EFFECT OF FORENSIC ACCOUNTING PRACTICES ON DETERRENCE OF INCIDENCE OF FRAUD IN KENYA

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DECLARATION

This research project is my original work and has not been presented for a degree in any other University. No part of this thesis may be reproduced without the prior written permission of the author and/or Moi University.

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DEDICATION

This research is dedicated to my dear husband, Silas Menge, our son S.M.Junior and our daughter Zamira Milka.

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ABSTRACT

The question of deterrence of incidence of fraud is both important and sensitive since fraud causes organizations and individuals to incur massive investment losses and loss of resources which hurt the economy, suffer negative image and reputation and cause an erosion of confidence in capital markets among others. This study analyzes the effect of forensic accounting practices on deterrence of incidence of fraud in Kenya. It evaluates the effect of three objectives namely: fraud investigation, investigative accounting and litigation support on their significant effect in deterrence of incidence of fraud in Kenya. The study is guided by the theory of the fraud diamond and the new fraud triangle model using an explanatory research design. The study used a closed ended five – Likert scale questionnaire, to collect primary data from a purposive sample of 256 CPA (K) in the North Rift ICPAK branch where a survey of all 256 CPAs in North Rift was conducted. The study employed both descriptive and inferential statistics. Descriptive statistics used mean and standard deviation whereas inferential statistics analyzed data through correlation analysis and multiple regression analysis aided by SPSS version 23. Findings indicated that Investigative Accounting has a positive and significant effect on deterrence of incidence of fraud in Kenya ($\beta_2 = .295$; $p < 0.05$). Similarly, Litigation Support has a positive and significant effect on deterrence of incidence of in Kenya ($\beta_3 = .255$; $p < 0.05$). Findings confirmed that an increase in efforts of investigative accounting and litigation support practices are important in deterrence of incidence of fraud in Kenya. The researcher recommends that both government and private sector should employ forensic accounting practices by setting up units in their organizations, training of forensic accountants and establishing a regulatory body to oversee and protect their work. Additionally, the government should strengthen its legal system to give confidence for litigation support and institutions of higher learning should be encouraged to include forensic accounting in their coursework. The results have practical implications to government, academic institutions of higher learning, accounting and audit profession, the private sector and stakeholders in organizations. The study contributes to the importance of forensic accounting in practice.

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OPERATIONAL DEFINITION OF TERMS

Fraud – It is an intentional and deliberate action of misstating, omitting and or not disclosing material facts so as to gain an illegal advantage or cheat an individual or an organization.

Incidence of fraud – It is occurrence of fraud which can be said to be at a high rate or a low rate.

Deterrence of Incidence of Fraud – It is a combination of fraud response, fraud detection and fraud prevention to combat incidence of fraud.

Forensic Accounting – It is a combination of various disciplines among them accounting, auditing and investigation which enable a successful investigation under strict ethical conduct done at a standard acceptable by court.

Fraud Investigation – It is an examination of fraud performed when there is a suspicion that fraud has occurred meant to verify the existence or non-existence of such claims.

Investigative Accounting – It is an examination performed after a fraud investigation has proven existence of a true claim, that is, there is fraud.

Litigation Support – This is provision of support of an accounting nature for prosecution of perpetrators of fraud and prescription of punishment in a court of law.

North Rift ICPAK Branch – Formerly in the former Rift Valley Province, it now covers six counties namely: Uasin Gishu, Nandi, Trans Nzoia, Turkana, Elgeyo Marakwet and West Pokot Counties.

LIST OF ABBREVIATIONS AND ACRONYMS

ACCA – Association of Certified Chartered Accountants

ACFE – Association of Certified Fraud Examiners

AICPA – American Institute of Certified Public Accountants

ANOVA - Analysis of Variance

CEO – Chief Executive Officer

CFA - Certified Forensic Accountant

CFAP – Certified Forensic Accounting Professional

CFC – Certified Forensic Consultant

CFE – Certified Fraud Examiner

CFIP – Certified Fraud Investigative Professional

CFO – Chief Finance Officer

CIMA – Chartered Institute of Management Accountants.

CPA – Certified Public Accountant

CPI – Corruption Perception Index

EACC – Ethics and Anti- Corruption Commission of Kenya.

GAAP – Generally Acceptable Accounting Practices

IASB – International Auditing Standards Board

ICPAK – Institute of Certified Public Accountants of Kenya

IIA – Institute of Internal Auditors

KPMG – Klynveld Peat Marwick Goerdeler

PWC – Price house Water Coopers

SPSS – Statistical Package of Social Sciences

CHAPTER ONE

INTRODUCTION

1.0. Overview

This chapter is presenting the background of the study with brief description of the dependent and independent variables, statement of the problem, general and specific objectives, research hypothesis, significance and the scope of the study.

1.1. Background

The first decade of the twenty first century encountered several corporate scandals, frauds and failures which affected a global financial stability and consequently the efficient functioning of the free market capitalism (Ball, 2009). Indeed, falsification of financial statements, corruption and other forms of fraud have become an emerging issue in the 21st century dominating news headlines for years now (Eyo & Ebahi, 2017). Our world today is still witnessing fraud both in business and government which is becoming a threat to survival and growth of economies, hence the need for deterrence of incidence of fraud (Ocansey, 2017)

Some of such scandals of the time include that of Enron ('Rise and Fall of Enron", 2018), Worldcom (Goolsarran, 2013), Tyco ("Tyco International Scandal," 2016), Satyam (Balanchandran, 2015; Bhasin, 2012), Haco Tiger Brands (Ngila, 2015), Kenya's National Youth Service (Obura, 2018), Uchumi Supermarkets (Mwinzi, 2016) and the Kenya Airways (Olingo, 2016) scandals just to name a few. These have put the role of auditors and legal enforcement mechanisms in question towards their accountability and prevention of fraud (Eyo & Ebahi, 2017) and as such have brought forensic accounting practices in the limelight.

Fraud is an 'intentional', and 'deliberate action ', 'purposed', to 'omit', 'disclose less information', 'misrepresent', 'non-disclose relevant information', 'so as to cover up', 'falsify', 'mislead ' and 'create an untruthful impression to investors, owners, regulators, and other stakeholders'(Ozkul and Pamukcu, 2012; Ozili, 2015). It uses criminal deception that is deliberate to gain illegally from an individual or an organization (Corruption Dictionary, 2018; IASB, 2009). Fraud is now an industry, not just for the fraudster but also for academicians, investigators, lawyers, and conference goers among others but sadly built to manage fraud and its negative effects rather than on deterrence of its incidence (KPMG, 2009).

Some of such scandals, fraud and corporate failures of the times involved organizations like Enron ('Rise and Fall of Enron'', 2018). It was one among many companies which was considered an indestructible energy giant during the beginning of the 2000's, highly leveraged and with revenues of over USD. 100 billion. Enron collapsed in 2001 due to involvement in illegal accounting procedures and fraudulent financial reporting among them; misrepresentation of company assets, concealing liabilities, overstating earnings and manipulating the company's stock price (Choo &Tan, 2007). All this happened under the knowledge and watch of its auditor, Arthur Anderson.

WorldCom too, a respectable long distance telephone company came in the record: as one of the largest public company that was hit by accounting frauds ever reported. In an investigation by the Special Investigative Committee of the BOD of WorldCom of 2003, false and unsupported expenses were wrongly reported as capital investments to a colossal amount of USD. 9billion between 1999 and 2002 reporting inflated revenues and making fake accounting entries to achieve desired financial results (Goolsarran, 2013).

Similarly, it was discovered that fraud at WorldCom was successfully planned and executed under WorldCom's CFO, Scott Sullivan with the help of WorldCom's Controller David Myers. This made the company spiraling down to its collapse.

The Tyco Scandal of 2002 in New Jersey had its top chief and CFO steal $150 million besides inflating company income by $550 million. Proceeds of the fraud were siphoned in form of unauthorized loans and fictitious stock sales which were fraudulently got out of the company 'branded' executive bonuses and benefits ("Tyco International Scandal," 2016). Satyam, an Indian Information Technology Service firm also dealing with back office accounting was involved in fraud in 2009. Its founder and chair falsified revenues amounting to 50 billion rupees (Balanchandran, 2015; Bhasin, 2012) making its way to history over accounting fraud.

In Africa, the collapse of companies, has been reported in great magnitude. South African organizations estimated at higher than two thirds, private and public, had experienced economic crime (Roodt, 2016). PwC survey (2016), reported that South Africa had reached a pandemic status of 70% of increased incidence of fraud of various forms namely: money laundering, corruption, collusion and bribery by both senior management officials and the political class.

The cause of the increase was attributed to insufficiency of detection methods to keep pace with incidence of fraud and inadequate resources and training by law enforcement agencies. Besides, the ability of fraud suspects to delay prosecution and lack of capacity to enforce in the under-developed legal framework contributed to this increase in incidence of fraud.

In East Africa, Transparency International's Corruption Perception Index (CPI, 2018) recorded that only Rwanda garnered 56 being the only country in the sub Saharan Africa to go above the global average of 43 (where 0 is highly corrupt and 100 is clean of fraud). Tanzania followed with 36 only going above the sub Saharan Africa average of 32. Uganda and Kenya garnered 27 and Burundi 17. This index puts the East African region on the spotlight over corruption and public sector accountability.

Kenya has experienced a number of fraud scandals. Top managers at Haco Tiger brands, the Kenyan unit, manipulated operating profits causing the company to lose Kshs. 879 million, which negatively impacted half year results of the organization (Ngila, 2015). The 'near collapse' of Uchumi supermarkets due to alleged manipulation of financial statements and fictitious reporting to a tune of shs.1.04 billion save for the government's intervention was another instance. A forensic audit report showed that the scandal was presided over by its CEO, CFO and a gang of employees, financiers, suppliers and even landlords. The forensic audit further revealed 1.98 billion loss in half year to December 2014, 330 million monthly losses against official figures in the books of 40 million loss per month (Mwinzi, 2016)

Kenya Airways' reporting of huge losses of Ksh. 25.7 billion in 2014-2015 financial year; Ksh. 26.2 billion in 2015-2016 and Ksh. 10.2 billion at end of March 2017, (Olingo, 2016) even after government` revival almost perennially indicated a not so good operation environment in deterrence of incidence of fraud. Additionally, is the loss of over 13 billion to corrupt deals in key state departments in the country among them National Youth Service Scandals (NYS) of almost 10.5 billion, National Cereal and

Produce Board, 1.9 billion, and Kenya Power and Lighting Company among others (Obura, 2018).

Chui and Pike (2013) indicated that fraud is very costly. KPMG fraud survey (2008) documented $301.1 million of fraud proceeds from 420 organizations with an approximated average of $ 1.5 million for each organization in Australia and New Zealand alone. Additionally, a $3.5 trillion amount was estimated worldwide as being fraudulently reported in financial statements, misappropriated in form of assets and lost to corruption deals in 2011 (ACFE, 2012).

In another report, ACFE estimated a typical organization's yearly loss of revenues to fraud at 5% (ACFE, 2014). Additionally, a PwC (2018) global economic crime and fraud survey covering 123 territories documented that 49% of worldwide organizations who fell victims of fraud and economic crime up from 36% in 2016. Indeed, incidence of fraud continue to increase in all sectors across nations (Kasum, 2009).

Increase in complexity of incidence of fraud requires forensic accounting to counter its trend and effectively investigate and prosecute perpetrators of fraud (Modugu and Anyaduba, 2013). In an effort of the public to contribute viable solutions to the evils of fraud, the growth in demand of forensic accounting has been expected to increase (Huber, 2012). This explains the continuous need of Forensic accounting practices by many organizations globally (Enofe, *et al.* (2013).

Forensic accounting is "the application of special investigative and analytical skills in accounting, auditing, finance, quantitative methods, certain areas of the law and research to collect, analyze and evaluate evidential matter and interpret and communicate findings for the purpose of resolving financial issues in a manner that meets standards required by

courts of law" (Hopwood, et al.,2011). It is a combination of various disciplines among them accounting, auditing and investigation which enable a successful investigation under strict ethical conduct. (Dreyer, 2014).

Forensic accounting is an old discipline (Dreyer, 2014). The tax evasion case of Alphonse Capone in 1731 marked a successful case by forensic accountants, (Buckstein, 2013; Dreyer, 2014) and that of Meyer Vs Sefton in 1817 as a successful case in expert witnessing (Crumbley, *et al*. 2009; Dreyer, 2014). Three practices define forensic accounting namely: fraud investigation, investigative accounting also termed as forensic accounting by other scholars and litigation support (Zysman, 2004; 2009).

