

**THE IMPACT OF FORENSIC ACCOUNTING SERVICES ON
FRAUD DETECTION AND PREVENTION AMONG COMMERCIAL
BANKS IN KENYA**

BY

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DECLARATION

This management research project is my original work and has not been submitted for the award of a degree in any other university.

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This management research project has been submitted for examination with my approval as a university supervisor

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DEDICATION

This project is dedicated to my Mother Mrs Oyier who saw to it that I got the best education in my life and encouraged me to do my best. To my brothers and friends who supported me.

ABSTRACT

Fraudulent practices in Kenyan banks have led to increased losses and collapse of commercial banks, hence the need to use forensic accounting services to detect and prevent such fraudulent activities. The banking industry is a very important institution with many internal controls in order to overcome the fraudulent practices. The objective of this study was to examine the impact of forensic accounting services on fraud detection and prevention among commercial banks in Kenya, the most prevalent type of fraud and to establish the major areas of application of forensic accounting services. The data collection instrument preferred for the study was a questionnaire.

Findings from the study saw that fraud detection and prevention increased when forensic accounting services was employed. The study used descriptive research survey design and uses a sample of 47 respondents in 16 commercial banks in Kenya. The data was analyzed using Statistical package for social sciences (SPSS). The study findings indicated that the application of forensic accounting services by banks led to increased fraud prevention in the commercial banks and the highest application was on enhancing quality of financial reporting. The most prevalent type of fraud in the banking sector was fraudulent expense claims.

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LIST OF ABBREVIATIONS

AICPA:	American Institute of Certified Practicing Accountants
ACFE:	Association of Certified Fraud Examiners
ANOVA:	Analysis of Variance
BFID:	Banking Fraud Investigation Department
CBK:	Central Bank of Kenya
IT:	Information Technology
KPMG:	Klynveld Peat Marwick Goerdeler
PwC:	Price Water House Coopers
SEM:	Structural Equation Modeling
IASB:	International Accounting Standards Board
ISA:	International Standards of Auditing

CHAPTER ONE: INRODUCTION

1.1 Background to the Study

Considerable scandals that have been experienced in recent years in commercial banks in Kenya have reduced the confidence to financial and non financial statements leading to improved regulations governing both the banking sector and the accounting practices as well. Due to this, forensic accountancy as a profession with its services as litigation support, consultancy expert testimony and fraud auditing (investigation accountancy) filled a large gap in prevention of such frauds. History has shown that despite the presence of Sarbanese-oxley legislation of 2002 in the United States and the publishing of Higgs Report and Smith report in the UK in 2003 in response to the collapse of Enron and other big companies in US, employees have continued to manipulate even the best internal controls available for their own personal gain.

These scandals have financially devastated employees and investors and severely harmed the reputation of auditors, analysts and corporate managers. It is in realization of this that various initiatives have been put into place to enhance and enforce the applicability of forensic accounting services by use of the right people, tools, techniques and insight to prevent and detect fraudulent activities and to ensure that the applicability of such services are effective. Modern Information technology has even increased the pace of electronically manipulated frauds in the complex business environment. According to Fraud Survey of KPMG (2008), the total value of fraud reported was \$301.1 million with an average value for each organization of \$1.5million in Australia and New Zealand of 420 organizations surveyed which represented 20% of the 2018 surveys distributed.

In May 2011 in a response to spiraling fraud cases, the CBK demanded an audit of automated payment processing systems operated by commercial banks after their investigations showed the rising cases of fraud were in fact being initiated by bank employees at the point of entry of information into their internal payment systems.

Due to this, this study focused on the impact of forensic accounting services on fraudulent practices in the commercial banks in Kenya. Theoretical prediction indicated that, the application of Forensic Accounting Services helps to prevent fraud occurrence in the commercial banks. According to Gollwitzer (1990), the mindset of a fraud specialist will lead them to search for pertinent information pertaining to frauds. When people are much aware that their fraudulent activities were to be disclosed by the application of forensic accounting services, they feared to commit fraud in the banking industry.

1.1.1 Overview of Fraud

Fraud itself comprises of large varieties and includes bribery, political corruption, consumer fraud, business employee fraud, network harking, bankruptcy divorce fraud, identity theft or even the theft of confidential information. It is a deceptive trick, scam, game, artifice, cabal which is committed to cheat ,mislead someone and contributing something useless to something in order to gain advantage (Institute of Turkish History, 1998). KPMG's fraud survey (2003) reveals that more companies are recently experiencing incidences of frauds than the previous years. According to Pickett (2007), many top managers view fraud as a taboo and rather boring subject, preferring not talk about it at all. This is because investigating fraud means exposing weak controls and even leads to reputational damage of the organization and reanalysis of accounting information. Taking measure to combat fraud and launching new anti fraud initiatives in

response to the Sarbanes-Oxley act of 2002 (KPMG, 2003) has succeeded to combat some financial crimes.

Mislead of financial statements users and increase of commercial disputes, accounting frauds and cases at courts, with the increases such as creative accounting and vague accounting have supported the need of this profession. As the bank strives to expand the business processes, the management is faced with the difficulty of supervising many people at a time making it impossible for managers to follow track of their employees. This makes it easy for employees to commit fraud. Employees naturally become well educated on the inner workings of a company and know where the gaps and weaknesses are (Coenen, 2008). The most recent ACFE survey indicated that 61% fraud schemes were perpetrated by men, while 39% were committed by women. The study notes, however, that fraud committed by men is more costly (Coenen, 2008).

Banking Fraud Investigation Department (BFID) also identified that forensic auditing was compromised within the banks as the sections often fall under either internal audit or security departments, which threatens their independence and integrity. Their recommendation is to set up independent forensic units within the banks, as well as ensuring a separation of duties preventing a single person from originating and completing an assignment of entry. They also emphasized the need for dual control of sensitive areas like strong rooms and locks to security documents and accounts. Deloitte reported that bank fraud tripled to an estimated Kshs 3 billion in 2010, approximately four percent of the total sector profitability over the same period.

PwC Kenya identified the following fraud types in their 2011 Financial Focus: 1) Electronic; manipulation of electronic files, circumvention of information technology controls by those with superior administrative rights or by management, unauthorized penetration mechanisms and 2) Non-electronic fraud; cash theft (including planned robberies), identity fraud especially as regards applications for loans, mortgages and other financial accommodation facilities, card skimming, phishing and cheque fraud.

1.1.2 Nature of Forensic Accounting Services

Chilvers (2000) defines “forensic accounting” as the use of investigative techniques, integrated with accounting and business skills, to develop information and opinions for evidence in court and for use by expert witnesses. Dhar and Sarkar (2010) defined Forensic Accounting as the application of accounting concepts and techniques to legal problems. It demands reporting, where accountability of the fraud is established and the report is considered as evidence in the court of law or in administrative proceedings. The complex nature of forensic accounting is part of appeal to many accountants to enter the field (Kranacher et al.2008). Due to the common nature of the various definitions reside in the areas of litigation services, accounting investigation and preparing court ready evidence all of which are of great importance to the banking industry. Forensic accounting may be one of the most effective and efficient ways to reduce and prevent fraudulent activities as it is concerned with the evidentiary nature of accounting data, and as a practical field concerned with accounting fraud and forensic auditing; compliance, due diligence and risk assessment; detection of financial misrepresentation and financial statement fraud (Skousen and Wright, 2008) .

The forensic accountants draw conclusions, calculate values and identify irregular patterns or suspicious transactions by critically analyzing the financial data. It provides an accounting analysis to the court for dispute resolution in certain cases and it also provides the courts with explanation the fraud that has been committed (Adrian, 2009). This is the reason why forensic accounting may play a vital role in detecting and reducing accounting frauds in the banking sector and as he says Jeyarathmm (2008), quality influences greater efficiency, higher productivity and high quality goods and services. It means that less time is actually spent reworking and correcting mistakes that were committed earlier due to carelessness or negligence.

1.1.3 The Banking Sector in Kenya

A bank can be defined as an institution that mainly deals with receiving money deposits from investors and lending money in form of short-term loans and advances to its customers at prearranged rates of interest (Mbogo, 2003). The Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK). Bank supervision Annual report 2012 indicates that, the banking sector was sound and stable and recorded improved performance in 2012 as indicated by total net assets which increased by 15.3% from Kshs 2.02 trillion in December 2011 to Kshs 2.33 trillion in December 2012, with the growth being supported by the increase of loans and advances. Customer deposits also grew by 14.8% from Kshs 1.49 trillion in December 2011 to Kshs 1.71 trillion in December 2012. This performance was measured in terms of capital adequacy, asset quality, liquidity and earnings as per the central Banks internal rating system however; this sector has continued to face numerous challenges including frauds.

The number of banks in Kenya which takes deposits from individuals and organization to invest on their behalf are 46 (Marketing intelligence, 2002). The central bank has on a few occasions put certain commercial banks under statutory management and some have resulted to closure due to increased instability as a result of fraudulent activities they tend to engage in. The smaller banks which have emerged in a bid to survive are also faced with dangers of increased crimes.

The growth of commercial banks in Kenya, increased number of shareholders and the presence of separate ownership from management of the banks which has realized the increased frauds and financial malpractices has required the use of regular forensic accounting services on financial and non financial reports as a priority in tackling such issues. PwC Kenya, that banks lost approximately Kshs 761 million to fraud in the six-month period January to June 2010 and a staggering Kshs 1.7 billion in the three months August to October 2010. The impact of such is extremely high because very large sum of money is lost through such fraudulent activities. (Goldmann, 2009), it is generally very easy to get away with these schemes because implementing effective controls continue to prove very difficult, in no small measure due to virtually limitless number of ways that these frauds can be perpetrated. The Banking Fraud Investigations Department (BFID) reported that the soaring levels of bank related crime on their books is as a direct result of lack of banks to correct the problem. In addition to this, there is an absence of law which specifically addresses card fraud related crimes in Kenya, resulting in perpetrators operating freely and being handed light sentences if caught.

