Warehouse

United Nations Stabilization Mission in D R Congo (MONUSCO)

Kavumu Airport, Bukavu.

Responsibilities:

Performed high-volume receiving, shipping and distribution by coordinating process and labour
 Ensured quality and quantity of received and shipped items and updated the bin card
 Controlled inventory levels and issued work orders into Galileo System
 Conducted quality monitoring and ensured that productivity targets are met constantly
 Produced periodical reports on work process and warehouse workers

Achievements:

All deliveries arrived on schedule
 Put in place processes to ensure stock integrity

August 2006 – March 2009**Store keeper, Engineering Warehouse****United Nations Mission in Congo (MONUC)****Responsibilities:**

Maintained cold room and shop floor stock levels to meet sales requirements
 Responsible for the accurate stock movement in/out of warehouse
 worked within Warehouse policies and objectives
 Packaging/labeling stock before being shipped out of warehouse
 Awareness of procedures regarding the storage of hazardous materials
 Accurately recorded information on company database to minimize stock waste
 Reported all anomalies to direct Supervisor and reported to Security.

KNOWLEDGE OF LANGUAGES. My mother tongue ***KISWAHILI***

	READ		WRITE		SPEAK		UNDERSTAND	
		Not		Not		Not		Not
Other languages	Easily	Easily	Easily	Easily	Easily	Easily	Easily	Easily
<i>French</i>	<i>X</i>		<i>X</i>		<i>X</i>		<i>X</i>	
<i>English</i>	<i>X</i>		<i>X</i>		<i>X</i>		<i>X</i>	
<i>Lingala</i>	<i>X</i>		<i>X</i>		<i>X</i>		<i>X</i>	

References

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