Fraud investigation is the process of resolving and approving alleged claims of fraud from the beginning to disposition with the main goal of determining whether there is incidence of fraud, or fraud is occurring and identify the perpetrators responsible (Fraud examiners' Manual, 2014). Investigative accounting involves collecting evidence of criminal engagements and supporting with proven evidence or disproving damages usually associated with criminal matters (Zysman, 2004; 2009). Litigation support according to Zysman (2002) is provision of accounting figures and or information to assist in litigation. The effect of forensic accounting practices on deterrence of incidence of fraud cannot be overemphasized. Empirical evidence from the study of Gbegi and Adebisi (2014) indicated that skills and techniques of forensic accountants in fraud investigation significantly have a positive effect on exposing and minimizing fraud in Nigeria. Fraud investigation has been used with success in Nigeria where the highest Bank of Nigeria in 2009, engaged fraud investigators to investigate CEOs of 5 banks who faced trial in court resulting to imprisonment of some over fraud (Dada, *et al*., 2013).

Ocansey (2017) too showed evidence in a study that indeed use of investigative accounting techniques can successfully combat fraud of an economic nature and a broad spectrum of financial crimes in Ghana. Adegbie and Fakile (2012) too emphasized in a study that corruption and, other financial crimes that greatly harm an economy can be combated only with appropriate skills in litigation support in courts so as to eliminate misjudgments on matters of fraud.

In Kenya, as much as forensic accounting is a remote area of practice, it is slowly but steadily taking root. It is justified for this course, especially at this point in time when cases of big scandals, misappropriation of organizational resources, graft and corruption is common in almost all sectors of the economy.

1.2. Statement of the Problem

The quality of an organization's financial performance is among others determined by the extent to which an organization is fraud free. A fraud free organization exhibits a confidence in its financial system; its corporate governance structures; the quality of accounting and reporting with no deliberate intention to deceive or falsify, quality and strong internal control framework, audit quality and consequent of these, a thrive in the stock market (Omoolorun & Abilogun, 2017).

However, reports show that many organizations are not fraud free. Even with lack of reliable measures to value the true extent of incidence of fraud, survey estimates indicate incidence of fraud as being prevalent in many organizations and remain a costly problem (CIMA, (2008). For instance, PwC (2009), in its global economic crime survey, estimated nearly 30% of companies globally who fell victims of fraud in 2008. In addition, a global

economic survey by PwC (2016) recorded two in three institutions having experienced economic crime.

Transparency International's CPI of 2018 ranked Kenya at 144/180 for public sector corruption with a CPI of 27 (where zero is highly corrupt and 100 clean) a drop from a previous index of 28. EACC's National Ethics and Corruption Survey (2017) Number 6 report of 2018 reported 38.9% of Kenyans who experienced some of form of corruption, directly or indirectly out of 63% who sought government services. The survey too indicated an increase of those who bribed to obtain government services to 62.2% from 46% in the 2016 survey.

Efforts have been made to deter incidence of fraud by entrusting the responsibility to auditors, accountants, legal and regulatory bodies. However, their efforts have been unfruitful (Wolfe & Hermanson, 2004). As a result, there is still a saddening risk of increasing incidence of fraud presented in the country with massive losses of resources and consequently an ailing economy yet, no feasible and sustainable interventions in place to its deterrence. CIMA (2008) indicated that no system is completely ideal in deterrence of incidence of fraud. However, forensic accounting practices may offer one such solution for deterrence of incidence of fraud by making fraud less attractive to commit.

A number of studies have been carried out to evaluate the effect each of the three forensic accounting practices on deterrence of incidence of fraud yet with mixed findings reported. Literature reviewed too indicated success in the use of forensic accounting in Britain, Canada, USA and Nigeria in Africa but with little study and research in Kenya. It is unto this background that this study sought to examine the effect of forensic accounting

practices on deterrence of incidence of fraud in Kenya to fill the gap left by the inefficiency and ineffectiveness of traditional auditing and investigation and the weakness of anti- fraud legislations in deterrence of incidence of fraud in Kenya.

1.3. General Objective

The general objective of this study was to analyze the effect of forensic accounting practices on deterrence of incidence of fraud in Kenya. The following specific objectives were studied.

1.3.1. Specific Objectives

i. To investigate the effect of fraud investigation on deterrence of incidence of fraud.

ii. To explain the effect of investigative accounting on deterrence of incidence of fraud.

iii. To analyze the effect of litigation support on deterrence of incidence of fraud.

1.4. Research Hypotheses

H_{o1}: Fraud investigation has no significant effect on deterrence of incidence of fraud.

H_{02}: Investigative accounting has no significant effect on deterrence of incidence of fraud.

H_{03}: Litigation support has no significant effect on deterrence of incidence of fraud.

1.5. Significance of the Study

This study on the effect of forensic accounting practices on deterrence incidence of fraud will be important to various groups as follows. Firstly, to researchers and academicians, this study will form a basis for future research especially regarding the roles of forensic accounting investigations as the accounting profession changes over time. This will contribute to the body of knowledge and theory since the findings and recommendations thereof will be applicable to a number of sectors in the economy. In addition, this study

will provide a source of empirical literature given that fraud and deterrence of its incidence is a gray area of research especially in Kenya.

Secondly, to the audit and accounting fraternity, it is anticipated that the recommendations will provide insights that will build the forensic accounting field given its remoteness. As such, it will assist in exploring further the importance of adopting forensic accounting practices fully in their practice. Thirdly, this study will help the government in formulating sound policies and guidelines on adopting and supporting forensic accounting practices so as to help combat financial fraud that is allegedly rampant in government corporations.

Fourthly, this study will enable stakeholders in organizations to appreciate the role played by forensic accounting and use it to combat fraud in their entities. Investors can benefit from the findings of this study as it seeks to inform on the importance of forensic accounting practices and potential fraud risk exposure they may be vulnerable to so as to help them make informed decisions on their investments.

1.6. Scope of the Study

The study focused on the effect of forensic accounting practices on deterrence of incidence of fraud in Kenya. 256 Certified Public Accountants (K) in the ICPAK North Rift Region were the respondents who were in the ICPAK register by end of April 2018. Forensic accounting practices that is, fraud investigation, investigative accounting and litigation support were conceptualized in this study whereas fraud diamond theory and the new fraud triangle model guided this study. The study was valid for the period in which the study was conducted and primary data was collected, analyzed and interpreted to achieve the objectives of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0. Overview

This chapter covers an overview of the dependent and independent variables, theories supporting this study, empirical review and an illustration of the conceptual framework for the dependent and independent variables.

2.1. Deterrence of Incidence of Fraud

Deterrence of incidence of fraud is a proactive identification and removal of any causal and enabling factors of fraud as fraud never happens all at random, rather only where conditions are ripe for it to occur (ACFE, 2012). Additionally deterrence of incidence of fraud is a combination of fraud response, fraud detection and fraud prevention for combating fraud incidence (CIMA, 2008).

Incidence of fraud is occurrence of fraud whereby fraud can be defined in several and diverse ways with no one definite rule of defining it. (Singleton, *et al,* 2006). Fraud is an illegality of making false accounting entries knowingly like inflating receivables or cooking cost records to boost net revenue or sales figures (Arokiasamy & Cristal, 2009). AICPA (2008) describes it as an intentional act committed to deceive and lead one to suffer a loss upon relying on the deception and the fraudster gaining.

Ernst and Young (2009) looks at fraud as a planned mistake committed by a person or persons who know and understand that it can yield unjust gains. According to IASB (2009), "fraud is an intentional act by one or more individuals among management, those charged with governance, employees or third parties using deception to obtain an unjust or an illegal advantage". In monetary terms, fraud enriches oneself by an intentional

decline of some value or worth of an asset in secret (Enofe, et al., 2013; Corruption Dictionary, 2018)

Incidence of fraud brings with it negative reputational consequences coupled with credibility questions to the audit and accounting profession causing a dwindling public trust (Chui & Pike, 2013). Employees are financially and emotionally devastated by fraud scandals and investors' confidence is eroded (Rezaee, *et al,* 2004; Buckhoff, 2004). Fraud further, impacts unfavorably in an economy resulting to massive financial losses. It weakens social equilibrium, threatens democracy and leads to a dwindling trust in an economic system resulting in corrupt and compromised economic and social institutions (Nicolescu, 2007)

Fraud can take limitless varieties evolving from traditional forms to modern organized financial crimes. (Jung, 2017; Gottschalk, 2010). ACFE (2010) categorized fraud into three, based on several examined cases. Among them, asset misappropriation where a perpetrator steals or misuses an organization's resources. Secondly is corruption schemes where an employee uses his/her influence in business transactions in a manner that violates his/her duty to the employer for purposes of obtaining gain for self or for another person. Thirdly, is financial reporting fraud which entails intentionally misstating and or omitting of material information in an entity's financial reports (ACFE, 2010).

In the recent past, organizations didn't focus on deterrence of incidence of fraud as the overall focus within their systems of internal control (Onodi, *et al.* 2015). It was only considered among the general objectives of compliance of internal controls with shareholders, board of administration and management. In addition, it was taken as a normal happening from faulty functioning of internal controls which appeared as only a

rare occurrence (Petrascu, 2013). However, with the revelation of many famous fraud cases discovered at the onset of the 21st century, this vision regarding deterrence of incidence of fraud has made a quantum leap (Petrascu, 2013). Fraud is now prioritized and positioned as one of the most important risks that an organization is exposed to (Munteanu, *et al.*,2010).

Modern technology has compounded the problem of incidence of fraud in the ever dynamic business environment (Ogutu & Ngahu, 2016). With the introduction of computer software and internet facilities coupled with new technologies, criminals have been enabled with better ways in which they may commit fraud (Bolton & Hand, 2002; Ogutu & Ngahu, 2016). Business re-engineering, re-organization and or down-sizing for instance, weaken controls opening more opportunities to fraudsters to commit fraud (Bolton & Hand, 2002). As a result, as Izedonmi and Ibadan (2012) noted, detection and minimization by auditors of these crimes becomes complex and more difficult whereas committing is made much easier.

Despite of intensified attempts to stamp out fraud in its various forms, it is still a menace, in the rise in frequency and severity (Wolfe &Hemanson, 2004). As such, it is prudent for all accountants at to be equipped with necessary skills and up their knowledge game to spot and, act upon the red flags of fraud incidence, discover and preserve the evidence of fraud (Okunbor& Obaretin, 2010). These imply that, incidence of fraud requires an effective and more sophisticated approach for its deterrence significantly (Enofe, *et al.*, 2013). For this reason, one of the effective modern approaches for deterrence of incidence of fraud is forensic accounting.

2.2. Forensic Accounting

Peloubet (1946) has been credited as the father of forensic accounting. According to him, "it is the application of accounting knowledge and investigative skills to identify and resolve legal issues." Bologna & Lindquist (1987), were among the very first authors to study and develop forensic accounting. They identified forensic accounting as 'a composition of fraud knowledge, financial expertise, a sound knowledge and understanding of business reality and the working of the legal system.'

In a latter study they indicated a forensic accountant as having specialty skills in detecting fraud, with particular emphasis in documenting the exact evidence necessary for successful criminal prosecution. They identified the ability of forensic investigators to work in complex regulatory and litigation contexts with reasonable exactness, and their distinct professionalism to reconstruct missing, destroyed, or deceptive accounting records rated on a higher level (Bologna & Lindquist, 1995).

Forensic accounting has also been defined as the application of accounting concepts and techniques to legal problems according to Dhar & Sarkar (2010). Zysman (2009) described it as encompassing accounting, audit and investigative skills whereas Islam, et al., (2011) identified that forensic accounting uses expertise and specific abilities to gather evidence of past economic doings. Arokiasamy and Cristal (2009) defined it as the application of financial skills, investigative mentality to unsettled issues conducted within the context of rules of evidence. Singleton and Singleton (2010) identified it is a comprehensive view of fraud investigation, whereas Okoye & Gbegi (2013) noted that 'forensic' means acceptable and applicable in a court of law.

Forensic accounting ideas and techniques had been in existence since centuries ago. However, its worth was proven in the late 1940s, with formalized procedures completed in the 1980s in the period of major academic research in that field (Rasey, 2009). Its practice is now relatively more aggressively put in application due to evidenced falling of enterprises and loss of organizational resources (Dreyer, 2014). Today with massive awareness of incidence of fraud, the growth and demand for forensic accounting has become a need for many firms globally (Enofe, et al. (2013).

Practitioners in this field are charged with numerous responsibilities among them: Investigating and documenting alleged claims of fraud, estimating losses, damages and assets and carrying out complex financial transactions among many more (Zysman, 2004; Bhasin, 2007). Engagements of forensic accountants involves finding where lost monetary proceeds are taken to, how they are channeled and the perpetrators responsible (Kasum, 2009). They analyze and interprets financial information to reveal unfair presentation thus, enabling an understanding of business dealings in reality beyond reports in terms of numbers (Bhasin, 2007).