1.2 Statement of the Problem

It has been claimed by some researchers such as Gichira and Thambo (2003) that some firms in Kenya have collapsed due to fraudulent activities perpetrated by management and employees. While case law for example, Euro Bank Scandal which led to collapse of Nairobi based Euro Bank in February 2003 due to a loss of 1.4 billion Kenya shillings which state corporations had deposited. In the same vein, the failure of statutory auditing to prevent and reduce such fraudulent activities and an increase in crimes within banks has put much pressure in management of such banks to employ the usage of forensic accounting services as a better way to curb such frauds. This in turn has made such commercial banks to easily control and detect fraud due to increased usage of forensic accounting services.

A number of studies have been done on the effectiveness of forensic accounting services. Okunbor et al (2010) for instance found out that forensic accounting services were not effective in deterrence of fraud. In another perspective, Owojori et al (2008) in their study of forensic accounting, the vexed problems in the corporate world, concluded that forensic accounting is the best ever growing areas of accounting that enables in enhancing the chances of success in day today life of corporate firm.

Three recent local studies in the Kenyan context carried out on the same includes; Wanjohi (2011) on rationale for use of forensic accounting in reducing audit expectation gap in Kenya and introduction of forensic audit as a mechanism in reducing audit expectations gap. He established that forensic accounting is important in reducing audit expectation gap. Kimani (2011) looked at fraud risk assessment plan for Barclays bank of Kenya. He found out that fraud risk assessment provided a comprehensive step by step

model that could be utilized in preventing further fraudulent activities. Gakenia (2008) looked at the role of forensic accounting in combating the shortage of fraud examiners and established that knowledge of forensic accounting in Kenya can reduce corporate fraud and mismanagement. Although a number of studies had been done on the concept of forensic accounting services, none of them had focused on the impact of forensic accounting services on fraud prevention and detection specifically in commercial banks in Kenya hence making this study justifiable as it was to address if such applications had an impact on fraud prevention and detection.

1.3 Objectives of the Study

The aim of this study was:

- 1) To establish the impact of forensic accounting services on fraud prevention and detection among commercial banks.
- 2) To determine the most prevalent type of fraud among commercial banks in Kenya.
- 3) To establish the major areas of application of forensic accounting functions in the banks.

1.4 Significance of the Study

The role of forensic accounting provoke many areas in which research can be carried out, but this study focused on understanding the impact of forensic accounting services on fraud prevention in the banking sector. The study was expected to be of help to various groups as follows:

The government: through the central bank of Kenya in formulating of guidelines towards increasing effectiveness of forensic accounting services to reduce the extent of financial

frauds happening in such banks. Terms of trade and credit would also be affected by this information. It was intended to lobby for Kenyan forensic experts to be involved in the events that lead to the creation, modification of various accounting practices and thus enable them to be more applicable and relevant in the banking sector.

Researchers and Academicians: the study forms the basis for future researchers and academicians who may be conducting research on roles and effectiveness of forensic accountants in service delivery since accounting as a profession has changed over the years thus contributing to theory by indicating whether the forensic accounting services are fully applicable in the banking industry. It will add to the existing body of knowledge and provide a source of reference to further empirical studies into the little known ways of fraudulent practices in banks.

Investors: The potential and current investors will benefit from the research. The study seeks to inform the investors about the importance of forensic accountants and their services and further advice on the risks related to their exclusion in the banking activities. This will make them make informed decision on whether to dispose their shares or to buy more so as to benefit in future from the bank. Potential investors will pursue investment in companies that have reduced fraudulent activities due to proper policies like incorporation of forensic accounting services.

Financial Institutions: This study will seek to inform financial institutions in developing policies and giving timely relevant advice to their clients (banks) against the effect of business operations without the assistance of forensic accountants. They would be able to advice their clients on which officials to invest in and which ones to avoid.

Bank Management: The study will offer the suggestions as to internal controls that banking sector could implement to reduce the likelihood of fraud and to strengthen the effectiveness of such services for the survival of the banking sector. If indeed these services can prevent fraudulent activities, the management would rethink its policies and regulations so as to spur confidence in the market and also enable the management to know the future performance of their companies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The purpose of review is to examine the already existing literature that will give this study guidance. The literature available will provide critical analysis and help improve the methodology to be used. Survival and success of the commercial banks are normally influenced by their ability to reduce fraudulent activities to minimum ranging from financial misstatement to employee theft of assets which relates to the main area of study that is concerned with the application of forensic accounting services in the commercial banks in Kenya.

2.2 Theoretical Review

A theoretical (or conceptual) definition gives the meaning of a word in terms of the theories of a specific discipline. This type of definition assumes both knowledge and acceptance of the theories that it depends on. To theoretically define is to create a hypothetical construct (Wikipedia Encyclopedia, 2013).

2.2.1 Punishment-Deterrence Theory of Punitive Damages

“Damage” was denned to be the loss caused by one person to another, either to his person, property or relative rights, through design, carelessness or default, while 'damages' are the indemnity recoverable by the injured party from the party who has caused the injury (Putney, 2004). The general theory upon which the law allows damages for the violation of a civil right is based upon the doctrine that where a civil injury has been sustained the law provides a remedy that should be commensurate to the injury sustained. The classic law and economics account of Tort liability: actors will have

incentives to take reasonable care (i.e. cost effective reasonable precaution) as long as they are forced to pay for the harms that are caused by their unreasonable risks (Shavel, 1980). Compensation is the fundamental principle governing the award of damages. Damages are given as an indemnity to the person injured, not as a punishment to the wrongdoer.

Assumptions of this theory is that, i) actors will in fact pay compensatory damages in each instance in which they take unreasonable risks and cause harm to others, ii) compensatory damages can be set accurately to reflect the total cost of the harm inflicted and iii) damages are given as an indemnity to the person injured not as a punishment to the wrongdoer. Exemption occurs when, accompanied by fraud, gross negligence, malice or oppression and therefore such damages are sometimes awarded as a punishment to the offender. Forensic accountant therefore is obliged to value the magnitude of the loss in terms of cost to the person injured.

2.2.2 White Collar Crime Theory of Fraud

Edwin Sutherland in 1939 was the first to coin the term White collar crime. It means, a crime committed by a person of respectability and high social status in the course of his occupation (Sutherland, 1949). Crimes committed by corporations were also included. Sutherland originally presented his theory in an address to the American Sociological Society in an attempt to study two field, crime and high society which had no previous empirical correlation. White collar criminals attributed different characteristics and motives than typical street criminals. He used the concept to challenge conventional stereotypes and theories.

Assumptions of this theory is that prosecutors and judges are more lenient on white-collar as opposed to street criminals. The legal case which advanced this was; He noted that in his time, less than two percent of the persons committed to prison in a year belong to the upper class. His goal was to prove a relation between money, social status and likelihood of going to jail for a white collar crime, compared to more visible, typical crimes.

2.2.3 Labeling Theory of Crime

It was propounded by Howard Becker in 1963. Labeling theory sees criminal behavior as being defined by society. It holds that the deviance is not inherent to an act but instead focuses on the tendency of majorities to negatively label the minorities or those seen as deviant from standard cultural norms. According to Becker (1963), deviance is not a quality of the act a person commits but rather a consequence of the application by other rules and sanctions to a defender. Behavior in this case is not seen as wrong rather as a deviant behavior. This argument also applies to other groups in society such as the mentally ill. Gove (1975) examines the consequences of labeling-the creation of stigma and the modification of self-image. The criminal is seen as the person to be avoided and treated with suspicion and thus barred from certain types of employment and so the modification of self image comes about due to the stigma the criminal experiences and therefore he becomes the person labeled. This theory does not deal with the question why a person becomes a criminal but tells why society labels some people as criminals or deviants. A case which advanced the theory was AH experiment was performed in the United States of America (Reid,1976) in which eight sane persons of varied backgrounds got themselves admitted for feigned mental illness to psychiatric wards of different hospitals in various parts of the country. All gave the same account of their life situation.

All but one was labeled schizophrenic. Once labeled insane, they were presumed insane by the staff that interacted with them daily.

This theory is pegged on the following assumptions; i) No act is intrinsically criminal, ii) Statistically research can be relied on to be accurate and iii) Deviants are different to normal people. More crimes are committed and the individual forms an identity, that of the criminal along with all its associated values, attitudes and beliefs in process deviance application according to Lemart (1951). Poor diet, mental illness, bad brain chemistry, and even evolutionary rewards for aggressive criminal conduct have been proposed as explanations for crime (Vold, T, T.Benard and J.Snipes (1997).

2.2.4 Theory of Mindset and Problem Representation

Mindset is a general cognitive orientation with distinct features that guide individuals in the collection and interpretation of information (Gollwitzer, 1996). It influences how individuals process information and shapes their thought production and way of thinking. Mindset impacts decision making through its effects on the way in which individuals process task-related information (Beckmann and Gollwitzer, 1987). Preliminary individuals with a particular way of thinking can cognitively evoke in them a focus on information consistent with the mindset and subsequently lead them to search for pertinent information (Gollwitzer, 1990).

It is believed that the mindset of an audit specialist has a direct influence on fraud related task performance. Given that fraud specialists (Forensic Accountants) are more likely than auditors to suspect wrongdoings in the company's reported financial statements, it is

anticipated that they will tend to evaluate these statements as less reliable and at a higher risk level.

The contention that mindset guides and influences the creation of a problem representation because individuals are likely to focus on, remember, and even seek out an information that conforms to their mindset (Pichart and Anderson, 1977). Prior accounting literature has provided empirical evidence to support the relationship between mindset and problem representation as well as the problem representation's influence on task performance (Armor and Taylor, 2003). Therefore, the fraud specialists will be expected to have a higher propensity than auditors to take further investigative actions into company's financial statements to determine the occurrence of fraud.

Armor and Taylor (2003), manipulated participants into different mindset groups by varying the manner in which they were to consider a particular performance task. The authors found out that differing mindsets led to different performance outcome which was consistent with their theoretical predictions.

2.3 Empirical Literature Review

There are several empirical studies on forensic accounting and fraud detection and prevention. Many of these studies draw evidence from developed economies like the United States of America, the United Kingdom and Canada. Empirical evidence also exists on the relationship between forensic accounting and fraud detection. The following studies show the methodology, sample and main findings of these studies.

Okoye (2011) in his examination of forensic accounting as a tool for fraud detection and prevention used primary and secondary sources of data. 370 questionnaires were

administered to staff of 5 selected ministries in Kogi area. Tables and simple percentages were used to analyze the data. The statistical tool used to test hypotheses was Analysis of Variance (ANOVA). Among the findings was that, the use of forensic accounting do significantly reduce the occurrence of fraud cases in the public sector and therefore can help better in detecting and preventing fraud cases in the public sector organization.

Okunbor & Obaretin (2010), a total of 140 statistically sampled respondents of ten companies from five sectors quoted in Nigerian Stock exchange. Using the simple regression model and descriptive statistics for the purpose of data analysis. The result showed that the application of forensic accounting by quoted companies in Nigeria is not effective in curbing fraudulent activities. The general consensus was that it had not been effective as revealed by the frequency scores of those who disagreed.

Ebimobowei (2011) examined the effect of forensic accounting services in fraud detection. The primary data was collected with the help of a well structured questionnaire of three sections administered to twenty four banks in Port Harcourt, the capital of Rivers State and the data collected from the questionnaires were analyzed with descriptive statistics, Augmented Dickey-fuller, ordinary least square and Granger Causality. The result reveals that the application of forensic accounting services affects the level of fraudulent activities of banks.

Islam, Rahman and Hossan (2011), in their study concentrated on issues relevant to the current status of the application of forensic accounting in Bangladesh and how efficiently it works as a fraud detection tool. They established that forensic accounting as a fraud detection tool has relevance to efforts for combating fraud and corruption in Bangladesh.

They say that forensic accounting now appears as one of the strategic tool for the management of all types of corruption.

Gottschalk (2010) used a structured questionnaire of 517 potential respondents only 141 responses were completed and used for the analysis with the help of descriptive statistics. The results reveal that control is the most important means by which fraud is prevented and controlled. However, some respondents believe that influence is more important in terms of ethical guidelines and other measures.

Muthusamy (2010) utilized Partial Least Square technique, a component of Structural Equation Modeling (SEM). A questionnaire was formulated, refined, and subsequently used in the pilot study. A list comprising 9642 large Malaysian companies was generated with data obtained from the Inland Revenue of Board Malaysia. The survey was distributed to 20% or 1982 companies that were chosen through random sampling. Only 305 returned surveys were useable. The result was that, the present conceptual model confirmed both perceived benefits and perceived risks as significant direct antecedents of attitude.

Njanike et al. (2009) used the questionnaire which consisted of three parts that is personal, detection and investigation sections designed to capture information on the forensic auditing status quo and the suggestions on the way forward. A sample of thirty forensic auditors from thirteen commercial banks, four building societies and four audit firms in Zimbabwe. Result was that forensic audit departments suffer from multiple challenges, amongst them being lack of materials resources, technical knowhow, interference from management and unclear recognition of profession.

Taking a different perspective, Boritz et al (2008) investigated forensic accountants and auditors in terms of the relative merits of involving fraud specialist during the planning stage in assisting auditors by developing an audit plan that will effectively identify fraud. They found that involving the fraud specialists in the risk assessment process leads to better results than simply consulting with them by providing summery risk assessments and asking for input.

Koh (2009) in his study, examined forensic accounting in the dimension of public acceptance towards occurrence of fraud detection, in his study ,the most emphasized important subject was that the forensic accounting is conducted to improve the understanding in detecting and reducing accounting fraud. The author thinks that it has been practiced by audit firm as one of the tools to investigate a company's financial statements for fraudulent activities as requested by certain parties. In conclusion in terms of their study, they emphasized that the forensic accounting activities such as investigative accounting and litigation support will enrich the organizational performance.

Kaya (2005), while explaining the profession of forensic accountancy in detail, also dealt with its essentiality and applicability for Turkey. He indicates that, with forensic accountancy professional education using a procedure suitable for the conditions of Turkey, in averting suffered losses of firms due to fraud and corruption, effective results can be achieved.

In addition, Stoel, Havelka and Merhout (2009) in their study, while emphasizing the increasing importance of information technologies in accounting auditing, they also dealt with the data mining technique that the forensic accountant can benefit from when facing with arising corruption when technology is being used for vicious purposes and struggle with this corruption.

Singleton et. al. (2006) in their study, laid weight on forensic accounting and fraud auditing. In the book they wrote, while they emphasized fraud auditing and basic concepts of forensic accounting, in protection from fraud they concentrated on topics such as responsibility of the auditors, red tags and fraud detection, protection from fraud and control, forensic accounting with the dimension of expert testimony.

Rose et al.(2012) using graphical representation of 15 fraud cues found preliminary evidence that fraud preliminary evidence that fraud specialist s organized red flags in memory differently than auditors. They found out that the auditors who adapted the fraud specialist pattern of knowledge of organization improved their accuracy of risk assessment

Kasum (2009) in his mixed exploratory research study of bibliotheca and empiric, attempted to compute whether forensic accountants are more needed in private or government sector in struggle with financial crimes experienced in developing countries. In the conclusion of his study, it ensured that government sector needs forensic accountants much more.

Di Gabriele (2010) made an empirical study over expert testimony transparency perceptions devoted to forensic accountants, lawyers and academicians in the field of

accounting. According to the results of the surveys applied by the author to 85 academicians, 87 forensic accountants and 86 lawyers; while forensic accountants and lawyers have responded differently in all research points, academicians and forensic accountants have differentiated in majority of the results.

Razzae and Burton (1997) examined the current average and future direction and the role of accounting education using academicians and certified fraud examiners practitioners. Their study concluded that the demand of forensic accounting education and there is an increasing demand for specialized areas of expertise in accounting, and that forensic accounting education should be integrated into accounting curricular either as a separate course or as modules in auditing and accounting.

Ramaswamy (2007) in his study pointed out the increase in the need of forensic accountants in recent years with the public need for honesty, fairness and transparency in reporting increasing exponentially. The author emphasized that forensic accountant has a skill set that is very different from an auditor or financial accountants. He also stated that it is needed for universities to prepare education programs in order to train qualified forensic accountants and meet the potential future needs.

2.4 Conclusion from Literature Review

This chapter has aimed at presenting a review of the literature related to the purpose of the study. The purpose has been to study the impact of forensic accounting services on fraud detection and prevention in commercial banks of Kenya. The vast majority of studies conducted tend to point towards fraud prevention by use of forensic accounting services. From the studies conducted so far, the most critical factors which influence the

effectiveness of forensic accounting are the, creation of constituted body to serve their interests, material and technical capacitated to improve their effectiveness. However, there are varied opinions as to the impact of forensic accounting. Though, most researchers tend to believe that forensic accounting is effective in prevention of fraud, there are a few others who believe that there is no such prevention and hence their applicability do not prevent fraudsters from committing the crime. This chapter therefore reveals that forensic accounting services is a critical factor in fraud prevention as it ensures that the chances of committing fraud is reduced to minimum in the banks.

Many of the previous studies on this subject suffer from limitations of over-relying on the cross-sectional data which cannot satisfactorily address the country and the entities (banks) specific issues. In particular, they fail to explicitly address the potential biases induced by the existence of cross-country heterogeneity, which may lead to inconsistent and misleading estimates (Ghirmay, 2004). This empirical study therefore aimed at filling this research gap by examining the impact of forensic accounting services on fraud detection and prevention.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a discussion of the research methods and procedures that was employed in this study. It discusses the research design especially with respect to the choice of design. It also discusses the population of the study, sample and sampling techniques, data collection methods as well as data analysis and data presentation methods employed in the study and highlight the sources of information for the research and data validation and integrity so that the kinds of errors could be identified and eliminated during the analysis and interpretation.

3.2 Research Design

Mathoko et al (2007) describe a research design as a set of decisions that make up the master plan specifying the methods and procedures for collecting and analyzing the needed information. In this study, a survey design was used. This research problem could best be studied through the use of descriptive research. Descriptive research portrays an accurate profile of persons, events, or situations (Saunders, Lewis and Thornhill, 2003). Surveys allow the collection of large amount of data from a sizable population in a highly economical way. Therefore descriptive survey was deemed the best strategy to fulfill the objectives of this study.

3.3 Population of the Study

Target population in statistics is the specific population about which information is desired. A population is a well defined or set of people, services, elements, events, group

of things or households that are being investigated (Ngechu, 2004). The target population under study was the commercial banks in Kenya.

3.4 Sample Design

The sampling frame describes the list of all population units from which the sample was collected (Cooper and Schindler, 2003). Sample of the respondents were drawn from 47 staff and the management team of forensic accounting and internal control units of sixteen commercial banks in Kenya. In this case probabilistic sampling whose logic lies in selecting a truly random and representative sample that permits confident generalizations from the sample to a larger population is to be done (Cooper and Schindler, 2003). By the use of this probabilistic sampling, each population member has a known chance of being included. Statistically, in order for generalization to take place, a sample of at least 30 must exist (Cooper and Schindler, 2003). At least 16 commercial banks are to be randomly selected.

3.5 Data Collection

Data collection is gathering empirical evidence in order to gain new insights about a situation and answer questions that prompt undertaking of the research (Kothari, 2004). This study intended to collect primary data and therefore utilized self reporting questionnaire (SRQ). The questionnaire attached at the appendix ii. The questionnaire was collected after the respondents filled it. That is on a drop and pick basis. The study is concerned with variables which cannot be directly observed such as opinions, perceptions and feelings of respondents. Such information is best described through questionnaires (Oso and Onen, 2005). The questionnaire was considered most appropriate because it allows for collection of data from many respondents within a short time and provides a

high degree of data standardization and adoption of generalized information amongst any population.

3.6 Data Analysis

Completed questionnaire was edited for completeness and consistency. The questionnaire was coded to allow for statistical analysis. According to Mugenda (1999), data must be cleaned, coded and properly analyzed in order to obtain a meaningful report. The Statistical Package for Social Science (SPSS) version 12 was used to analyze and interpret the collected data where appropriate. The percentage frequencies were posted to excel worksheets to generate graphical summaries that were also used to indicate the direction of respondents. Tables and charts were used to summarize responses for further analysis and facilitate comparison.