Forensic accounting does no limit their scope of engagement to materiality or a true and fair view of operations. Rather, unlike the auditors, forensic accountants involve a legal knowledge in their engagements besides the accounting knowledge and a knowledge of human behavior, a sixth sense for identifying red flags and a good intuitive for preserving evidence (Ozkul & Pamukc, 2012), to bring into light illegal and unfair dealings that cannot be detected by employing standard audit practices alone. Forensic accounting has been widely used with success in four developed economies around the world, that is: UK, Canada, Australia and the USA. (Dreyer, 2014)

2.2.1. Fraud Investigation

Zysman (2004) defines it as the examination of evidence to determine whether an assertion corresponds to a reliable predication applicable to a legal system. Fraud investigation is meant to discern fraud, seek evidence of fraud so as to prove or disapprove fraud and gathers evidence to protect victims and the organization (Singleton and Singleton, 2010). Fraud investigation requires utilization of specialized investigative skills in an examination of fraud to determine whether a criminal conduct or fraud has occurred (Fraud Examiners' Manual, 2014).

Additionally, it involves the determination of the presence, nature and extent of fraud and may require identification of the perpetrators (Singleton & Singleton, 2010). This should be done in such a manner that the outcome will have application to a court of law (Okoye & Ndidika, 2009). A fraud investigator should begin an examination only when there is predication necessary to initiate a fraud investigation that is circumstances that determine with prudence, reasonableness and professionalism that indeed fraud took place. (Singleton & Singleton, 2010)

Fraud investigation starts with identification of red flags that signal that something might be occurring (Ozkul and Pamukc, 2012). Red flags can include: late submission of returns and preparation of financial reports, failure to prepare bank reconciliations; changing lifestyles of promoters and key organizational employees and unchecked frequent internal control lapses (CIMA, 2008). Detection may be by chance, by conducting a proactive research, whistle blowing, internal and external tip offs, internal and external audit and by encouraging initial identification of symptoms among others (Ozkul & Pamukc, 2012: CIMA, 2008).

Secondly, the investigator and the client meet where the client explains why it is suspected that fraud has occurred and hands over any evidence to support the claims. The investigator then uses this primary information to gather more evidence and information (Fraud Examiner's Manual, 2014). This can be facilitated by use of surveillance cameras, asset searches, background checks, employee investigations and business investigations among others (Ozkul & Pamukc, 2012). Fraud investigation too entails interviewing personnel directly accessible to the identified area of fraud and a detailed review of documentary evidence (Singleton & Singleton, 2010). These two at some point overlap with activities of investigative accounting.

Singleton and Singleton (2010) emphasizes that, for a successful, fraud investigation to occur, the investigator should look into preliminary matters before starting an investigation. Basically, this uses the case theory approach to investigate. It analyses available data to create a hypothesis, tests the hypothesis against available facts, refines and amends it until reasonably certain conclusions can be drawn.

After preliminary matters, the investigator learns the elements of proof for the suspected offenses. Carefully organizes and maintains evidence and later prepares a case chronology, which is, putting important facts in the order in which they occurred. An investigation is then carried out by beginning the case. The allegations and suspicions are evaluated and analyzed and the case is concluded (Singleton &Singleton, 2010)

Fraud investigation is usually associated with investigations of criminal matters (Zysman, 2009) and very helpful in dealing with alleged corporate fraud, employee theft, bribery, and manipulation of financial information, securities fraud, insurance fraud, kickbacks and profit diversion by directors, employees, proceeds of crime investigations among

others (Okoye and Ndidika,2009; Zysman, 2009). It emphasizes on skills necessary to resolve alleged claims of fraud from the beginning to disposition including obtaining evidence, taking statements and writing reports to testify to findings (Fraud Examiner's Manual, 2014)

2.2.2.Investigative Accounting

These are engagements that arise as a result of the aftermath of a successful fraud investigation (Okoye and Ndidika, 2009), that is, where there is fraud that has been proven e.g. fraudulent reporting has occurred and there is misappropriation of assets (Ranallo, 2006). It is gathering prove of criminal conduct and substantiating or disproving damages by basically looking at discrepancies (Singleton & Singleton, 2010). It identifies those fraudulent transactions and reviews them using document reviews (Miller & Marston, 2011), interviews (Singleton & Singleton, 2010; Golden & Dyer, 2006), and examining electronic media (Ngai, et al. 2011; Clayton, et al. 2006).

Interviewing requires asking questions in the right context (Singleton & Singleton, 2010), carried out to make a fraudster admit to have committed fraud (Golden & Dyer, 2006), and checks clues of body language to determine deception (Crumbley, et. al., 2007). The interview process should be properly structured keeping in mind that the results thereof may be used in the adjudication process (Singleton & Singleton, 2010). It should be coordinated and conducted preferably by a professional from an audit organization. (Singleton & Singleton, 2010; Golden & Dyer, 2006)

Data Mining falls in the examination of electronic media. It reviews databases, including those of voice, telephone calls and security records among others (Ngai, et al., 2011). It seeks hidden data patterns and reviews controls to discover fraud (Crumbley, et. al., 2007)

Trends are investigated, any unusual transactions in a data set found are investigated and any abnormality identified and questioned (Clayton et al., 2006).

Data mining too concerns the concept of metadata which concerns computer programs and files used in organizations which leave a trail of evidence (Sharma & Panigrahi, 2013). Metadata is a valuable source of evidence as it shows the file name, date of creation and modification, size, location of storage and the name of person who changes a file (Singleton & Singleton, 2010). Investigative accountants should work with computer experts to ensure that such computer reviews are properly conducted to make access possible while at the same time preserving evidence hence making it useful for investigation (Ngai, et al. 2011).

Detailed document review strategies are a major component of preserved evidence (Miller and Marston, 2011). Evidence in form of documents and witness statements should be credible and handling done properly with care and legally to maintain a high evidence standard (Fraud Examiner's Manual, 2014) because they are relied upon in adjudication. The following must be evaluated when document review commences.

Firstly, the organizational chart for the entire entity being investigated should be obtained. Secondly, is to obtain carbon copy routes of key documents by reviewing all storage locations. Thirdly is to access records of ex-employees kept that can be relevant in the investigation with e- mails associated with suspected documents (Miller and Marston (2011). Outsourcing may be necessary considering the importance of physical location of documents during investigation (Sharma & Panigrahi, 2013).

It involves a number of activities among them: review of the factual situation; provisions of suggestions regarding possible courses of action, assistance with the protection and

recovery of assets, and coordination of other experts, private investigators, forensic documents examiners and consulting engineers (Zysman, 2004; Okoye &Ndidika, 2009)

2.2.3. Litigation Support

This is provision of accounting analysis suitable to the court which forms the basis for discussion, debate and ultimately dispute resolution (Zysman, 2009). Fillmer (2003) notes that, forensic accountants give an opinion attached to known facts or facts yet to be uncovered whereby, for unknown facts, the forensic accountant investigates the situation and forms an opinion based on their investigative work. It handles complex accounting, taxation and financial matters that are of a criminal nature (Zysman, 2002).

Litigation support assists attorneys to initiate a prosecution and or defend a case in a court of law (Singleton & Singleton, 2010) and it involves the interpretation and simplification of issues meant to help current or imminent legal action. The forensic accountant might be required to establish a supposed value associated to a loss caused by those involved in the legal conflict (Singleton & Singleton, 2010). He can also be expected to help in providing solution to conflicts even before they go to court. (Eyo & Ebahi, 2017)

A litigation support assignment would involve calculating the economic losses resulting from a breach of contract between parties (Zysman, 2002; 2004). It may include engagements of professional liability claims and civil claims. Professional liability claims include quantifying loss from events of insurance disputes, stolen trade secrets and delayed construction whereas civil claims include business valuations', employee theft and accident investigations (Zysman, 2009).

Litigation support is initiated by a jury to set pace for some kind of legal action. Oyedokun (2013) outlines the following activities in a litigation support exercise. A forensic accountant assists firstly in obtaining documentary evidence necessary to support or

refute a claim. Secondly, s/he assists in review of relevant documentation to form an initial assessment of a case and identify areas of loss (Okoye & Ndidika, 2009) Thirdly, is examination of discovery including formulation of questions to be asked in regards to financial evidence and subsequent attendance to the examination for discovery to review the testimony, and assisting with understanding financial issues. Fourthly, is to assist in reviewing the opposing expert's damages report and reporting on both the strengths and weaknesses of the position taken. Fifthly is discussions for making settlements including negotiations and finally attending trial to provide assistance with cross examination (Mukoro, et al., 2013; Zysman, 2009)

2.3. Review of Theories

One theory and one model were used to explain this study namely; the Theory of the Fraud Diamond (Wolfe and Hermanson, 2004) and the New Fraud Triangle Model (Kassem and Higson, 2012).

2.3.1. Fraud Diamond Theory.

Wolfe and Hermanson (2004) were the first to consider the fraud diamond theory in their famous work titled, "The Fraud Diamond: Considering the Four Elements of Fraud". Which was an extension of the theory of the fraud triangle. They believed that the fraud triangle of Cressey (1953; 1973) could be enhanced to improve deterrence of incidence of fraud by considering a fourth element; capability, besides the three namely incentive/ pressure, opportunity and rationalization factors from Cressey's work. These four elements make up the fraud diamond as illustrated below.

Figure. 1: The Fraud Diamond Model
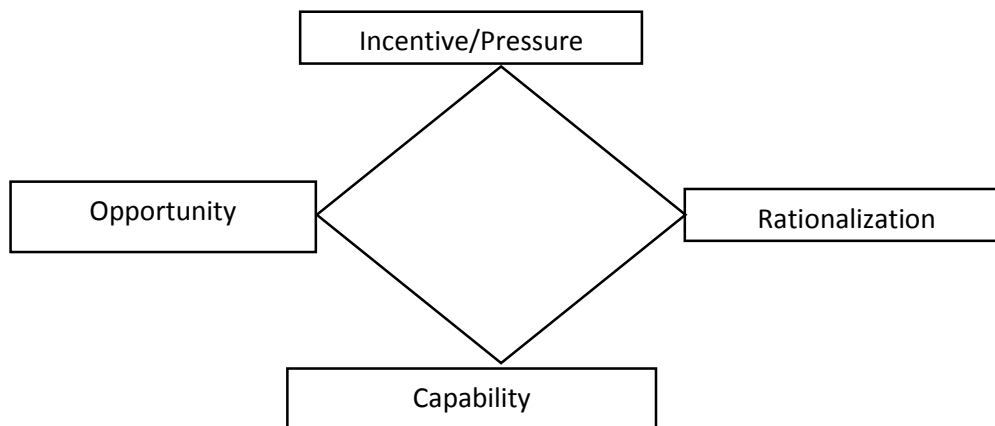
Source: Wolfe & Hermanson (2004)

Donald Cressey (1953), was the author of the first three elements in the diamond famously known as the fraud triangle theory. He opines that, "*Trust violators, when they conceive of themselves as having a financial problem which is non-shareable, and have knowledge or awareness that this problem can be secretly resolved by violation of the position of financial trust. Also they are able to apply to their own conduct in that situation verbalizations which enable them to adjust their conceptions of themselves as trusted persons with their conceptions of themselves as users of the entrusted funds or property*" (Cressey 1953:742).

In the above statement, Cressey opines that fraud (referred to as violation of trust) is certain to occur when someone has a need that pushes one into fraud called incentive (pressure) to commit fraud, an opportunity which gives an opening for fraud to be

committed and a rationalization or justification of the fraudulent behavior to be perpetrated. In His later work, Cressey (1973) opined that trusted persons become trust violators when they view themselves as having a non-shareable financial problem solvable using unethical means hence violate their position of trust. Choo and Tan (2007) refers to this as 'Broken Trust Theory.'

Perceived pressure as Lister (2007) puts it is the source of heat for a fire to light and concurs that it is very significant in committing fraud. Cressey (1953) identified six sources of a non- shareable financial needs namely: difficulty in paying debts, problem resulting from personal failure, business reversals e.g. recession and inflation, physical isolation, status gaining and poor employer employee relations. Lister (2007) on the other hand identified three sources of pressure namely: personal, employment and external pressures.

Other studies have classified pressure as positive or negative. Positive which leads to creativity, efficiency and competitiveness and negative that leads to misconduct since goals are not attainable (Hooper & Pornelli, 2010). Albrecht et al (2006) in their study found out that perceived pressure was very significant in committing fraud.

Lister (2007) describes opportunity as the fuel that keeps the fire going. It is a circumstance available to an individual that s/he takes advantage of to commit fraud Cressey (1973). In most cases it is ineffective control/ governance system commonly known as internal control weakness (Kelly& Hartley, 2010). CIMA (2009) identified that opportunity is highest when internal control mechanisms are weak, there is absence of proper security over company's property, little fear of detection and exposure and vague policies regarding unacceptable behavior in organizations among others.