3.6.1 Model Specification

a) Conceptual model

The study model was mainly based on forensic accounting services and fraud prevention and detection of commercial banks in Kenya. The study conceptualized that fraud prevention and detection of the commercial banks is a function of a mix of forensic accounting variables.

The model of this relationship is presented in equation one below;

Fraud prevention and detection = f (Expert consultancy, Dispute resolution, Business advisory services, Fraud investigation, Litigation support).....(1)

b) Analytical model

The multiple regression model of fraud prevention and detection versus indicators of forensic accounting services was used to examine the relationship between the variables.

The study used fraud prevention and detection as the dependant variable and various indicators of forensic accounting services (litigation support, fraud investigation, business advisory services, dispute resolution and expert consultancy) as the independent variables.

Algebraic expression of the analytical model is presented in equation 2.

$$\begin{aligned}
 (\text{Fraud Prevention and detection})_{it} = & \beta_0 + \beta_1(\text{Expert consultancy})_{it} + \beta_2(\text{Dispute} \\
 & \text{resolution})_{it} + \beta_3(\text{Business advisory}) + \beta_4(\text{Fraud investigation})_{it} + \beta_5(\text{Litigation support})_{it} \\
 & + \varepsilon_{it} \dots \dots \dots (2)
 \end{aligned}$$

$$\begin{aligned}
 (\text{FP})_{it} = & \beta_0 + \beta_1(\text{EC})_{it} + \beta_2(\text{DR})_{it} + \beta_3(\text{BA}) + \beta_4(\text{FI})_{it} + \beta_5(\text{LS})_{it} + \\
 & \varepsilon_{it} \dots \dots \dots (2)
 \end{aligned}$$

i = Indexes individual commercial banks

t= indexes fraud prevention and detection in years (t=1, 2, 3, 4, 5)

FP = Fraud detection and prevention

EC = Expert consultancy

DR = Dispute resolution

BA = Business advisory services

FI = Fraud investigation

LS = Litigation support

ε_{it} = An error term of the model

Where β_0 is the constant of the model while $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 are the coefficients of the independent variables.

The role of litigation support, fraud investigation, business advisory services, dispute resolution and expert consultancy on fraud prevention and detection were measured based on their indices on the responses derived from the likert scale questions.

Basis of the model

The same model was used by Ebimowei (2011) when he examined the effect of forensic accounting services in fraud detection. He used various functions of forensic accounting such as litigation support, fraud investigation, business advisory services and used multiple regression to analyze the data. The result indicated that the application of forensic accounting services affects fraudulent activities to some extent.

3.7 Data Validity and Reliability

Validity is concerned with the extent to which an instrument measures what it is suppose to measure (Ofanson and Aigbokhaevbolo, 2006). To ensure validity of the questionnaire used for the study, the questionnaire (draft form) was presented to researchers in selected universities and research institutions for their independent review on its factorial, criterion and content. Based on their comments and suggestions, necessary adjustments were done on the draft questionnaire. Test statistics such as t-test, f-test and adjusted coefficient of determination (R^2) was employed.

To verify the reliability of the measuring instrument (questionnaire) developed for the purpose of this study, it was subjected to pre-trial tests. In carrying out the pilot tests, the sample of three commercial banks from the entire population selected and administered the instrument on fifteen respondents of the two sample banks. It was first tested with the instrument and their responses scored. The statistical technique (split half method);

randomly splits items into two groups. A score for each subject was then calculated based on each half of the scale. After one week, same sample of participants were retested having reviewed and amended the portions of instruments based on the feedback obtained from the first pre-trial respondents.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter covers data analysis, findings of the research and discussion of the major findings. The completed questionnaires were edited for completeness and consistency before analysis. The questionnaires were sorted and coded in the Statistical package for Social Sciences (SPSS) software. The chapter used descriptive survey design and the main instrument for data collection was a questionnaire. The data was summarized and presented in form of frequencies, percentages, tables and graphs. It documents the impact of forensic accounting services on fraud detection and prevention among commercial banks in Kenya. The data was collected from sixteen (16) commercial banks in Kenya. The chapter gives responses from senior management, internal control units, accountants and auditors of the target population and start by analyzing the general information about them. After the data were collected, it was processed using SPSS. The statistical techniques adopted were mean rating and regression analysis. Statistical software has been used to conduct various statistical analyses. Suitability and reasonability of the statistical instruments used and analysis of their reliability have been included.

4.2 Data Presentation

4.2.1 Response Rate

From the sixteen commercial banks from which data was collected, only forty seven (47) respondents responded out of seventy targeted (70). This represented 67.14% responsive rate which legitimizes the representation in the study as shown in the figure 4.1

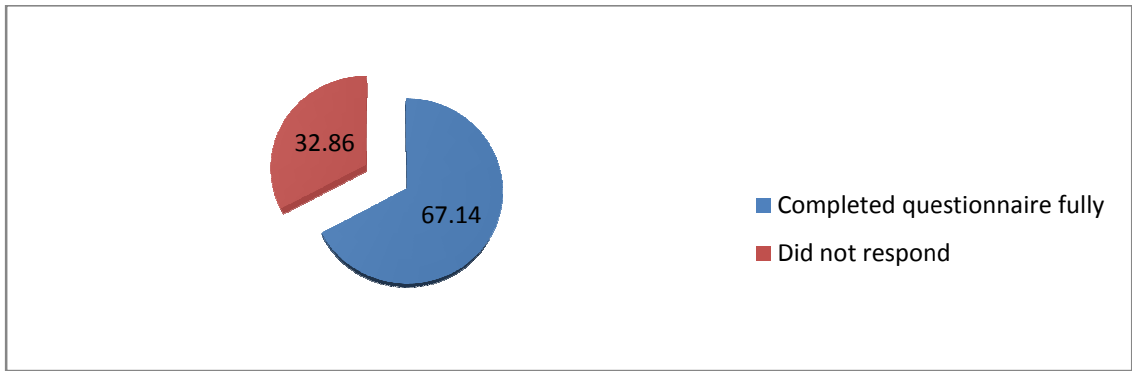


Figure 4.1 Response Rate

4.2.2 Ownership Information

The study sought to find out the ownership of the firm under study and the response was as indicated in the table 4.2 as below.

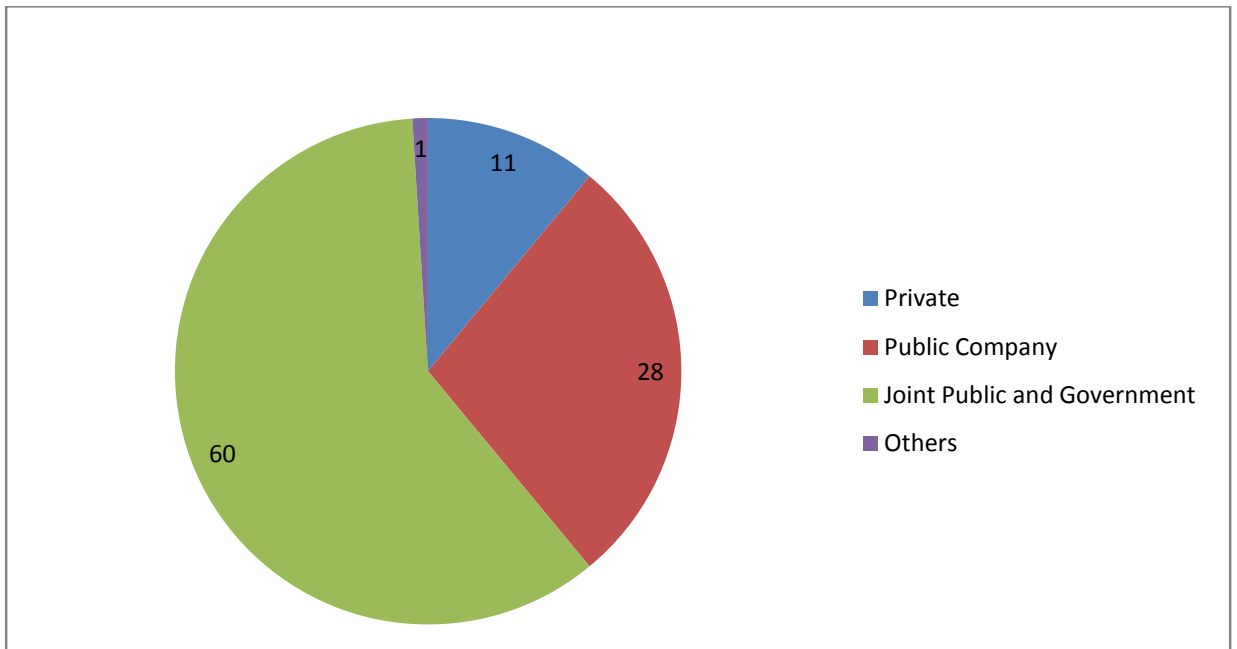


Figure 4.2: Ownership

The ownership of the institutions formed an important component of this study. Out of the 47 respondents interviewed from 16 commercial banks, 60% said that the institutions belonged to joint public and government, 25% said the institutions belonged to public

company, 11% believed their institutions were private while 1% of the respondents believed in other ownership.