Rationalization, the third component is when a perpetrator formulates some type of morally acceptable justification before engaging in a fraudulent behavior (Cressey, 1953). Lister (2007) describes it as the oxygen that keeps the fire burning. Hooper and Pornelli (2010) describes it as a mindset that justifies the fraud perpetrated allowing fraudsters excuse their fraudulent behavior and doings

Capability as Wolfe & Hermanson (2004) identified is about the right person with the right capabilities to commit fraud. It opens a way through for fraud whereas incentive and rationalization draws a person to fraud. Rasey (2009) argue that, a person must be capable to recognize the open door that is opportunity and manipulate numbers in the presence of the three former factors by walking through the door hence committing fraud. Components of capability are grouped into three although some studies have broken them down to six or seven components.

Position and function are the components in group one. Wolfe and Hermanson (2004) note that, a CEO's position and function may furnish the ability to create or exploit an opportunity for fraud that may not be available to others in an organization. Beasley, et al. (2000) in a research on corporate CEOs who were implicated in over 70% public company accounting frauds, attributed this to failure of organizations to put in place and implement sufficient checks and balances to diminish the CEO's capability.

Intelligence, creativity and ego make up the second group. It is the ability to understand and hence exploit internal controls. The ACFE Survey (2003) reported that 51% of perpetrators of occupational fraud had at least a bachelor's degree. They too reported that 49% were over 40 years and managers and executives and such committed 46% of the fraud.

Coercion, deceit and stress are the components in group three. Fraudsters on many cases coerce others to commit and conceal fraud on their behalf. Wolfe and Hermanson (2004) refer to it as ability to handle stress. (Wolfe & Hermanson, 2004). They noted that committing fraud requires managing consequences of fraud over a long period of time and that can be stressful hence the risk of detection and the constant need to conceal fraud on a daily basis needs the capability to control and overcome that stress.

Wolfe and Hermanson thus concluded` that, 'a key to deterrence of incidence of fraud is to focus particular attention on situations offering in addition to incentive and rationalization, the combination of opportunity and capability. The fraud triangle theory have received criticism on grounds of it providing a limited perspective of two of its components; pressure and rationalization. Critiques argue that it is difficult for one to observe the pressure and rationalization effect and that it ignores important factors like culture of a fraudster (Rubasundram, 2015.)

In addition the theory has been criticized on grounds that, the elements overlap each other. It is however prudent to learn that, the theory has a primary contribution in deterrence of incidence of fraud by forensic experts. This framework has been widely used and been very useful for CPAs seeking an understanding of fraud risk assessment and managing fraud.

The theory is supported because it looks at issues in a broader sense not just environmental and situational factors. An understanding of how pressure, opportunity, rationalization and capability contribute to deterrence of incidence of fraud can easily recognize areas of susceptibility to fraud in organizations and be able to recognize hidden or disguised fraud. It is into this effect that this theory is supporting this study.

2.3.2. The New Fraud Triangle Model

This model was proposed by Kassem and Higson (2012) in their article the New Fraud Triangle Model. They combined Cressey's Fraud Triangle Model (1953), with three factors, the Fraud Scale Model by Albrecht et al (1984) which substituted the rationalization factor with personal integrity which was believed to be more observable than rationalization, The Fraud Diamond Model by Wolfe and Hermanson (2004) which added a fourth factor; Capability and the MICE model by Dorminey, et al (2010) which expanded Motivation into four categories namely; Money, Ideology, Coercion and Ego. It is believed that this New Fraud Triangle Model broadens knowledge about fraud on how and why it occurs and tends to consider all necessary factors associated with incidence of fraud. (Gbegi & Adebisi, 2013). Proponents of this theory suggest that, it is important to consider all the fraud models to better understand the incidence of fraud. Although it is a new model, it gives an in depth insight on the nature of fraud and fraudsters, how it can be committed and concealed.

This study proposes this as an area of further study to test the model and its use for deterrence of incidence of fraud in a separate study. Kassem & Higson (2012) harmonized all these models to come up with the New Fraud Tringle model as illustrated below.

Figure.2.The New Fraud Triangle Model
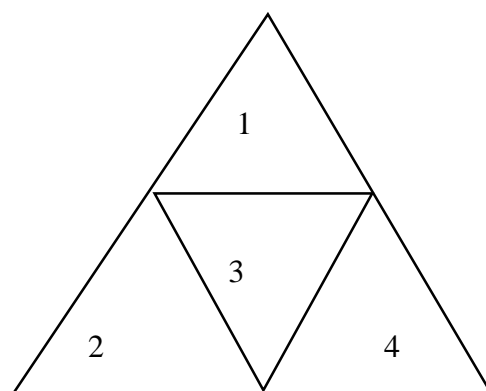
1: Motivation (Money, Ideology, Coercion and Ego-MICE Model)

2: Opportunity (Fraud Triangle Model)

3: Personal Integrity (In place of rationalization -Fraud Scale Model)

4: Capability (Fraud Diamond Model)

Source: Kassem and Higson (2012)

2.4. Forensic Accounting and Deterrence of Incidence of Fraud

Effect of forensic accounting services in fraud detection in Nigerian banking sector was studied by Onuorah and Ebimobowei (2012). Results revealed a significant effect of forensic accounting services on fraudulent activities by providing necessary interventions to deter fraud. Islam, *et al.* (2011) investigated detection of fraud and corruption by the help of both forensic accounting and forensic audit services. Results showed that forensic accounting and auditing is sufficient to detect fraud hence have a critical role to play in detecting and combating fraud in Bangladesh.

Enofe, *et al.* (2013) studied fraud detection and the role played by forensic accounting in Nigerian firms. It was revealed that forensic accounting services significantly affects the level of fraudulent activities. Kimani and Ondigo (2017) established the effect of forensic

accounting services on mitigating corporate crime among firms listed in NSE in Kenya. Findings revealed that forensic accounting services reduces occurrence of fraud hence useful in detecting fraud.

Ogutu and Ngahu (2016) on the impact of forensic auditing skills on mitigation of fraud by accounting firms in Nakuru County in Kenya, 97% of the respondents agreed that forensic auditing skills are crucial in fraud detection and prevention. Abdi (2017) studied the effect of forensic audit services on fraud detection in commercial banks in Kenya. Results indicated that fraud detection has an inverse relationship with investigative services and litigation support.

2.4.1. Fraud Investigation and Deterrence of Incidence of fraud

Njanike, et al. (2009) evaluated fraud investigation and its success in detection and prevention of bank fraud in Zimbabwe. Focusing on investigative skills and efficiency of detectives, results reported a need to facilitate fraud investigators in their work so as to curb fraudulent activities efficiently and a need for a strong professional body to protect and regulate them.

Dada, et al. (2013) in their study of forensic accounting a panacea to alleviation of fraudulent practices in Nigeria, studied forensic accounting and its relevance in effective fraud reduction in Nigeria. Results reported indicated that fraud investigation was significantly and positively related to fraud reduction and detection.

Clement and Knudstrup (2016) explored fraud investigative procedures commonly carried out during a fraud investigation. The study focused on 36 fraud investigation procedures gathered from common fraud and forensic accounting textbooks, and from discussion with fraud investigation experts (CFEs, CPAs, FBI agents). Results highlighted several procedures that are performed. Whereby, 16 procedures received a

higher rating as being performed always whereas 10 procedures received a higher rating as being very important to ensure success in a fraud investigation.

Asare, Wright and Zimbelman (2015) in their study on setbacks that auditors encounter in detecting financial statement fraud: Insights from fraud investigation. They conducted a two stage study whereby findings indicated that the audit process and auditor training were essential in recognizing fraud failure to which they get limited in running a fraud investigation engagement to its success.

This empirical review on the effect of fraud investigation on deterrence of incidence of fraud identified that none of the studies was carried in Kenya, but majorly in Nigeria and Zimbabwe. Investigative skills, efficiency of detectives, commonly carried out fraud investigative procedures and auditor failure in detecting fraud drawing insights from fraud investigation were studied. This study therefore sought to engage CPA (K) to evaluate the effect of fraud investigation in deterrence of incidence of fraud in Kenya by examining the procedures in a fraud investigation exercise.

2.4.2. Investigative Accounting and Deterrence of Incidence of Fraud

Kasum, A.S. (2009) carried out a survey to analyze the perceptions of different professionals among them, lawyers, contractors economists, accountants, bankers, engineers and other professionals among others in the Nigerian situation to study the relevance of forensic accounting (which he termed as investigative accounting) to financial crimes in both private and public sectors in third world economies. Findings indicated that, the extent of financial crimes in developing countries is very evident and as such, investigative accounting was identified as having a significant importance especially in the public sector to reverse the fraud trend.

Onodi, *et al.* (2015) in their study on Impact of Forensic investigative methods on corporate fraud deterrence in Nigerian banks revealed an important link in the relationship between forensic investigative techniques (Investigative Accounting techniques) and fraud deterrence. The study also revealed that expert services of forensic investigators are normally required in fraud prosecution but majority of audit and accounting personnel suffer from poor perception and knowledge of forensic investigative methods.

Bhasin (2013) studied the significance of a forensic accountant in a corporate governance scenario in an Indian context. He studied an investigative accountant focusing on requisite skills of forensic accountants among professional practitioners, academia and beneficiaries of forensic accounting services. Findings identified expertise as one most single skill required for handling complex financial transactions for deterrence of incidence of fraud. As such, deductive analysis, critical thinking, unstructured problem solving, analytical proficiency and excellent oral communication received higher levels of rating in their respective order. It was concluded that forensic accountants with their specialized knowledge, training and skills can improve the corporate governance in organizations.

Ocansey (2017) examined forensic accounting techniques (investigative accounting techniques) and their significance in combating financial crimes in Ghana. Findings reported indicated a positive significant relationship with the application of investigative accounting techniques to combat economic and financial crimes in Ghana.

This empirical review on the effect of investigative accounting on deterrence of incidence of fraud identified that the studies were carried out majorly in Nigeria, India and Ghana,

with no single one in Kenya. The studies focused on perceptions of professionals with regard to fraud, investigative accounting methods, relevant skills of investigative accountants and the relevance of investigative accounting techniques. This study therefore sought to evaluate the effect of investigative accounting in deterrence of incidence of fraud in Kenya by studying the achievements of an investigative accountant after a successful investigation to fill the gap identified.

2.4.3. Litigation Support and Deterrence of Incidence of Fraud.

Mukoro, *et al*. (2013) explored the relevance of forensic accounting in curbing crime and corruption. The role of forensic accounting in fighting corruption through application of fraud investigation skills and provision of litigation support was studied. Findings reported that forensic accounting is relevant in fighting corruption through fraud investigation and litigation support.

Forensic accounting a panacea to fraud reduction in Nigerian firms was a study carried out by Enofe, *et al.* (2015) to evaluate how forensic accounting enhances financial fraud reduction through litigation services, that is, prosecution and prescription of punishment for fraudsters. Results indicated that forensic accounting enhances financial fraud reduction through prosecution and prescription of punishment which improves accounting credibility, and financial reporting credibility.

Eyo and Ebahi (2017) in their study analyzed the effect of forensic accounting (Investigative Accounting) and Litigation Support on Fraud Detection of Banks in Nigeria. Results indicated that the two practices do not have a significant effect on fraud detection, quite a divergent view from earlier studies in fraud investigation and litigation support.

Empirical literature identified that the Nigerian context was well studied by looking at punishment and accountability of fraudsters through a court of law and effectiveness of litigation support by an analysis of fraud cases .This study therefore sought to establish the effect of litigation support in deterrence of incidence of fraud in Kenya by analyzing the activities in litigation support hence filling the gap in a Kenyan context. In summary, this is the justification from literature unto which the study is anchored.

2.5. Conceptual Framework

Drawing from theoretical evidence, and literature from various studies the independent variables for this study were fraud investigation, investigative accounting and litigation support respectively which are assumed to effect the dependent variable deterrence of incidence of fraud. The illustrated framework is presented in figure 3 below.

Figure 3: The Conceptual Framework

Independent Variables   Dependent Variable

Forensic accounting Practices   Deterrence of Incidence of fraud
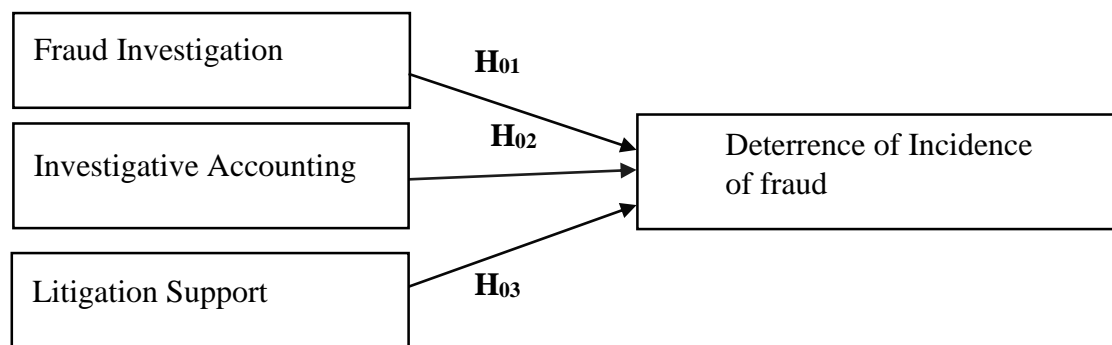
Source: Researcher (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0. Overview

This chapter discusses the research methodology. It describes the research design, the target population, data, data collection instruments and collection procedures, measurement of variables, reliability and validity of data collection instrument, data measurement, data presentation, data analysis, ethical considerations and limitations of the study.

3.1. Research Design

A Research Design Is A Set Of Decisions That Make Up A Master Plan For An Entire Study. It specifies the methods and procedures for data collection and analysis, and the procedures and techniques that should be employed to be able to answer the research questions (Saunders, *et al.* 2009). The study adopted an explanatory research design using a survey.

The explanatory design was chosen because it applies closely with the research objectives to identify the extent and nature of cause effect relationships, and it provides a researcher with deep insights into the specific subject of study. Although it does not give conclusive evidence, it helps us understand the problem more efficiently (Zikmund, *et al.,* 2012). A survey was carried out for this study because, no element of chance could be left in collecting data, and it allowed dealing with evaluation of opinions of respondents.

3.2. Target Population and Sample

A population is a total number of units from which inferences are made and which is of interest to a researcher (Sekaran & Bougie, 2008). The target population comprised of all 20610 Certified Public Accountants registered in Kenya with the regulatory body ICPAK, active and in good standing by end of April 2018. These offer audit assurance services, business advisory and consultancy, tax services and forensic audit either in private practice or in respective private and public organizations they are employed in. They design and perform audit assignments to assure reasonably that fraud that is immaterial will be detected (AICPA, 2012). It is to this reason that CPA (K) were targeted for this study. Forensic investigation is not performed on a frequent basis, rather marginally since it is not statutory but can only be offered on request.

This study however, used a purposive sample of the North Rift ICPAK Branch where 256 CPA (K) are registered. The North Rift branch was selected because it is a cosmopolitan region in all the six counties that it covers, its members operate all over the country for their work engagements hence could represent the whole country and most importantly is the branch proximity that could allow the study meet the required time limits. A survey of all the 256 members was done for this study.

3.3. Data and Data Collection Instrument

Primary data collected and used for this study. Questionnaires were used as data collection instruments since they make it easier to collect data from many respondents in a relatively short time and they give a high degree of data standardization. Questionnaires were dispatched through electronic mail to respective E- mails of respondents, who were requested to open an attachment sent to them, fill and submit in email, within three weeks.

A standardized questionnaire prepared in Appendix II was modified to fit this study from the studies of Mukoro, *et al.* (2013), Modugu and Anyaduba (2013), Omondi (2013) and the instrument in the study of Zager, *et al.* (2014).

3.4. Data Collection Procedures

The following steps were followed till successful collection of data. Firstly, approval was sought from the university to undertake the research through a letter from the School of Business and Economics. Permission was also sought through a letter from the Department of Education, Culture, Youth Affairs, Social Services and Sports in the County Government of Uasin Gishu to undertake the research in the identified study area. In addition to that, permission was sought from the North Rift ICPAK Branch leadership to involve its members in the study then the questionnaire was mailed to respective respondents' e mail accounts for filling and mailed back to the researcher for analysis.

3.5. Measurement of Variables

The three practices depicting independent variables were evaluated based on the procedures, activities and functions a forensic accountant carries out and achieves when performing a forensic investigation. Fraud investigation was measured by rating the procedures a fraud investigator conducts till successful completion of a fraud investigation exercise. Questions adopted from the studies of Omondi (2013) and Mukoro *et al.* (2013). The procedures were rated between 5 – very effective and 1- very ineffective.

Investigative accounting was measured by rating the achievements of an investigative accountant after a successful investigation. Questions adopted from the studies of

Modugu and Anyaduba (2013) and Mukoro, *et al.* (2013). The achievements were rated between 5- Strongly Agree and 1- Strongly disagree.

Litigation support was measured by rating the functions or activities an expert consultant performs in litigation support exercise. Question were adopted from the study of Mukoro, *et al.* (2013) and Ndidika and Okoye (2009).The functions were rated between 5- very effective and 1- very ineffective. Incidence of fraud was measured using indicators/ circumstances that indicate possibility of fraud as adopted from the study of Zager, *et al.* (2014). On a scale of 1-5 where 5- strongly agree and 1- strongly disagree, the respondent was to rate the potential indicators as to whether they were likely to yield an incidence of fraud in an organization.

3.6. Data Analysis

Completed questionnaires were edited for completeness coded, cleaned and entered in the SPSS version 23 software to allow for statistical analysis so as to obtain a meaningful report. Tables were used to summarize findings from the respondents. Both descriptive and inferential statistics were used in the study. Descriptive statistics summarized the data set for analysis by use of mean, standard deviation, measures of skewness and kurtosis. Inferential statistics revealed the relationship between the variables and helped in regression analysis.

3.6.1. Model Specification

Multiple regression model of deterrence of incidence of fraud versus forensic accounting practices was used. Forensic accounting practices were the independent variables whereas deterrence of incidence of fraud was the dependent variable.

The multiple regression model for this study was

$$FRAUDINC = \beta_0 + \beta_1 (FRAUDINVE) + \beta_2 (INVESTIACC) + \beta_3 (LITIGSUPP) + \mathcal{E}$$

Where:

FRAUDINC is Deterrence Incidence of Fraud

FRAUDINVE is Fraud Investigation

INVESTIACC is Investigative Accounting

LITIGSUPP is Litigation Support

β_0 is a constant and β_1, β_2, β_3, are the coefficients of the independent variables; fraud investigation, investigative accounting and litigation support respectively that were estimated '$\mathcal{E}$' is the error term.

3.6.2. Assumptions of the Regression Model

These are assumptions that a multiple regression model should meet before any analysis of data is done. Failure to satisfy the same may lead to, biased estimates of relationships, there will be under confidence or over confidence relationships of regression coefficients and untrustworthy confidence intervals and significance tests (Lani, J. 2019).

Normality in a regression analysis model assumes residual errors are normally distributed that is, they come from a population with zero mean and constant variance (Gujarati, 2004). It was tested using measures of skewness and kurtosis and confirmed by a calculation of the Jarque Bera test of normality. The assumption was not violated.

Linearity in multiple regression analysis assumes that there is a linear relationship between the dependent and the independent variables. It was tested by inspecting the correlation matrix and also by ANOVA whereby it was not violated.

Multi-Collinearity exists when predictor variables get highly correlated with each other, hence providing redundant information about a response (Gujarati, 2004). This assumption requires that independent variables are not highly correlated with each other.

It was detected with the help of Tolerance and its reciprocal, VIF (Variance Inflation Factor) (Gujarati, 2004). If T< 0.2 0r < 0.1, and simultaneously if the value of VIF is 4 and above, then multi–collinearity exist. (Lani, J. 2019). It was not violated.

Homoscedasticity assumes that the variances of the error terms are constant across the values of the independent variables (Gujarati, 2004). If error terms don't have constant variance, they are said to be heteroscedastic. It was tested using the Levene test of homogeneity of variance and found not violated.

3.7. Reliability and Validity of Instrument

An instrument is considered reliable when it is able to give/elicit same responses each time it is administered (Saunders, *et al.* 2009). Any random influence that may tend to show defiance should be assumed to be a source of error. Mislevy (2007) indicated that poor reliability hinders precision and reduces the ability to track and make meaningful inferences. The study used a standardized questionnaire in a modified form, which had been tested and used in other studies and proved reliable. Further, to test for reliability of the data collection instrument, a pilot study was conducted in the Nyanza branch where 12 participants took place and the results for the Cronbach Alpha are tabulated as below for the variables. All the values were above 0.6.for all variables Tabachnick & Fidell, 2007). The instrument was therefore reliable.

Table 3.1. Reliability Statistics for Pilot Test

Variable	Cronbach Alpha	No of items
Fraud Investigation	0.669	8
Investigative Accounting	0.792	10
Litigation Support	0.785	9
Incidence of Fraud	0.824	17

Source: Researcher (2019)

Validity estimates the extent to which an instrument measures what it is supposed to measure, and performs as designed to perform. (Saunders, *et al.,* 2009). To ensure validity of the instrument, it was reviewed by university supervisors for its structure and content before proceeding to final data collection. Construct validity was confirmed by factor analysis whereby there was factor loading on each of the variables which confirmed the validity of the instrument.

3.8. Ethical Considerations

Prior to conducting the study, a letter was given from the School of Business and Economics as permission to undertake the study. Permission was also sought through a letter from the Department of Education, Culture, Youth Affairs, Social Services and Sports in the County Government of Uasin Gishu to undertake the research in the identified study area. Informed consent of the respondents was solicited with a promise of confidentiality of their private information and anonymity of their responses. The purpose of the study was informed beforehand that, it would only be for academic purposes. Participation was free will with no coercion or manipulation and credit was given duly to scholars for their work used throughout the study.

3.9. Limitations of the Study

The study encountered a number of limitations. Firstly, the responses were more of perceptions which are really opinions of respondents. Additionally, majority of the older age group did not participate willingly in the study as recorded from the findings yet this is the group attributed to a rich professional experience. Finally, some eligible CPAs did not take part in the study with the justification that, they were not forensic investigators. This has been identified as an area of further research for other upcoming studies.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0. Overview

This chapter presents the findings of the study. It firstly presents the descriptive statistics for respondent demographic attributes and also for the variables. Additionally, it provides reliability tests, assumptions of the multiple regression model, correlation results, regression analysis, hypotheses testing and finally a discussion of the findings.

4.1. Descriptive Statistics

4.1.1. Response Rate

Questionnaires were used for data collection to ascertain the effect of forensic accounting practices on deterrence of incidence of fraud. These were administered to 256 targeted CPAs out of which 203 were filled and mailed back whereas 53 questionnaires were not returned.10 questionnaires out of the 203 that were returned were rejected during data cleaning due to incompleteness thus, 193 questionnaires were accepted for analysis which represent a response rate of 75.39%. The response rate of 75.39% is acceptable as Kothari (2004) notes that a response rate of 60% and above is acceptable.

4.1.2. Demographic attributes

Demographic attributes for this study comprised of gender, age, work tenure, highest education level attained and professional trainings or certifications obtained. As illustrated, male respondents were 110 representing 57% whereas female respondents were 83 representing 43%. This implies that the accounting fraternity is slightly dominated by the male gender. Age of 26-30 years were majority rating 59 representing

30.6% followed by age bracket 31-35 frequency 51 representing 26.4%, followed by age 36-40 with 34 respondents representing 17.6%. 41 and above respondents had the second lowest frequency of 26 represented by 13.5% and age 21-25 having 23 represented by 11.9%. These clearly indicate that the accounting fraternity is dominated by middle age accountants aged 26-40 years.

Respondents with work tenure below 5 years were majority with 86 representing 44.6% followed by 6-10 years with 57 representing 29.5%. The highest work tenure years of 31 and above and 21-25 bracket had 1 CPA each representing 0.5% each closely followed by 26-30 years of working represented by 2.1%. This implies that the accounting fraternity is majorly comprised of CPAs whose work tenure is less than 20 years which could also be explained by the fact that older CPAs were not willing to fill questionnaires during data collection.

First degree was the highest level of education reached by majority of respondents accounting to 123 CPAs representing 63.7%. Those with Master's degree were 44 representing 22.8%. The least had 4 CPAs who had attained a PhD represented by 2.1%. This implies that a significant number of respondents (88.6%) were learned and could understand the questionnaire very well.

Profession evaluated the number of professional certifications or trainings obtained in the whole area of accounting. 165 CPAs had 1 certification followed by 25 CPAs with 2 certifications and finally by 3 CPAs with 3 certifications each. These were represented by 85.5%, 13% and 1.5% respectively. Holding a professional certification besides the respective highest education level attained shows a more understanding of the research

problem and therefore better results from the respondents. Demographic information is

presented in table 4.1 below.