4.2.3 Number of years the firm has been in Operation

The number of years a firm has been in operation could determine the formation and strength of departments dealing with fraudulent practices. The respondents were asked to indicate the number of years the firm had been in operation and the results are in figure 4.3

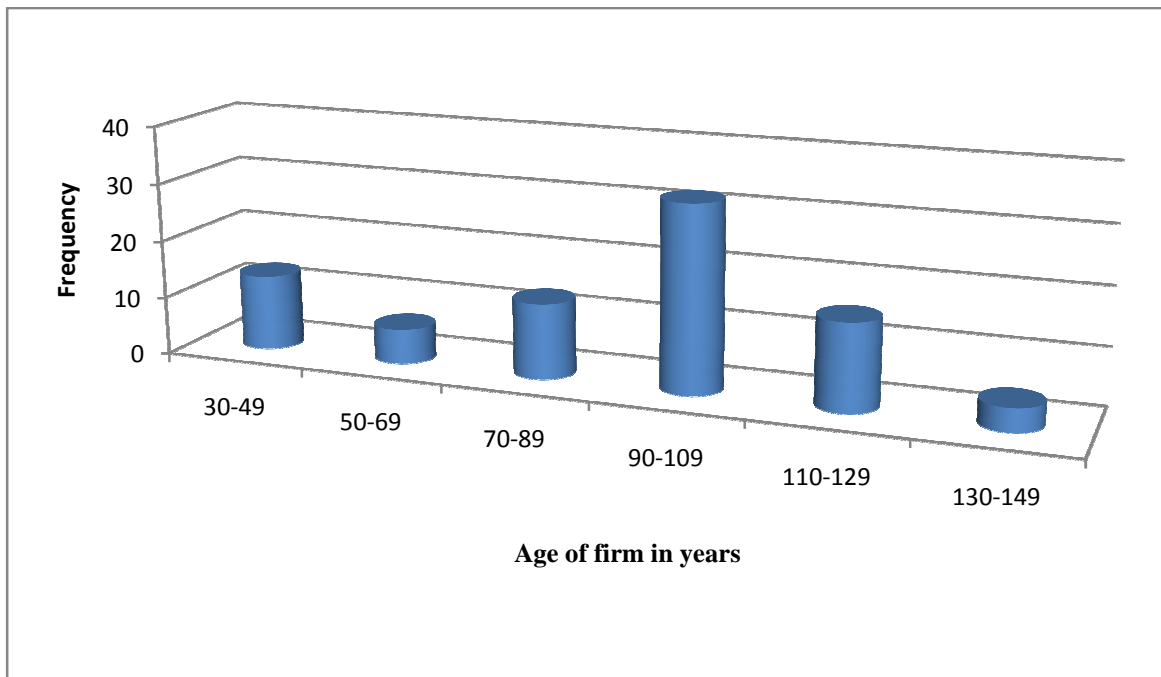


Figure 4.3: Age of the Firm in Years

As shown in figure 4.3, majority of the respondents (shown by 32) said that their firms were aged between 90 and 109 years, 15 said that their firms were aged between 110 and 129 years, 13 talked of between 30 to 49 and 70 to 89 while 11, 6, 4 and 2 their firms were aged between 150 and 169, 50 and 69, 130 and 149, 190 - 209 and 170-189

respectively. This is an indication that we are dealing with the institutions that have grown fully and mature enough to understand the impact of forensic accounting services and fraud.

4.2.4 Banks with Forensic Accounting Department

Respondents were also asked to state whether their banks had forensic accounting department. This was meant to ensure that only responses from respondents whose departments offer forensic accounting services were taken into consideration during analysis for reliability purposes. The findings were presented in the table 4.1

Table 4.1: Existence of Forensic Accounting Department

Response	Frequency	Percentage
Yes	47	100
No	0	0
Total	47	100

(Source: Research data, 2013)

From the results depicted in table 4.1, all respondents (100%) agreed that they had forensic accounting department. The responses were therefore considered reliable given that all of them had known about the existence of forensic accounting department.

4.2.5 Number of Employees

The respondents were requested to indicate the number of employees who worked in the organization. This was meant to gauge the activities and busy nature about the organization in relation to the variables which were being studied. The results of the analysis were presented in the figure 4.4

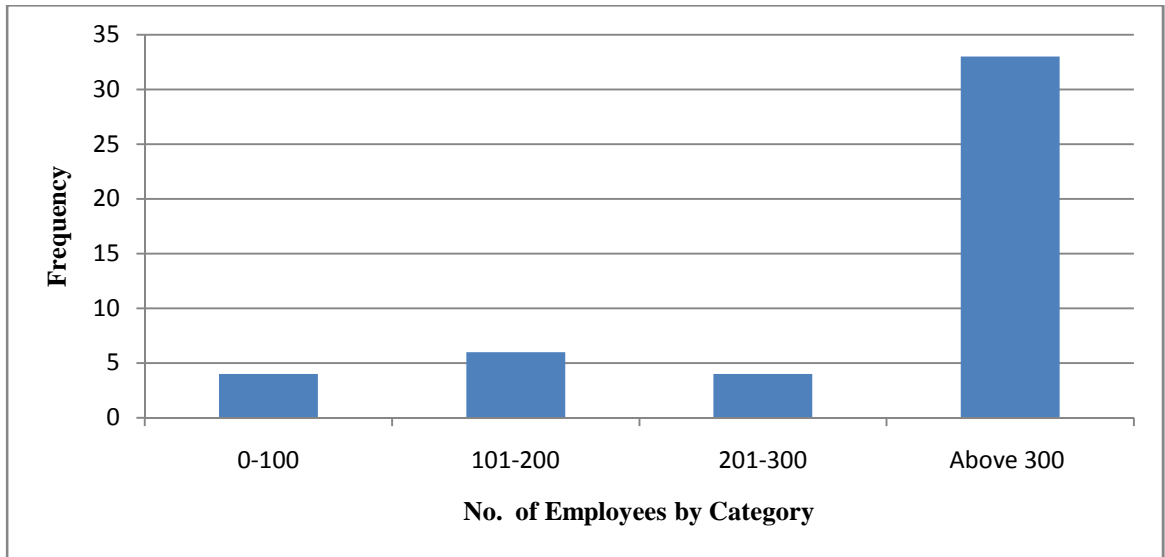


Figure 4.4: Number of Employees in the Banking Institutions

(Source: Research data, 2013)

From the analysis of figure 4.4, majority of the respondents (33%) agreed that the organization had more than 300 employees, 6% of them agreed that the organization had between 101 and 200 employees, 4% agreed that the organization had between 201 and 300, while 4% of them agreed that organizations employed less than 100. The analysis consequently demonstrated that the organizations were very busy due to the fact that majority of them had employed more than 300 employees hence the increased potentiality of increased fraudulent practices and hence the findings of the study was considered valid.

4.2.6 Application of Forensic Accounting on Fraud Prevention and Detection

The purpose of this study was to establish the impact of forensic accounting on fraud prevention and detection in commercial banks where the specific objectives were to establish the impact of forensic accounting on fraud prevention in the banking sector. The descriptive study incorporated 16 participating commercial banks, with a total of 47

respondents. The utilized research instrument was a questionnaire with mainly likert scales in matrix questions. The overall score of each objective was calculated to measure the banks rating on specific items in the questions in the mean score ranging from 1-5 on a five point likert scale. These scales are treated to imply level of incorporation of the various aspects in the items included.

4.2.7 Litigation Support

The litigation support affects proper working of forensic accounting within the bank. The study sought to establish if the bank was actively involved in forensic accounting services. This was meant to ensure that only responses from respondents whose departments actively apply forensic accounting services were taken into consideration during analysis for reliability purposes. The findings of the study was as shown in the table below 4.3

Table 4.2: Active Application of Forensic Accounting Services

Response	Frequency	Percentage
Yes	47	100
No	0	0
Total	47	100

(Source: Research data 2013)

This indicates that the institutions were actively applying forensic accounting services in their means to prevent frauds.

4.2.8 Legal Strategies put to Address Frauds

The respondents were also required to briefly outline different legal strategies used in their institutions to address frauds. They outlined that the organizations enforced individual responsibility, law suit, internal controls, internal audit checks, trainings on emerging trends and policy changes, risk department, audit fraud department, internal audit checks, trainings on frauds and sharing of information with other banks. This indicated that management of banks were aware of existence of frauds and were determined to reduce its existence by usage of such legal strategies.

4.2.9 Litigation Process

The study equally sought to establish the extent to which various ways of litigation process could be described as important in forensic accounting practice. A scale of 1 to 5 was provided where 1= can't tell and 5=strongly agree. Table 4.3 shows the results.

Table 4.3: Phases of Litigation Processes

Variable	Mean Rating
Analysis of the financial components of the initial complaint	4.15
Preparation of disclosure statements including expert report	4.13
Discovery, interrogatory preparation and requests for production	4.09
Presentation of expert testimony	4.04
Accounting and financial analysis for damages	4.04

(Source: Research data, 2013)

The results in the table 4.3 shows majority of the respondents described that analysis of the financial components of the initial complaint, preparation of disclosure statements and discovery, interrogatory preparation and requests for production were considered to

be very important phases of effective litigation processes as shown by mean ratings of 4.15, 4.13 and 4.09 respectively. Presentation of expert testimony indicated by a mean of 4.04, accounting and financial analysis for damages indicated by a mean of 4.04 were least considered as determinants of effective litigation processes as they were not critical to everyday operations in undertakings of litigation support.

4.2.10 Fraud Investigation

The study sought to establish the major processes necessary in fraud investigation as a determinant of forensic accounting. The outcome is shown in the table 4.4

Table 4.4: Processes Necessary in Fraud Investigation

Variable	Mean rating
Probe suspect financial performance	4.47
Looking into alleged fraud or illegal activity	4.40
Examination of financial and source documents	4.34
Structure regulatory compliance strategies	4.32
Performing electronic evidence discovery	4.26
Fraud risk assessment	4.17
Review of financial reports	4.17

(Source: Research data 2013)

From the results of table 4.4, majority of the respondents indicated that probe suspect financial performance as shown by a mean rating of 4.47, looking into alleged fraud or illegal activity as shown by a mean score of 4.40. The responds also indicated that examination of financial and source documents as indicated by a mean of 4.34 whiles structure regulatory compliance strategies, performing electronic evidence discovery,

fraud risk assessment and review of financial reports takes 4.32, 4.26, 4.17 and 4.17 respectively. So as per this table, it is clear that the first two (probe suspect financial performance and looking into alleged fraud or illegal activity) were key phases of litigation support.

4.2.11 Business Advisory Services

The respondents were also asked whether their department offer business advisory services. This was meant to ensure that only responses from respondents whose departments offer business advisory services were taken into consideration during analysis for reliability purposes as tabulated in the table 4.5.

Table 4.5: Existence of Business Advisory Services

Response	Frequency	Percentage
Yes	47	100
No	0	0
Total	47	100

(Source: Research data 2013)

This result shows that all the institutions (100%) studied offer business advisory services. This indicates that the banks were actively applying business advisory services in their attempt to prevent frauds.