Table 4.1   **Demographic Data**

Variable	Frequency	Percentage	Valid %	Cum. %
Gender:(N =193)				
Valid Male	110	57	57.0	57.0
Female	83	43	43.0	100.0
Age:(N=193)				
Valid 21-25	23	11.9	11.9	11.9
26-30	59	30.6	30.6	42.5
31-35	51	26.4	26.4	68.9
36-40	34	17.6	17.6	86.5
41 and above	26	13.5	13.5	100.0
Work Tenure: (N=193)				
Valid Below 5	86	44.6	44.6	44.6
6-10	57	29.5	29.5	74.1
11-15	29	15.0	15.0	89.1
16-20	15	7.8	7.8	96.9
21-25	1	0.5	0.5	97.4
26-30	4	2.1	2.1	99.5
31 and above	1	0.5	0.5	100.0
Education: (N= 193)				
Valid Certificate	6	3.1	3.1	3.1
Diploma	11	5.7	5.7	8.8
Higher Dip	5	2.6	2.6	11.4
1st Degree	123	63.7	63.7	75.1
Masters Deg.	44	22.8	22.8	97.9
PhD	4	2.1	2.1	100.0
Professional(s) certifications: (N=193)				
Valid 1	165	85.5	85.5	85.5
2	25	13.0	13.0	98.5
3	3	1.5	1.5	100.0

Source: Researcher (2019)

4.1.3. Descriptive Statistics

Out of 8 items that measured fraud investigation, examination of financial source documents was rated highly with mean 4.06 and standard deviation 1.016, followed by reviewing compliance regulatory strategies with 4.05 as the mean and standard deviation of 0.862. Performing an electronic evidence discovery and probing a suspect's financial transactions had the least mean of 3.80 each with standard deviation of 0.998 and 1.193 respectively.

Investigative Accounting with ten items had 2 items rated highly. Investigative accounting can locate diverted funds and or assets had the highest score of 4.19 followed by Investigative Accounting can review factual situations in an investigation scoring 4.11 with standard deviations of .748 and .812 respectively. Investigative accounting can identify reversible insider transactions had the lowest mean rating followed closely by Investigative Accounting can support recovery of lost assets with means 3.93 and 3.96 and standard deviations 0.963 and 0.909 respectively.

Litigation support consisted of 9 item out of which Litigation Support assists with understanding of financial issues and provides expert witness in a litigation support service had mean ratings of 4.20 and 4.18 respectively and standard deviations of 0.774 and 0.777 respectively. Litigation support assists with settlement discussions and negotiation was followed by Litigation Support attends examinations for discovery to review testimony of other experts had the least ratings of 3.85 and 3.91 with standard deviations of 0.991 and 0.876 respectively.

The item with the highest mean rating in fraud indicators was unsupported and unauthorized balances and transactions followed by missing assets of significant amount with mean ratings of 4.24 and 4.16 and standard deviations of 0.809 and 0.952

respectively. Fewer or greater responses to confirmations than anticipated and undue time pressure from management to resolve issues had lowest scores of 3.66 each with standard deviations of 1.083 and .934 respectively. This is presented in table 4.2 below.

Table 4.2: Descriptive Statistics

Fraud Investigation	N.	Min.	Max.	Mean	Std. D
Examination of financial source documents	193	1	5	4.06	1.016
Review of financial reports	193	1	5	4.00	.848
Performing fraud risk assessment	193	1	5	4.02	.893
Performing electronic evidence discovery	193	1	5	3.80	.998
Assistance with protection and recovery of assets	193	1	5	3.88	.942
Reviewing regulatory compliance strategies	193	1	5	4.05	.862
Searching evidence of criminal conduct	193	1	5	3.90	.841
Probing suspect financial transactions	193	1	5	3.80	1.193
Investigative Accounting (IA)					
IA can locate diverted funds and or assets	193	1	5	4.19	.748
IA can identify misappropriated assets	193	2	5	4.04	.900
IA can identify reversible insider transactions	193	1	5	3.97	.800
IA can support recovery of lost assets	193	1	5	3.96	.909
IA can identify financial account misstatements	193	1	5	4.03	.976
IA can coordinate other experts	193	1	5	3.98	.916
IA can detect suspicious &fraudulent transactions	193	1	5	4.10	.878
IA can review factual situations in an investigation.	193	1	5	4.11	.812
IA can uncover fraudulent investment schemes	193	1	5	4.07	.893
IA can successfully value damages suffered	193	1	5	3.93	.963
Litigation Support (LS)					
LS provides reports to judge expert opinions	193	1	5	4.11	.773
LS helps in determination and rebuttal of damages	193	1	5	3.92	.924
LS attends exams for discovery to review testimony	193	1	5	3.91	.876

LS assists with understanding of financial issues	193	2	5	4.20	.774
LS provides expert witness in a litigation support	193	1	5	4.18	.777
LS obtains documents to support or refute a claim	193	1	5	4.14	.876
LS reviews documents to form case initial assessment	193	1	5	4.08	.810
LS assists with settlement discussions and negotiation	193	1	5	3.85	.991
LS attends trials to assist in cross examination	193	1	5	4.02	.910
Fraud Indicators					
Transactions that are Incomplete as to Time	193	2	5	4.01	.910
Unsupported or Unauthorized Balances	193	2	5	4.24	.809
Last Minute adjustments that affect Finances	193	1	5	3.89	.943
Tips to Auditor about Alleged Fraud	193	1	5	3.94	.950
Missing Documents	193	1	5	4.10	.930
Documents that Appear Altered	193	2	5	4.11	.932
Unavailability of Original Documents	193	1	5	3.80	1.097
Fewer or Greater Responses to Confirmations	193	1	5	3.66	.934
Missing Assets of Significant Magnitude	193	1	5	4.16	.952
Undue Time Pressure to Resolve Issues	193	1	5	3.78	.934
Complaints by Management about an Audit	193	1	5	3.66	1.083
Unusual Delays in Providing Requested Info.	193	1	5	3.92	.920
Denial of Access to Key IT Staff and Facilities	193	1	5	4.09	.958
Unwillingness to Revise Disclosures in reports	193	1	5	3.94	.969
Failure to Address Deficiencies in Internal ctrl.	193	1	5	3.97	.886
Frequent Changes in Accounting Estimates	193	2	5	4.11	.828
Tolerance of Violations of Code of Conduct	193	1	5	4.06	.975

Source: Researcher (2019)

4.1.4. Reliability Test

Fraud investigation had a Cronbach alpha coefficient of 0.673 for eight items, 0.771 for investigative accounting having ten items, 0.731 for litigation support having nine items and 0.817 for fraud incidence having seventeen items. The Cronbach alpha of the items was good and well above the acceptable levels of 0.6 and above (Tabachnick &Fidell, 2007; Zikmund, et al., 2012) as shown in table 4.3 below.

Table 4.3.   Reliability Statistics

Variable	Cronbach Alpha	No of items
Fraud Investigation	0.673	8
Investigative Accounting	0.771	10
Litigation Support	0.731	9
Incidence of Fraud	0.817	17

Source: Researcher (2019)

4.2. Factor Analysis

Factor analysis was conducted using Principal Component Analysis and Varimax rotation method. The KMO measure was 0.826. Tabachnick & Fidell (2007) opined that a KMO measure 0.7 as a minimum threshold for data adequacy for factor analysis hence the data was adequate for factor analysis. The Bartlett's test of Sphericity was Chi- Square 3512.756 which was significant. The significance of the Bartlett's test of Sphericity imply that the factors show significant patterned relationships.

Table 4.3 below show factor loading after rotation using significant factor criteria of 0.5. There were 4 factors that loaded for fraud investigation, 4 factors loaded for investigative accounting, 7 factors loaded for litigation support and 13 factors loaded for deterrence of incidence of fraud which were used to compute variables that were analyzed in the

regression model. All other factors were eliminated for not loading, for loading differently from where they were expected to load and for cross loading.

Table 4.4. Rotated Component Matrix

Variable	Component			
	1	**2**	**3**	**4**
Fraud Investigation				
Assistance with protection and recovery of assets		.685		
Reviewing regulatory compliance strategies		.530		
Searching evidence of criminal conduct		.643		
Probing suspect financial transactions		.700		
Investigative Accounting (IA)				
IA can identify misappropriated			.654	
IA can identify financial account misstatements			.620	
IA can detect suspicious and fraudulent transactions			.635	
IA can review factual situations in an investigation			.511	
Litigation Support(LS)				
Provides reports to relevant parties to judge expert opinions				.508
Assists in determination and rebuttal of claimed damages				.569
Attends exams for discovery to review testimony of other experts				.703
Obtains documents to support or refute a claim.				.576
Reviews relevant documents for initial assessment of a				.564
Assists with settlement discussions and negotiations				.611
Attends trials to assist in cross examination				.519
Indicators of Incidence of Fraud				
Transactions that are incomplete as to time period etc.		.631		
Unsupported or unauthorized balances and transactions		.533		
Documents that appear altered		.555		
Fewer or greater responses to confirmations than anticipated		.504		
Missing assets of significant magnitude		.575		
Undue time pressure from management to resolve issues		.587		
Complains by management about conduct of an audit		.520		
Unusual delays by entity in providing requested information		.637		
Denial of access to key IT staff and facilities		.568		
Unwillingness to add or revise disclosures in financial statements	.622			
Unwillingness to address identified deficiencies in internal control	.524			

Frequent changes in accounting estimates	.568
Tolerance of violations of entity code of conduct.	.551

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Source: Researcher (2019)

4.3. Regression Assumptions

Before analysis of data using a regression model, model assumptions should be satisfied failure to which conclusions may be faulty. The various tests conducted include normality, linearity, multi-collinearity and homoscedasticity tests.

4.3.1. Normality

Normality was tested by first examining the extent of skewness and kurtosis for each variable. The rule of thumb is that both should be between '-1 and +1' and all the variables were within the acceptable range which was achieved after a transformation through squaring for deterrence of incidence of fraud.

Table 4.5 Descriptive statistics for computed variables

Variable	Mean	Std. Dev.	Skewness	Std. Error	Kurtosis	Std. Error
FRAUDINC	16.0929	4.01174	-.192	.175	-.633	.348
FRAUDINVE	3.9050	.64635	-.193	.175	-.607	.348
INVESTIACC	4.0690	.66215	-.184	.175	-.422	.348
LITIGSUPP	4.0037	.51846	-.100	.175	-.560	.348

Source : Researcher (2019)

Examining the normal probability plot for residuals too indicated normality as most of the points lay on the diagonal line of fitness and very closely to the line with no extreme deviations which could impact normality.

Figure 4.1: Normal Probability Plot

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: SQRFRAUDINC1
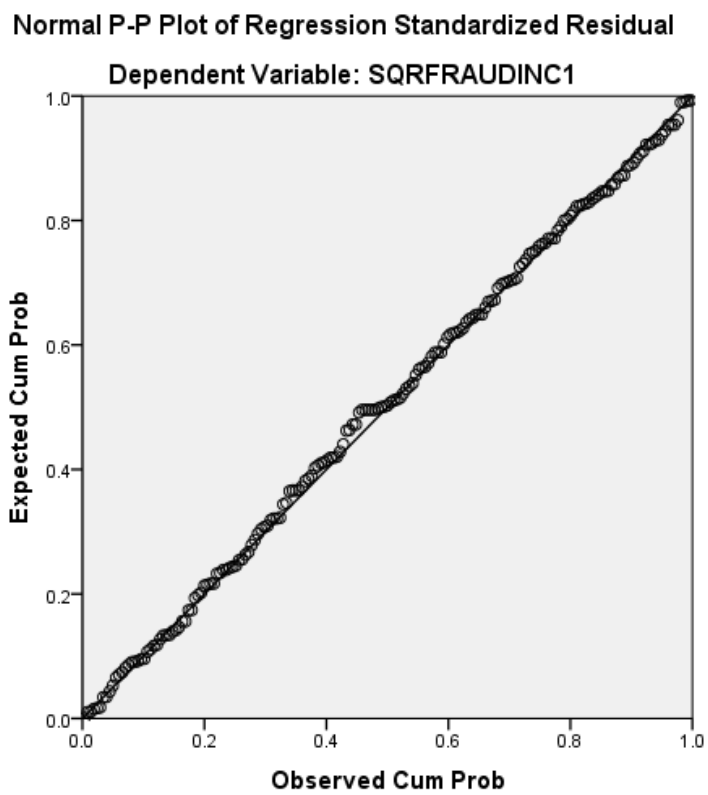
Source: Researcher (2019)

4.3.2. Homoscedasticity

The homoscedasticity assumption that ensures that variance of errors terms across the independent variables are constant was tested using the Levene test of homogeneity of variances. Fraud investigation, investigative accounting and litigation support had a significance of .127, .069 and .347 significant at $p > .05$ for the corresponding Levene statistics with an F Test significance of $p < 0.05$. Homoscedasticity was therefore not violated.

Table 4.6   Test of Homogeneity of Variance

	Levene statistic	Sig.	F Test	Sig.
Fraud Investigation	1.522	.127	3.545	0.000
Investigative Acc.	1.769	.069	6.625	0.000
Litigation Support	1.115	.327	4.716	0.000

Source: Researcher (2019)

4.3.3. Multi Collinearity

Multi - collinearity assumption checks the collinearity between the independent variables. This assumptions tests the predictor variables to ensure that they are not highly correlated which can make the results not to be valid. The correlation matrix is one of the tools that gives the relationship between predictor variables. All the three predictors were not correlated above 0.8 hence there was no multi -collinearity. Using SPSS, tolerance and the VIF values were computed whereby for all variables, tolerance was found to be above 0.2 and VIF was smaller than 4 which show absence of multi-collinearity. Findings in table 4 show the results that there was no multi-collinearity.

Table 4.7 Test for Multi -collinearity

	Collinearity Statistics	
Variable	**Tolerance**	**VIF**
FRAUDINVE	.698	1.432
INVESTIACC	.713	1.402
LITIGSUPP	.599	1.670

Source: Researcher (2019)

4.3.4. Linearity

The study tested linearity using ANOVA model. The null hypothesis H_0 stated that there is no linearity and the H_a hypothesis stated that there is linearity. With linearity value of $p<0.05$ and deviation from linearity value of $p>0.05$, we rejected the null hypothesis that there is no linearity and concluded that there was linearity between the dependent variable each of the independent variables.

Findings indicated that there was linearity for deterrence of incidence of fraud versus fraud investigation $(p<0.05)$ confirmed by deviation from linearity with $p>0.05$). Similarly, deterrence of incidence of fraud versus investigative accounting had linearity value $(p<0.05)$ and significant deviation from linearity had $(p>0.05)$. Furthermore, deterrence of incidence of fraud versus litigation support had linearity value $(p<0.05)$ confirmed by deviation from linearity p value of $(p>0.05)$. This indicates that the linearity assumption was not violated as presented table 4.8. below.

Table 4.8   **ANOVA Table for Linearity**

	Sum of Squares	df	Mean Square	F	Sig.
FRINC *FI Between Groups					
(Combined)	547.756	11	49.796	3.545	.000
Linearity	442.207	1	442.207	31.483	.000*
Deviation from					
Linearity	105.549	10	10.555	0.751	.675
FRINC *IA Between Groups					
(Combined)	886.997	11	80.636	6.625	.000
Linearity	703.451	1	703.451	57.794	.000*
Deviation from					
Linearity	183.546	10	18.355	1.508	.139
FRINC *LS Between Groups					
(Combined)	927.20	16	57.951	4.716	.000
Linearity	702.139	1	702.139	57.136	.000*
Deviation from					
Linearity	225.081	15	15.005	1.221	.260

*Correlation is significant at the 0.05 level (2 – tailed)

Where: FRINC – Deterrence of Incidence of Fraud
        FI – Fraud Investigation
        IA- Investigative Accounting
        LS –Litigation Support

Source: Researcher (2019)

4.4. Correlation Statistics

Correlation assessed the relationship between variables: deterrence of incidence of fraud, fraud investigation, investigative accounting and litigation support. The Pearson correlation results are presented in table 4.8 below. Findings revealed that, fraud investigation, investigative accounting and litigation support were all positively and significantly correlated with incidence of fraud with r = .378; .477 and .477 respectively (p value = 0.000)

Table 4.9. Correlations Statistics

	FRINC	FI	IA	LS
FRAUDINC	1			
FRAUDINVE	.378**	1		
INVESTIACC	.477**	.387**	1	
LITIGSUPP	.477**	.534**	.520**	

** Correlation is significant at the 0.01 level (2-tailed).

Where: FRINC – Deterrence of Incidence of Fraud
FI – Fraud Investigation
IA- Investigative Accounting
LS –Litigation Support

Source: Researcher (2019)

4.5. Regression Analysis

Regression analysis assesses whether one or more independent variables explain the dependent variable. It also gives the magnitude of the cause effect relationship and direction by estimating the coefficients of the independent variables. With its key assumptions tested and satisfied, table 4.10. below presents the coefficients and the model summary.

From the table, R square results in the regression table below show that a unit change in fraud investigation, investigative accounting and litigation support (IVs) combined will lead to about 31.1% change in deterrence of incidence of fraud (DV). The Adjusted R^2 of 30.0% show that all the independent variables that is: fraud investigation, investigative accounting and litigation support explain 30% of the variation in deterrence of incidence of fraud.

From table 4.10 below, fraud investigation had a β_1 = .128 (p value = 0.078 > 0.05).It showed a positive effect which was not significant. It implied that, with a unit increase in fraud investigation, there would follow a positive .128 increase in deterrence of incidence of fraud which was not significant. Investigative accounting had a β_2 = .295 (p value = 0.000 < 0.05). It showed a positive effect that is significant. It implied that, with a unit increase in investigative accounting, there would be a positive .295 increase in deterrence of incidence of fraud which was significant. Litigation support had a β_3 = .255 (p value =.001 < 0.05). It showed a positive and significant effect of litigation support on incidence of fraud. It implied that, with a unit increase in litigation support, deterrence of incidence of fraud would increase by .255 which was positive and significant.

Table 4.10. Model summary and Table of Coefficients.

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-2.181	2.034		-1.072	.285		
FRAUDINVE	.794	.449	.128	1.770	.078	.698	1.432
INVESTIACC	1.788	.433	.295	4.127	.000	.713	1.402
LITIGSUPP	1.972	.604	.255	3.266	.001	.599	1.670
R Square				.311			
Adjusted R Square				.300			
Standard Error of the Estimate				3.35704			
Durbin Watson				1.619			
F Change				28.397			
Significance				0.000			
a Dependent Variable: FRAUDINC							

Source: Researcher (2019)

4.6. Analysis of Variance (ANOVA)

ANOVA evaluates the significance of variation contributed by independent variables on the dependent variable compared to the variation contributed by residuals. The F test determines existence of a significant relationship between the dependent variable and the whole set of independent variables (Levine *et al*., 2013) hence tests how fit the model is to bias. The significant value of F statistic 28.397 (p = 0.000 <0.05) indicates that the model accounts for more than 28 times variation attributed to independent variables when compared to residuals.

This shows that the model is not biased and there was goodness of fit hence the model was fit to predict effect of forensic accounting practices on deterrence of incidence of

fraud using the three independent variables. The table below presents the results of the model.

Table 4.11 ANOVA Model (Testing Goodness of Fit)

ANOVA					
Model **Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	
Regression 960.081	3	320.027	28.397	.000b	
Residual 2129.981	189	11.270			
Total 3090.062	192				
a Dependent Variable: FRAUDINC					
b Predictors: (Constant), LITIGSUPP, INVESTIACC, FRAUDINVE					

Source: Researcher (2019)

4.7. Hypothesis Testing And Discussion Of Findings

4.7.1. Fraud Investigation and Deterrence of Incidence of Fraud

The findings in the above table 4.8 show that fraud investigation had a coefficient of estimation which was positive but not significant of $\beta_1 = .128$ (p value = 0.078). The null hypothesis H_{01} had stated that fraud investigation has no significant effect on deterrence of incidence of fraud. We failed to reject the null hypothesis H_{01} and concluded that fraud investigation has no significant effect on deterrence of incidence of fraud. This implies that fraud investigation was not an important practice in deterrence of incidence of fraud. Consistently, Eyo and Ebahi (2017) noted that fraud investigation had no significant effect in deterrence of incidence of fraud. They attributed this to many fraud cases that never get reported in the courts. They argued that, once fraud investigation discovered existence of fraud, there were no further techniques applied to establish facts that could be used as evidence in a court of law making it a practice in limbo hence not significant.

This too was supported by Clements and Knudstrup (2016) who suggested that fraud investigation was not significant due to lack of standardized procedures that would provide direction for fraud investigators to successfully plan their investigation. They asserted that, since fraud investigation is not only performed by accounting professionals, this lack of direction mostly affects inexperienced fraud investigators who end up with wrong procedures for investigation.

Asare, et. al. (2015) too supported these findings and argued that fraud investigation is not significant in dealing with deterrence of incidence of fraud. They cited various limitations such as insufficiency of training to detect and recognize fraud, limited fraud knowledge for identification of already disguised red flag and lack of understanding of the fraud schemes and the investigation process. They posited that, such make it difficult for a fraud investigator to effectively assess and recognize pressure (incentives) to commit fraud, causes inability to spot opportunities that can facilitate incidence of fraud and makes it difficult to sufficiently modify a standard program at hand to fit a given case of fraud incidence.

Inconsistently however, Dada, et al. (2013) found out that fraud investigation is significant in deterrence of incidence of fraud. However, they emphasized a need for a forensic investigation unit and employment of experts for proper investigation. These they suggested can assist in effective detection of fraud and responsible fraud perpetrators consequently enabling effective prosecution of fraudsters.

4.7.2. Investigative Accounting and Deterrence of Incidence of Fraud

From the findings in table 4.8 above, investigative accounting had a coefficient of estimation β_2 = .295 (p value = 0.000) which was positive and significant. The null hypothesis H_{02} had stated that investigative accounting has no significant effect on deterrence of incidence of fraud. We rejected the null hypothesis H_{02} and concluded that investigative accounting has a positive and significant effect on incidence of fraud. This implies that, investigative accounting is a very important practice for deterrence of incidence of fraud causing up to a 29.9% increase in deterrence whose effect was significant.

Consistently, Kasum (2009) argued that investigative accounting has a role to play especially in the public sector to reverse the fraud trend. In his findings, he indicated that, with increase in fraud and corrupt practices in developing countries and its negative impact on the economy, investigative accounting is an important practice for curbing incidence of fraud. He further noted that investigative accounting is of much essence in the public sector in handling fraud and corruption related issues.

Similarly, Bhasin (2013) supports these findings and notes that, investigative accounting is the solution to financial deception and scandals. With relevant skills of an investigative accountant, he adds, such as deductive analysis, critical thinking and analytical proficiency among others and professional experience to analyze complex transactions, investigative accounting remains the feasible solution to improve the overall corporate governance scenario in organizations

Ocansey (2017) too consistently reported a significant relationship in application of investigative accounting techniques to combat financial crimes in Ghana. In his findings, he revealed that application of investigative accounting techniques impacts greatly the

combating of economic and financial crimes. He further confirmed confidence of minimizing fraud and financial crimes to lower levels than those prevailing where combating of fraud is not achieved.

Onodi, et al. (2015) in their study indicated a significant relationship between forensic investigative methods and corporate fraud deterrence. Their findings showed that investigative accounting techniques are essential in disclosing incidence of financial crimes. They however identified a need for specialized investigative skills which are not readily available and as such, majority of investigative accountants suffer from poor perception and lack of knowledge of such investigative methods that can hinder their effective conduct of the investigation.

4.7.3. Litigation Support and Deterrence of Incidence of Fraud

Similarly, litigation support had a coefficient of estimation $\beta_3 = .255$ (p value = 0.001 < 0.05) which was positive and significant. The null hypothesis H_{03} had stated that litigation support has no significant effect on deterrence of incidence of fraud. We rejected the null hypothesis H_{03} and concluded that litigation support has a positive and significant effect on incidence of fraud. This confirmed that litigation support was also a very essential practice for deterrence of incidence of fraud causing up to .255 increase in deterrence of incidence of fraud whose effect was significant.

Mukoro, et al. (2103) consistently supported this finding in their study and noted that litigation support is relevant in fighting corruption. They indicated that, litigation support services are very important in curbing fraud incidence when coupled with effective fraud investigation since it provides a mechanism to demand for accountability from fraud perpetrators. They further confirmed that, forensic accountants are placed in a better position to fight crime due to their specialized skills and roles in investigation. They

however noted that, for this to be achieved in this age, the accounting profession should continually improve and expose its members to training and education to make them well placed in the competitive world.

Enofe, et. al. (2015) emphasized on the significant effect of litigation support on incidence of fraud. They posit that, litigation support services enhances financial fraud reduction through prosecution of fraud perpetrators of and prescription of punishment which in overall improves accounting credibility and financial reporting credibility. Eyo and Ebahi (2017) however disputed the significance which is a divergent view from the findings of other studies.

CHAPTER 5

SUMMARY OF FINDINGS CONCLUSISONS AND RECOMMENDATIONS

5.0. Overview

This chapter presents a summary of the findings as per the hypotheses tested. It discusses the conclusions reached recommendations made and suggestions for further research.

5.1. Summary of Findings

The research sought to ascertain the effect of forensic accounting practices on "deterrence of incidence of fraud in Kenya. The study evaluated three practices namely fraud investigation, investigative accounting and litigation support that were translated to specific objectives to establish any significant effect on deterrence of incidence of fraud in Kenya. Using an explanatory research design to study 256 CPA (K)s in the North Rift ICPAK Branch, at 95% confidence level, 193 questionnaires were analyzed and these were the findings.