4.2.12 Awareness of Business Advisory Services

On being asked whether everyone was aware of such services offered, all respondents agreed as per the table 4.6

Table 4.6: Awareness of Business Advisory Services

Response	Frequency	Percentage
Yes	47	100
No	0	0
Total	47	100

(Source: Research data, 2013)

This response indicates that in all the firms under study, everyone was aware of the existence of business advisory services. This is an indication that most employees were aware of the application of forensic accounting services.

4.2.13 Communication of Business Advisory Services

Respondents were asked to state how business advisory services were communicated across different departments in the bank and the outcome was captured. This was meant to find out the main mode of communication of business advisory services. The responses were captured in the figure 4.5.

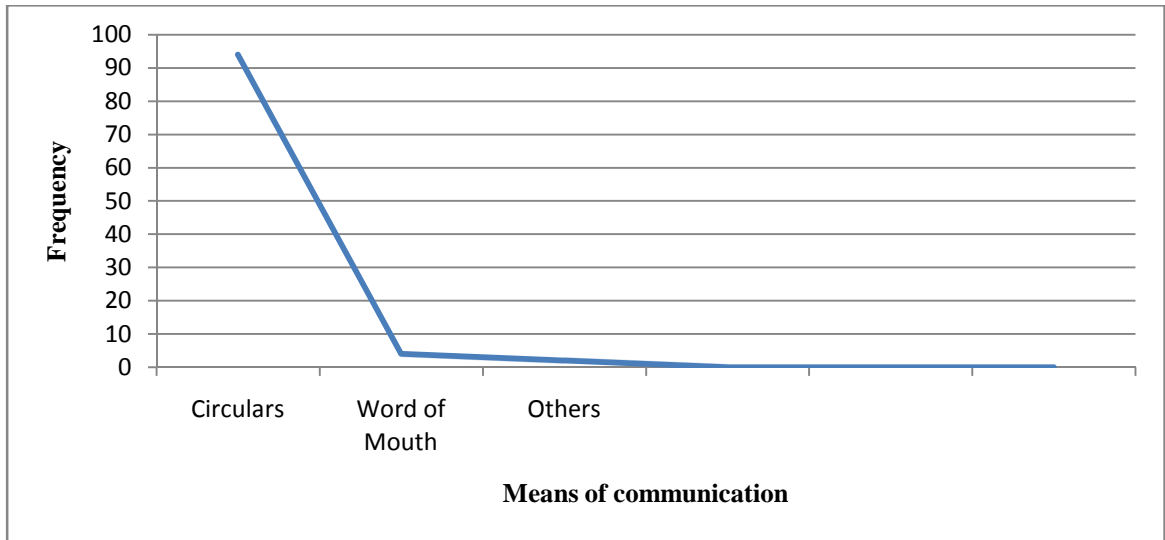


Figure 4.5: Means of Communication of Business Advisory Services

The line chart shows the main means of communication. The mentioned form of communication which had the highest frequency of 94% was circulars, 4% word of mouth and others rated 2%. This indicated that the main means of communication of business advisory services was the circulars.

4.2.14 Factors Considered in Business Advisory Services

Respondents also assessed various factors considered in business advisory services as applicable to forensic accounting. They were required to use a five point likert scale where 1=very low and 5=very high extent. The responses were given in table 4.7

Table 4.7: Factors Considered in Business Advisory Services

Description	Mean rating
Providing Practical Business Focused advice to the Bank	4.45
Assisting Management in addressing strategic accounting and financial reporting challenges	3.96

(Source: Research data, 2013)

Table 4.7 represents the study findings on various factors of business advisory services. Majority of the respondents indicated that providing practical business focused advice to the bank was critical in business advisory services as it was being applied to a higher extent indicated by a mean rating of 4.45 followed by assisting management in addressing strategic accounting and financial reporting challenges indicated by mean of 3.96.

4.2.15 Dispute Resolution

The researcher examined the extent to which risk based processes (third party determines the outcome of the dispute based on laws), interest based neutrals (manages dispute resolution and leave decision making authority to parties themselves) and negotiations (includes all efforts by individual disputants to resolve conflict themselves) were used in dispute resolution. This was done by requesting the respondents to assess the same using a five point likert scale where 5=very high extent and 1= very low extent.

Table 4.8: Options in Dispute Resolution

Description	Mean rating
Negotiations (includes all efforts by individual disputants to resolve conflict themselves)	4.04
Risk based processes (third party determines the outcome of a dispute based on laws)	3.74
Interest based neutrals (Manages dispute resolution and leave decision making authority to parties themselves)	3.70

(Source: Research data, 2013)

From the table 4.8, the study found that negotiations (includes all efforts by individual disputants to resolve conflict themselves) apply to a higher extent as shown by a mean rating of 4.04, risk based processes (third party determines the outcome of a dispute based on laws) also apply to a high extent as shown by a mean rating of 3.74, while interest based neutrals (manages dispute resolution and leave decision making authority to parties themselves) as shown by a means score of 3.70 apply to a least extent.

4.2.16 Expert Consultation

Respondents assessed different areas of expert consultation in the bank and the responses were as per the table 4.9

Table 4.9: Expert Consultation

Step	Frequency
Evaluation of the merits of the case	44
Advisory of the effective ways for presentation of the facts at trial	43
Determination of the validity of the claim	43
Verification of the amount claimed	43
Analysis of the positions and arguments being offered by opposing attorneys	40
Assisting in reviewing and assessing data obtained from other consultant experts	38

(Source: Research data; 2013)

According to the table 4.9, the respondents reiterated that the major step shown by the highest frequency 44, evaluation of the merits of the case forms the main step which most companies use in their expert consultation. Advisory of the effective ways for

presentation of the facts at trial, determination of the validity of the claim and verification of the amount claimed indicated that these steps are frequently undertaken as important procedures in expert consultation and have a frequency of 43. Analysis of the positions and arguments being offered by opposing attorneys had a frequency of 40. The lowest frequency was 38 in assisting in reviewing and assessing data obtained from other consultant experts.

4.2.17 Regression Analysis

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.895(a)	.801	0.718	.5935

Predictors: (Constant), litigation support, fraud investigation, dispute resolution, expert consultant, business advisory services.

The adjusted R squared is known as coefficient of determination and it tell the variation in dependent variable due to changes in independent variable, from the above table the adjusted R squared was 0.718 which tell us that there was 71.8% variation in fraud prevention and detection due to changes in expert consultancy, dispute resolution, business advisory services, fraud investigation and litigation support.

Table 4.11: ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.001	5	4.800	9.740	0.001(a)
	Residual	5.999	17	.353		
	Total	30.000	22			

Predictors: (Constant), litigation support, fraud investigation, dispute resolution, expert consultant, business advisory services

Dependent Variable: fraud detection and prevention

From the above table the significance was 0.001 which is below 0.05 which mean that there were statistically significant differences between group means as determined by ANOVA.

Table 4.12: Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.680	1.455		.	.
	Fraud investigation	.331	.223	.367	1.467	.160
	Business advisory services	.352	.209	.301	1.680	.110
	Dispute resolution	.043	.170	.035	.256	.801
	Expert consultant	.437	.248	.226	1.760	.097
	Litigation support	.640	.286	.330	2.217	.041

Dependent Variable: fraud detection and prevention

From the above table of regression coefficient, the established regression was;

$$\text{FP} = 0.680 + 0.331 \text{Fraud investigation} + 0.352 \text{ Business advisory services} + 0.043 \text{ Dispute resolution} + 0.437 \text{ Expert consultant} + 0.640 \text{ Litigation support}$$

From the above regression equation different elements of forensic accounting; expert consultancy, dispute resolution, business advisory services, fraud investigation and

litigation support were regressed on fraud detection and prevention. A unit increase in fraud investigation would lead to an increase in fraud prevention and detection by factor of 0.331, unit increase in business advisory services would lead to an increase in fraud detection and prevention by a factor of 0.352, unit increase in dispute resolution would lead to an increase in fraud prevention and detection by a factor of 0.043, unit increase of expert consultant would lead to an increase in fraud prevention and prevention by factor of 0.437 and a unit increase in litigation support would lead to an increase in fraud prevention and detection by factor of 0.640.

4.2.18 Major Areas of Application of Forensic Accounting

To establish the major areas of forensic accounting application, respondents were asked to rate over a five point likert scale on the same with attributes of fraud prevention and detection such as controlling financial statements fraud, prevention of scandals in the bank, uncovering economic bank crimes, controlling electronic crimes, investigation of employer theft, establishing effective lines of communication, ensuring regulatory compliance and monitoring of internal control systems. They were to use a five point likert scale where 5=very poor and 1= very good. The responses are shown the table 4.13

Table: 4.13: Areas of Application of Forensic Accounting

Attribute	Mean rating
Enhancing quality of financial reporting	3.98
Investigation of Employee theft	3.96
Controlling financial statement frauds	3.91
Prevention of scandals in the bank	3.91

Ensuring regulatory compliance	3.91
Establishing effective lines of communication	3.89
Uncovering economic bank crimes	3.87
Controlling electronic crimes	3.79
Guarantee the well being of the bank	3.77
Monitoring and evaluation of internal control systems	3.64

(Source: Research data, 2013)

The study established that forensic accounting services had the highest application on enhancing quality of financial reporting as it had a mean rating of 3.98. The investigation of employee theft had a mean rating of 3.96, controlling financial statement frauds, prevention of scandals in the bank, ensuring regulatory compliance had a mean score of 3.91, establishing effective lines of communication mean score 3.89, uncovering economic bank crimes indicated by mean score of 3.87, controlling electronic crimes indicated by mean score 3.79, guarantee the well being of the bank indicated by a mean score of 3.77, while monitoring and evaluation of internal control systems as shown by a mean score of 3.64 had the least application.

4.2.19 Prevalence of Frauds in the Bank

Respondents were required to indicate the level of prevalence of different fraudulent activities since the researcher needed to find the most prevalent type of fraud in the banking sector. The responses were analyzed and the findings captured in table 4.14.