The study revealed that fraud investigation has a positive but no significant effect on deterrence of incidence of fraud. This implied that it was not an important practice in deterrence of incidence of fraud which was consistent with earlier studies carried out in the same area. The fear of reporting fraud cases to relevant authorities, opting for out of court preferences and or settlements in dealing with fraud cases, lack of credibility and confidence in legal frameworks have been attributed to this finding. Additionally, lack of standardized procedures to guide investigations and a lack of knowledge and understanding of red flags and fraud schemes among others explain this finding. However, some studies have indicated otherwise making it an inconclusive study.

Investigative accounting revealed a positive and significant effect in deterrence of incidence of fraud. Investigative accounting is indeed relevant in deterrence of incidence of fraud. It goes deep into identifying where lost proceeds both in cash and other non-cash forms went, and makes sufficient efforts for their recovery. Identifying that fraud occurred and where proceeds were diverted to but never recover the lost proceeds is a painful experience any organization can go through. This was consistent with a number of studies on investigative accounting.

Litigation support too was found to have a positive and significant effect on deterrence of incidence of fraud. Employing litigation support services is a very important decision an organization can make on deterrence of incidence of fraud. Litigation support should be upheld when dealing with fraudsters. Prosecution and prescription of punishment to fraud perpetrators together with payment for damages suffered and losses incurred can be a lesson to potential fraudsters in organizations. Indeed, the importance of litigation support cannot be overemphasized. This was consistent with other studies on litigation support.

5.2. Conclusion

The study addressed the effect of forensic accounting practices on deterrence of incidence of fraud in Kenya. With an upward surge of incidence of fraud in Kenya, it is prudent to posit that fraud can only be wished away but possibility of fraud occurring will never lack in organizations as long as factors that influence the fraud motive are ever present. Such include: motivation, opportunity, lack of personal integrity and capability to commit fraud.

Even with mixed views on fraud investigation as an unimportant practice, the study identified fraud investigation as of essence in deterrence of incidence of fraud if blended with the right skills and expertise, if investigators can be given sufficient training and if facilitated with regulation and protection by a relevant body. It is likened to a ground breaker for conducting an investigation before investigative accounting and litigation support services can be performed.

In conclusion therefore, forensic accounting practices are imperative for deterrence of incidence of fraud. They cannot be underestimated as they are a feasible solution to deterrence of incidence of fraud in Kenya.

5.3. Recommendations

Deterrence of incidence of fraud has an important focus in both government units and business entities globally since no organization can run away from being victims of fraud. Therefore, the researcher makes the following recommendations. Firstly, organizations should employ services of an expert forensic accountant at some point in their operations to educate and enlighten employees and management on fraud incidence and its negative consequences so that all stakeholders would be on lookout for any form of incidence of fraud in their organizations.

Secondly, a regulatory body should be set up that will specially regulate the engagements of forensic accounting practitioners and enrich the accounting fraternity. Such body will provide policy guidelines on the conduct of investigations including but not limited to provision of standard procedures for conducting investigations. Besides the body will provide protection to its members during investigations and litigation engagements and

post investigation. A strengthened legal system is also recommendable to give confidence to forensic investigators and victims of fraud alike.

Thirdly, all CPAs should be trained on the red flags to look out for and fraud schemes that are very rampant in organizations. Additionally, they should understand the factors that motivate incidence of fraud, that is: motivation, opportunity, personal integrity (rationalization) and capability. This will give an upper hand in recognizing even subtly disguised fraud incidences.

Institutions of higher learning should provide introductory coursework and study programs in forensic accounting to be studied early in the academic line. In addition, the academic realm should encourage research opportunities, especially on fraud investigative techniques. This will contribute to the body of knowledge in forensic accounting. Finally, the government should set up forensic units in each of its ministries and parastatal bodies to help in deterrence of incidence of fraud in Kenya.

5.4. Suggestions for Further Research

Three research recommendations were made for further studies. Firstly was a study to give conclusive evidence on the effect of fraud investigation on deterrence of incidence of fraud. Secondly, is a similar study that will target fraud examiners and other forensic experts to analyze the effect of all the three practices: fraud investigation, investigative accounting and litigation support. Finally, further studies are encouraged to test the new fraud triangle model targeting other respondents besides CPAs to ascertain its relevance as a tool for deterrence of incidence of fraud.

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Appendix I: Questionnaire

This research work intends to study forensic accounting practices and their effect on deterrence of incidence of fraud in Kenya. Please provide answers to all questions against the most suitable rating by clicking in the respective check box as desired. If this (☒) appears when you click the checkbox then that is checked correctly. For every question or statement, you can only check once except where it is indicated that you select all that apply. (Remember, responses will be treated with utmost confidentiality)

Section A consists of background information about yourself.

Section B seeks information on the effect of fraud investigation on incidence of fraud.

Section C seeks information on the effect of investigative accounting on fraud incidence

Section D seeks information on the effect of litigation support on incidence of fraud.

Section E seeks information on indicators of likely incidence of fraud in organizations.

Section A: Background Information

1. Gender of the respondent: Male ☐   Female ☐
2. Age of the respondent ---
3. How many years have you been working as an accountant/Auditor? -------------
4. Select as appropriate the highest education qualification attained

    Diploma ☐   Higher diploma☐   1st degree ☐   Master's degree ☐   PhD ☐

    Any other (specify) --
5. Select a professional training/ certification that you hold. (select all that apply)

    ☐ACCA – Chartered Certified Accountant

    ☐CFIP – Certified Fraud Investigative Professional

    ☐CFE – Certified Fraud Examiner

    ☐CIA – Certified Internal Auditor

    ☐CPA – Certified Public Accountant

    ☐CDFP – Certified Digital Forensic Professional.

    ☐Others (List):…………………………………….

Section B: Fraud Investigation

6. Rate the effectiveness of the following procedures performed by a fraud investigator during a fraud investigation to ascertain incidence of fraud.

    (Key: 5-very effective; 4-effective; 3-not sure; 2-ineffective; 1-very ineffective)

Fraud Investigation Procedures

i.	Examination of financial source documents	5☐ 4 ☐3 ☐2 ☐1 ☐
ii.	Reviewing of financial reports	5☐4 ☐3 ☐2 ☐1 ☐
iii.	Performing a fraud risk assessment	5☐4 ☐3 ☐2 ☐1 ☐
iv.	Performing an electronic evidence discovery	5☐4 ☐3 ☐2 ☐1 ☐
v.	Providing assistance with protection and recovery of assets.	5☐4☐3☐2☐1☐
vi.	Reviewing regulatory compliance strategies.	5 ☐4 ☐3 ☐2 ☐1 ☐
vii.	Searching for evidence of criminal conduct	5☐ 4☐3☐ 2☐1☐
viii.	Probing a suspect's financial transactions.	5☐ 4 ☐3 ☐2 ☐1 ☐

Section C: Investigative Accounting
7. Rate your agreement on the following statements denoting achievements of an investigative accountant in dealing with incidence of fraud.
   (Key: 5- Strongly Agree; 4- Agree; 3- Not Sure 2- Disagree; 1- Strongly disagree.)

Investigative Accounting Achievements

i.   An Investigative accountant can locate diverted funds and or assets
     5 □4 □3 □2 □1 □

ii. An Investigative accountant can identify misappropriated assets
     5□ 4□3□ 2□ 1□

iii. An Investigative accountant can identify reversible insider transactions
     5□ 4□ 3□ 2□ 1□

iv. An Investigative accountant can support recovery of lost assets
     5□ 4□ 3□ 2□ 1□

v.   An Investigative accountant can identify financial account misstatements
     5□ 4□ 3□ 2□ 1□

vi. An Investigative accountant can coordinate other experts i.e. private investigators, forensic document examiners, & consulting engineers 5□ 4□ 3□ 2□ 1□

vii. An Investigative accountant can detect suspicious and or fraudulent transactions
     5□ 4□ 3□ 2□ 1□

viii. An Investigative accountant can review factual situations in an investigation and provide suggestions regarding possible courses of action.
     5□ 4□ 3□ 2□ 1□

ix. An Investigative accountant can investigate and uncover fraudulent investment schemes.
     5□ 4□ 3□ 2□ 1□

x.   An Investigative accountant can successfully value damages suffered and losses incurred in an investigation.   5□ 4□ 3□ 2□ 1□

Section D: Litigation Support
8. Rate your agreement on the effectiveness of the following litigation activities while supporting a litigation exercise.
   (Key: 5- Very effective; 4- effective; 3- Not sure; 2- Ineffective; 1-very Ineffective)

Litigation Activity.
i.   Providing relevant parties with reports to judge the expert's opinion and the basis of such opinions.   5□ 4□ 3□ 2□ 1□

ii. Assisting in determination and rebuttal of claimed damages 5□ 4□ 3□ 2□ 1□

iii. Attending examinations for discovery to review testimony of other experts
     5□ 4□ 3□ 2□ 1□

iv. Assisting with the understanding of financial issues   5□ 4□ 3□ 2□ 1□

v.   Providing expert witness in a litigation support service 5□ 4□ 3□ 2□ 1□

vi. Obtaining documents necessary to support or refute a claim. 5□ 4□ 3□ 2□ 1□

vii. Reviewing relevant documentation to form an initial assessment of a case in an identified area of loss.   5□ 4□ 3□ 2□ 1□

viii. Assisting with settlement discussions and negotiations 5☐ 4☐ 3☐ 2☐ 1☐
ix. Attending trials to hear testimony of opposing expert and providing assistance with cross-examination. 5☐ 4☐ 3☐ 2☐ 1☐

Section E: Deterrence of Incidence of fraud

9. Rate your agreement on the following fraud indicators as to whether their existence indicate incidence of fraud in organization.
(Key: 5- Strongly Agree; 4- Agree; 3-Not Sure; 2- Disagree; 1- Strongly Disagree)

Fraud Indicator

i. Transactions that are not recorded in a complete or timely manner as to amount, accounting period, classification, or entity policy. 5☐ 4☐ 3☐ 2☐ 1☐
ii. Unsupported or unauthorized balances or transactions. 5☐ 4☐ 3☐ 2☐ 1☐
iii. Last-minute adjustments that significantly affect financial results.
5☐ 4☐ 3☐ 2☐ 1☐
iv. Tips to the auditor about alleged fraud. 5☐ 4☒ 3☐ 2☐ 1☐
v. Missing documents. 5☐ 4☐ 3☐ 2☐ 1☐
vi. Documents that appear to have been altered. 5☐ 4☐ 3☐ 2☐ 1☐
vii. Unavailability of original documents and in its place photocopied or electronically transmitted documents exist. 5☐ 4☐ 3☐ 2☐ 1☐
viii. Fewer responses to confirmations than anticipated or a greater number of responses than anticipated. 5☐ 4☐ 3☐ 2☐ 1☐
ix. Missing assets of significant magnitude. 5☐ 4☐ 3☐ 2☐ 1☐
x. Undue time pressures imposed by management to resolve complex or contentious issues. 5☐ 4☐ 3☐ 2☐ 1☐
xi. Complaints by management about the conduct of the audit or management intimidation of engagement team members. 5☐ 4☐ 3☐ 2☐ 1☐
xii. Unusual delays by the entity in providing requested information.
5☐ 4☐ 3☐ 2☐ 1☐
xiii. Denial of access to key IT operations staff and facilities, including security, operations, and systems development personnel. 5☐ 4☐ 3☐ 2☐ 1☐
xiv. An unwillingness to add or revise disclosures in the financial statements to make them more understandable. 5☐ 4☐ 3☐ 2☐ 1☐
xv. An unwillingness to address identified deficiencies in internal control on a timely basis. 5☐ 4☐ 3☐ 2☐ 1☐
xvi. Frequent changes in accounting estimates that do not appear to result from changed circumstances 5☐ 4☐ 3☐ 2☐ 1☐
xvii. Tolerance of Violations of the Entity's Code of Conduct. 5☐ 4☐ 3☐ 2☐ 1☐

THANK YOU AND GOD BLESS YOU.

Appendix II: Letter of Introduction
Ruth Kemunto Osoro,
School of Business and economics
Moi University,
P.O Box 3900- 30100
Eldoret.

Dear Sir/Madam,

Re: Request to fill attached questionnaire for research.

I am a master's student at Moi University, school of Business and Economics pursuing an MBA course in Forensic accounting. As part of the requirements for award of the degree, I am undertaking a Research Project on Forensic Accounting Practices and their effect on fraud incidence in Kenya.

The purpose of this letter is to request your assistance in filling the attached questionnaire, so as to achieve the objectives of the study. Taking part in the study is a voluntary decision you will make. There are no personal benefits attached to accepting to take part in the study. I also assure you that the information provided will be used exclusively for academic purposes and will be treated with utmost strict confidentiality. A copy of the findings may be availed to you upon request.

Thank you for your support.

Yours faithfully,

Ruth K. Osoro.

Appendix III: Authorization Letter From The University

Appendix IV: Authorization Letter from The Chief Officer Education, Culture and Social Services – Uasin Gishu County