Table 4.14: Prevalence of Frauds

Nature of Fraud	Mean rating
Fraudulent expense claims	3.43
Theft of cash, physical assets or confidential information	3.21
Inappropriate journal vouchers	3.19
Misuse of accounts	3.17
Procurement	3.15
False employment credentials	3.15
Suspense accounting	3.13
Corporate identity theft	3.13
Intellectual property fraud	3.09
Financial accounting mis-statements	3.06
Bribery and corruption	3.06
Payroll	2.94

(Source; Research data, 2013)

The study findings as presented in table 4.14 showed that fraudulent expense claims as a fraudulent activity occurred at a higher extent shown by a mean scores of 3.43, theft of cash, physical assets or confidential information occurred to a higher extent indicated by a mean score of 3.21, inappropriate journal vouchers, misuse of accounts, procurement shown by mean scores of 3.19 occurs at a high extent, misuse of accounts shown by mean score of 3.17, procurement, false employment credentials shown by mean scores 3.15, suspense accounting, corporate identity theft shown by mean score of 3.13, intellectual property fraud has a mean score of 3.09, financial accounting mis-statements has a mean

score of 3.06, bribery and corruption mean score of 3.06, while payroll occurs at a lesser extent as shown by mean score of 2.94.

4.3 Summary and Interpretation of Findings

The study revealed that the ways in which litigation support impacts on fraud prevention was through analysis of the financial components of the initial complaint, accounting and financial analysis for damages, preparation of disclosure statements including expert report, presentation of expert testimony and discovery, interrogatory preparation and requests for production. The study also revealed that the departments actively apply forensic accounting services. The study also revealed that organizations enforced individual responsibility, law suit, internal controls, internal audit checks, trainings on emerging trends and policy changes, risk department, audit fraud department, internal audit checks, trainings on frauds and sharing of information with other banks as legal strategies to combat frauds.

The study revealed that fraud investigation impacts on fraud prevention by an organization through review of financial reports, performing electronic evidence discovery, fraud risk assessment, examination of financial and source documents, looking into alleged fraud or illegal activity, structure regulatory compliance strategies and probe suspect financial performance.

The study found that the companies offered business advisory services and everyone was aware of such services offered by the departments which were mainly communicated through circulars. The study revealed that business advisory services impacts on fraud prevention and detection through assisting management in addressing strategic

accounting and financial reporting challenges and providing practical business focused advice to the bank.

The study revealed that dispute resolution had a positive impact on fraud prevention through undertaking of risk based process (third party determines the outcome of a dispute based on laws), interest based neutrals (manages dispute resolution and leave decision making authority to parties themselves) and negotiations (includes all efforts by individual disputants to resolve conflicts themselves).

The study revealed that expert consultation impact positively on fraud prevention through advisory of the effective ways for presentation of the facts at trial, evaluation of the merits of the case, determination of the validity of the claim, assisting in reviewing, assessing data obtained from other consultant experts, analysis of the positions and arguments being offered by opposing attorneys and verification of the amount claimed.

The variation in dependant variable (fraud prevention and detection) due to changes in independent variables resulted to 71.8% variation in fraud prevention and detection due to changes in litigation support, fraud investigation, business advisory services, dispute resolution and expert consultant.

From the regression equation, different elements of forensic accounting were found to impact positively on fraud detection and prevention as follows. A unit increase in fraud investigation would lead to an increase in fraud detection and prevention by factor of 0.331, unit increase in business advisory services would lead to an increase in fraud detection and prevention by a factor of 0.352, unit increase in dispute resolution would lead to an increase in fraud prevention and detection by a factor of 0.043, unit increase of

expert consultant would lead to an increase in fraud prevention and prevention by factor of 0.437 and a unit increase in litigation support would lead to an increase in fraud prevention and detection by factor of 0.640.

The mean rating results for different fraudulent practices showed the most prevalent fraud type was fraudulent expense claims in the banking institution while payroll fraud was occurred to the least extent indication that it was not frequently committed.

The study found that forensic accounting had the highest application on enhancing quality of financial reporting to a higher extent as shown by a mean score of 3.98, investigation of employee theft was affected to a higher extent as shown by a mean score of 3.96, controlling financial statement frauds was highly applied as shown by a mean score of 3.91, prevention of scandals in the bank was also high as shown by a mean of 3.91, ensuring regulatory compliance was applied to a higher extent as shown by a mean of 3.91, establishing effective lines of communication affected to a higher extent by a mean score of 3.87, controlling electronic crimes to a higher extent of 3.79, guarantee the well being of the bank to a higher extent of 3.77 while monitoring and evaluation of internal control systems had the least application of 3.64.

The results of this study which showed that forensic accounting had a positive impact on fraud detection and prevention was consistent with those of the previous studies; Okoye (2011) in his examination of forensic accounting as a tool for fraud detection and prevention, found that the use of forensic accounting do significantly reduce the occurrence of fraud cases in the public sector and therefore can help better in detecting and preventing fraud cases in the public sector organization.

Ebimobowei (2011) examined the effect of forensic accounting services in fraud detection. The result revealed that the application of forensic accounting services affects the level of fraudulent activities of banks.

Islam, Rahman and Hossan (2011), in their study concentrated on issues relevant to the current status of the application of forensic accounting in Bangladesh and how efficiently it works as a fraud detection tool. They established that forensic accounting as a fraud detection tool has relevance to efforts for combating fraud and corruption in Bangladesh.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMENDATIONS

5.1 Summary

On the various aspects of fraud prevention and detection, the study found that most of the communications was done using circulars. Employees were also conversant with various elements of forensic accounting since every organization studied had a forensic accounting department and actively apply forensic accounting. The study revealed that the ways in which litigation support impacts on fraud prevention was mainly through analysis of the financial components of the initial complaint and preparation of disclosure statements including expert report. The study revealed that fraud investigation impacts mainly on fraud prevention through probe suspect financial performance and looking into alleged fraud or illegal activity. The study revealed that business advisory services impacts on fraud prevention and detection through assisting management in addressing strategic accounting and financial reporting challenges and providing practical business focused advice to the bank.

The study revealed that dispute resolution had a positive impact on fraud prevention through undertaking of risk based process, interest based neutrals and negotiations. The study revealed that expert consultation impact positively on fraud prevention mainly through evaluation of the merits of the case, advisory of the effective ways for presentation, determination of the validity of the claim and verification of amount claimed. The resultant relationship was $FP = 0.680 + 0.331\text{Fraud investigation} + 0.352\text{Business advisory services} + 0.043\text{Dispute resolution} + 0.437\text{Expert consultant} + 0.640\text{Litigation support}$.

The study also revealed that organizations enforced individual responsibility, law suit, internal controls, internal audit checks, trainings on emerging trends and policy changes, risk department, audit fraud department, internal audit checks, trainings on frauds and sharing of information with other banks as legal strategies to combat frauds. Fraudulent expense claims as a fraudulent activity occurred at a higher extent, while payroll fraud occurred at a lesser extent. The study found that forensic accounting had the highest application on enhancing quality of financial reporting followed by investigation of employee theft. Monitoring and evaluation of internal control systems had the least application.

5.2 Conclusion

From the discussion, the researcher concludes that commercial banks in Kenya have adopted various forensic accounting practices which include litigation support, fraud investigation, business advisory services, dispute resolution and expert consultant. The study further concludes that there is a positive impact of forensic accounting services on fraud prevention and detection.

A firm wishing to grow with reduced frauds must therefore put into place sufficient resources to be able to properly practice forensic accounting in its different departments. The study concludes that in order to sustain effective operations in the bank, fraudulent expense claims must be monitored since it was the most prevalent type of fraud which occurred in the banking sector. Theft of cash, physical assets or confidential information was also affected to a greater extent. Payroll was affected the least.

The study concludes that just as commercial banks use other means of reducing the occurrence of frauds, forensic accounting services provided confidence in financial statements as it had a positive impact on fraud prevention and detection which could be committed by the employees in the bank and therefore should also be used in its efforts to reduce frauds. Among legal strategies utilized in different organizations, personal responsibility has emerged as one of the most preferred strategies of curbing frauds.

It also concludes that litigation support, fraud investigation, business advisory services, dispute resolution and expert consultation mainly uses analysis of the financial components of initial complaint, probe suspect financial performance, providing practical business focused advice to the bank, negotiations (includes all efforts by individual disputants to resolve conflicts themselves) and evaluation of the merits of the case respectively. The study concludes that forensic accounting has the highest application on enhancing quality of financial reporting while monitoring and evaluation of internal control systems had the least application.

5.3 Policy Recommendations

The study makes the following recommendations which are consistent with the literature review. The study recommends that it is important to revise the company's organization structure for better alignment with the workings of forensic accounting services. This was to allow for clear functionality of different departments without conflicting with each other. The company also needed to formulate clear policies to guide the practice of accounting in the banking sector. It was necessary that the internal controls and management be educated and informed of the most common type of fraud and the department responsible so that unreasonable loss of money and fraudulent practices could

be addressed. Such information could be communicated during meetings within banks and in annual general meetings as it could reduce the number of litigations against the auditors since such litigation services are costly and generally damage the reputation of the company.

It was also important for the company to use better accounting and auditing standards as per the International Accounting Standards Board and International Standards of Auditing. This was to ensure that forensic accountant and auditors undertook objective financial reporting and the increased accuracy of the prepared financial statements. It was necessary that appropriate action be applied when fraud was detected. Proper forensic procedures were to be followed during investigations in matters of prosecution by professional forensics accountant and disciplinary action was to be made in cases of fraud.

Every bank was to establish a code of conduct and the banks officials were to be made to declare their assets from time to time. Trainings on independence, transparency, accountability, competence was to be fostered to enhance the smooth operation of forensic accounting services.

5.4 Limitations of the Study

The accuracy of the study was limited to the honesty of the respondents. The researcher could not deduce the extent of the truth especially on matters pertaining to frauds in the banks as per the information given by the respondents.

Time available for the respondents to give deeper and more elaborate qualitative responses was limited. Many were very busy to respond due to their work schedules.

Since this research was based on frauds in the banking sector, which in the opinion of the company could be viewed as sensitive, many were reluctant to fill the questionnaire.

The data collection instrument was a questionnaire; in-depth analysis could not be realized compared to if the interview was used. Some respondents also seem not to understand some of the indicators used in the questionnaire.

5.5 Suggestions for Further Studies

This study was restricted to commercial banks of Kenya. There are other players in the financial sector whose operations are close to commercial banks but differ in their investments and which apply forensic accounting services in their operations. This calls for another study which would ensure generalization of the study findings for all the organizations in the financial sector in Kenya.

Another study should be carried out on different internal controls used by commercial banks to control and prevent fraudulent practices and how such controls affect the working of forensic accounting practices in such banks.

The same kind of study should be carried out but on a longer time span and an increased sample size of commercial banks to take care of time series and increased reliability of the findings.

Future studies should also be carried out on potentials, opportunities and challenges abound for a forensic accountant in his role to fraud investigation.

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APPENDICES

Appendix1: Letter of Introduction

ERICK OYIER OMONDI
UNIVERSITY OF
NAIROBI
P. O. Box 30197
NAIROBI
25/6/2013

THROUGH
UNIVERSITY OF NAIROBI,
SCHOOL OF BUSINESS,
DEPARTMENT OF FINANCE AND ACCOUNTING,
P. O. Box 30197,
NAIROBI.

Dear respondent,

**REF: COLLECTION OF SURVEY DATA BY ERICK OYIER OMONDI-
D61/64646/2011.**

I, the above mentioned person is a post graduate student at the University of Nairobi, pursuing masters in Business Administration (MBA) degree course. As part of the requirements for the award of the degree, I am undertaking a management research project on the Forensic Accounting Services in Commercial banks in Kenya.

The purpose of this letter is therefore to inform you that your firm has been selected to be part of this study and to request you further to fill the attached questionnaire, which will be collected on..... and used to analyze the research findings. The information collected will be used exclusively for academic purposes and will be treated with utmost strict confidentiality. The findings of this research can however be availed to you upon request.

Thank you in advance for your corporation.

Yours faithfully,

ERICK OYIER OMONDI,
MBA STUDENT,
DEPARTMENT OF ACCOUNTING
ACCOUNTING
AND FINANCE,
UNIVERSITY OF NAIROBI.

DR .J.O ADUDA ,
PROJECT SUPERVISOR,
DEPARTMENT OF
AND FINANCE,
UNIVERSITY OF NAIROBI.

Appendix II: Questionnaire

This research work is intended to explore the general overview of Forensic Accounting Services Application in commercial banks in Kenya. Please provide answers to the following questions against the most suitable alternative or by giving narrative responses in the spaces provided. (Responses will be treated with utmost confidentiality).

PART A Consists of questions aimed at obtaining information about your bank.

PART B Seeks information on the impact of forensic accounting on fraud detection and prevention.

PART C Seeks to find main areas of application of forensic accounting services in the bank. PART D Seeks to find out the most prevalent fraud.

Questionnaire Number.....

Date.....

SECTION A: General Background Information

1. Ownership(please tick appropriately)
 Private company Public company Jointly private and Government
 Others, Specify
2. How many years has the bank been in operation?
..... years.
3. Do you have Forensic Accounting department?(please tick appropriately)
 Yes No
4. How many employees do you have.(please tick appropriately)
 0-100 101-200 201-300 Above 300

SECTION B: Fraud Prevention and Detection

Section one: Litigation Support

1. Does this bank actively apply forensic accounting services?
 Yes No
2. What legal strategies are put in the department to address frauds?
.....

To what extent do you agree with the following attributes as ways that litigation processes impact on fraud prevention and detection in the bank? Rate your agreement with the following statements using the likert scale below: (Please tick appropriately)

Key: 1-Cant tell, 2- Strongly Disagree, 3-Disagree, 4-Agree, 5-Strongly Agree

No	Description	1	2	3	4	5
3	Analysis of the financial components of the initial complaint					
4	Accounting and financial analysis for damages					
5	Preparation of disclosure statements including expert report					
6	Presentation of expert testimony					
7	Discovery, interrogatory preparation and requests for production					

Section two: Fraud Investigation

Rate your agreement with the following statements as attributes necessary in fraud prevention. **Key:** 1-Cant tell, 2- Strongly Disagree, 3-Disagree, 4-Agree, 5-Strongly Agree

No	Description	1	2	3	4	5
8	Review of Financial reports					
9	Performing electronic evidence discovery					
10	Fraud risk assessment					
11	Examination of financial and source documents					
12	Looking into alleged fraud or illegal activity					
13	Structure regulatory compliance strategies					
14	Probe suspect financial performance					

Section Three: Business Advisory services

15. Do your department offer business advisory services?

Yes No

16. Is everyone aware of such services offered by your department?

Yes No

17. How are such services communicated across different departments in your organization?

Circulars Word of mouth others, specify

Indicate the extent to which the following factors are considered in business advisory processes. **Key:** 1-Very low extent, 2-Low extents, 3-Moderate extents, 4- High extents, 5- Very high extents.

No	Description	1	2	3	4	5
18	Assisting management in addressing strategic accounting and financial reporting challenges					
19	Providing practical business focused advice to the bank					

Section Four: Dispute Resolution

Describe the extent to which the following apply in the bank in dispute resolution.

Key: 1-Very low extent, 2-Low extents, 3-Moderate extents, 4- High extents, 5- Very high extents.

No	Description	1	2	3	4	5
20	Risk based processes(3 rd party determines the outcome of a dispute based on laws)					
21	Interest based neutrals(manages dispute resolution and leave decision making authority to parties themselves)					
22	Negotiations(Includes all efforts by individual disputants to resolve conflict themselves)					

Section Five: Expert consultant

Please tick below all those ways in which expert consultation impacts on fraud prevention and detection in the bank.

- 23. Advisory of the effective ways for presentation of the facts at trial.
[]
- 24. Evaluation of the merits of the case
[]
- 25. Determination of the validity of the claim
[]
- 26. Assisting in reviewing and assessing data obtained from other consultant experts.
[]
- 27. Analysis of the positions and arguments being offered by opposing attorneys
[]
- 28. Verification of the amount claimed
[]

PART C: Application of Forensic Accounting

How would you rate the attributes as the areas of application of forensic accounting in the bank?

Key: 1-Very good, 2- Good, 3- Average, 4- Poor, 5 -Very poor

No	Description	1	2	3	4	5
1	Controlling financial statement frauds					
2	Prevention of scandals in the bank					
3	Enhancing quality of financial reporting					
4	Guarantee the well-being of the bank					
5	Uncovering economic bank crimes					
6	Controlling electronic crimes					
7	Investigation of employee theft					
8	Establishing effective lines of communication					
9	Ensuring regulatory compliance					
10	Monitoring and evaluation of internal control systems					

SECTION D: The Prevalence of Frauds in the Bank

The following statements tests on the most prevalent type of fraud in the banking sector. To what extent do you agree with the occurrence of the frauds below? (Please tick appropriately).

Key: 1-Very low extent, 2-Low extents, 3-Moderate extents, 4- High extents, 5- Very high extents.

No	Description	1	2	3	4	5
1	Theft of cash, physical assets or confidential information					
2	Misuse of accounts					
3	Procurement fraud					
4	Payroll fraud					
5	Financial accounting mis-statements					
6	Inappropriate journal vouchers					
7	Suspense accounting fraud					
8	Fraudulent expense claims					
9	False employment credentials					
10	Bribery and corruption					
11	Corporate identity theft					
12	Intellectual property fraud					

Filled by.....

Designation.....

Thank you for taking the time to complete the questionnaire

Appendix III: List of Commercial Banks in Kenya

1	AFRICAN BANKING CORPORATION	NAIROBI
2	BANK OF AFRICA	NAIROBI
3	BANK OF BARODA(K) LTD	NAIROBI
4	BANK OF INDIA	NAIROBI
5	BARCLAYS BANK OF KENYA	NAIROBI
6	CHARTER HOUSE BANK LTD	NAIROBI
7	CHASE BANK (KENYA)LTD	NAIROBI
8	CITI BANK N.A	NAIROBI
9	CITY FINANCE BANK LTD	NAIROBI
10	COMMERCIAL BANK OF KENYA	NAIROBI
11	CONSOLIDATED BANK OF KENYA LTD	NAIROBI
12	CO-OPERATIVE BANK OF KENYA	NAIROBI
13	CREDIT BANK LTD	NAIROBI
14	DEVELOPMENT BANK OF KENYA	NAIROBI
15	DIAMOND TRUST BANK KENYA LTD	NAIROBI
16	DUBAI BANK KENYA LTD	NAIROBI
17	ECO BANK	NAIROBI
18	EQUATORIAL COMMERCIAL BANK	NAIROBI
19	EQUITY BANK	NAIROBI
20	FAMILY BANK	NAIROBI
21	FIDELITY COMMERCIAL BANK	NAIROBI
22	FINA BANK	NAIROBI
23	GIRO COMMERCIAL BANK	NAIROBI
24	GUARDIAN BANK	NAIROBI
25	GULF AFRICAN BANK	NAIROBI
26	HABIB BANK A.G.ZURICH	NAIROBI
27	HABIB BANK LTD	NAIROBI
28	IMPERIAL BANK LTD	NAIROBI
29	I &M BANK LTD	NAIROBI

30	JAMII BORA BANK	NAIROBI
31	KENYA COMMERCIAL BANK	NAIROBI
32	K-REP BANK	NAIROBI
33	MIDDLE EAST BANK KENYA LTD	NAIROBI
34	NATIONAL BANK OF KENYA	NAIROBI
35	NATIONAL INDUSTRIAL CREDIT BANK	NAIROBI
36	ORIENTAL COMMERCIAL BANK LTD	NAIROBI
37	PARAMOUNT UNIVERSAL BANK LTD	NAIROBI
38	PRIME BANK	NAIROBI
39	SOUTHERN CREDIT CORP.LTD	NAIROBI
40	STANDARD CHARTERED BANK (K)	NAIROBI
41	TRANS-NATIONAL BANK LTD	NAIROBI
42	UBA KENYA BANK LTD	NAIROBI
43	VICTORIA COMMERCIAL BANK	NAIROBI

Source: Central Bank of Kenya (2013). List of commercial banks in Kenya [Online]

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Website:<http://www.centralbank.go.ke/financialsystem/banks/shareholding.aspx>