RELATIONSHIP BETWEEN FRAUD RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

I, the undersigned, declare that this management research project is my original work and that it has not been submitted for any course qualification in this or any other university or institution for academic credit.

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This research project has been submitted for examination with the approval of the following;

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Professor Josiah Aduda

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DEDICATION

I dedicate this research project to my beloved parents, whose constant and continuous support made it possible for me to complete the this research project, not forgetting the supervisor who had devoted much of his time to ensure that I had done a good job. Above all, I dedicate this research project to the almighty God for seeing me through each day. The journey was tough, the hurdles were plenty but His grace was sufficient to enable me complete this.

ACKNOWLEGEMENT

ABSTRACT

A number of studies have been done in Kenya on fraud risk management practices. However none of the studies focused on the relationship between fraud risk management practices and financial performance of commercial banks. This study sought to establish the relationship between fraud risk management practices and financial performance of commercial banks in Kenya.

The objective of the study was to investigate the relationship between fraud risk management practices and financial performance of commercial banks in Kenya. The target populations for the study were the senior officers in the risk management department of the 43 commercial banks operating in Kenya. The research data was collected in Nairobi. The sample size comprised of all the 43 commercial banks operating in Kenya.

Primary data was collected using structured questionnaire. The questionnaire was self-administered through drop and pick later. A total of 43 questionnaires were administered. Collected data was then analyzed using SPSS Version 22. The results were then presented in form of tables and charts.

The results of the study indicated that there exists a positive relationship between fraud risk management practices and financial performance of commercial banks in Kenya. It also found out that preventive and detective fraud risk management practices had a very strong positive (Pearson correlation coefficient of 0.932 and 0.868) influence on financial performance of commercial banks as measured by ROA. It is therefore imperative that commercial banks use preventive and detective fraud risk management practices in order to put fraud risk exposure under control and to improve financial performance.

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LIST OF ABBREVIATIONS

ATM   Automatic Teller Machines

BFID   Banking Fraud Investigations Department/Unit

CBK   Central Bank of Kenya

EFT   Electronic Fund Transfer

ICT   Information Communication Technology

KES   Kenyan Shillings

KBA   Kenya Bankers Association

KPMG   Klynveld Peat Marwick Goerdeler

PKF   Pannell Kerr Forster International

PWC   PricewaterhouseCoopers

ROA   Return on Assets

ROE   Return on Equity

RTGS   Real Time Gross Settlement

SPSS   Statistical Package of Social Sciences

US $ United States Dollar

CHAPTER ONE

INTRODUCTION

1.1   Background of Study

All organizations are subject to fraud risks. Large frauds have led to the downfall of entire organizations, massive investment losses, significant legal costs, incarceration of key individuals, and erosion of confidence in capital markets. Publicized fraudulent behaviour by key executives has negatively impacted the reputations, brands, and images of many organizations around the globe. According to PKF Report (2015), The Financial Cost of Fraud, the real financial cost of fraud and error average losses were 5.47% of expenditure. Also according to the Association of Certified Fraud Examiners (ACFE) (2014), annual fraud survey report, typical organization loses 5 % of its revenue to fraud each year. The Banking and Financial Services sector had the highest number of fraud cases analysed at 17.8%.

The banking industry in Kenya has become a soft target for fraudsters who have been getting away with colossal amounts of cash annually. Fraud costs the Kenya Financial Sector over KES 4 billion annually (Institute of Loss Adjusters, 2012). Mugwe (2012) reports that Kenyan banks were victims of more than half the KES 4.1 billion (US $ 48.3 million) fraud in East African banks in 2011 as technology made the crime easier. Data from the Banking Fraud Investigations Department (BFID), a division of the Central Bank, also showed that 525 cases of fraud were leading to a loss of US $ 8.5 million by various financial institutions in the first quarter of 2014.

The increase in reported fraud in East Africa according to Deloitte 2013, Financial Crimes Survey report is due to financial institutions' failure to put in place high-tech controls that match the kind of innovative products put on the market. Such failures have cost Kenya Financial Institutions to lose more than US $ 10 million annually. It is therefore, imperative for organizations to try to minimize the chances of fraud occurring. This can be done by employing fraud risk management practices.

Fraud in its effect reduces organizational assets and increases its liabilities. With regards to banking industry, it may engender crisis of confidence among the banking public, impede the going concern status of the bank and ultimately lead to bank failure (Adeyemo, 2012).

1.1.1 Fraud Risk Management Practices

The word fraud is derived from the Latin fraus, meaning deceit. It is a common law term for which there is no comprehensive definition. The New Century Dictionary (1953) provides the most enlightening description as "deceit or trickery deliberately practised in order to gain some advantage or end unfairly, dishonestly, or to the prejudice of another's right or interest. Black's Law Dictionary states that fraud in general consists of some deceitful practice or wilful device resorted to with intent to deprive another of his right, or in some manner to do him an injury.

Duffield and Grabosky (2001) defined fraud as an act involving deceit (such as intentional distortion of the truth or misrepresentation or concealment of a material fact) to gain an unfair advantage over another in order to secure something of value or deprive another of a right. It occurs when a perpetrator communicates false statements with the intent of defrauding a victim out of property or something of value (Vasiu and Vasiu, 2004).

According to KPMG, Malaysia Fraud Survey Report 2009, fraud risk management refers to the systems and processes used to identify an organization's exposure to fraud risk, and to implement controls, procedures and education to prevent, detect and respond to the key fraud risks. Fraud risk management practices can therefore be broadly categorized into preventive, detective and responsive fraud management practices.

Preventive fraud risk management practices are those techniques that are meant to reduce fraud and misconduct from occurring in the first place. Such practices include conducting a fraud risk assessment, establishment of strong internal controls, code of conduct and related standards, employee and third party due diligence,

communication and training and introduction of policies and procedures. Preventive controls aim to decrease motive, restrict opportunity for potential offenders to rationalise their action.

Fraud prevention is the responsibility of every employee, vendor, supplier, contractor, service provider, consultant or any other agency(ies) doing business / having business relationship with the Company to ensure that there is no fraudulent action being indulged in, in their own area of activity/responsibility. As soon as they learn of any fraud or have suspicion regarding it, they should immediately report the matter as per the procedure laid down in the memorandum of association.

As fraud prevention practices may not stop all potential perpetrators, organisations should ensure that systems are in place that will highlight occurrences of fraud in a timely manner. This is achieved through fraud detection. Fraud detection methods are meant to uncover fraud when it occurs. A fraud detection strategy should involve use of analytical and other procedures to highlight anomalies, and the introduction of reporting mechanisms that provide for communication of suspected fraudulent acts. Key elements of a comprehensive fraud detection system would include exception reporting, data mining, trend analysis and ongoing risk assessment.

Fraud detection may highlight ongoing frauds that are taking place or offences that have already happened. Such schemes may not be affected by the introduction of prevention techniques and, even if the fraudsters are hindered in the future, recovery of historical losses will only be possible through fraud detection. Potential recovery of losses is not the only objective of a detection programme though, and fraudulent behaviour should not be ignored just because there may be no recovery of losses. Fraud detection also allows for the improvement of internal systems and controls. Many frauds exploit deficiencies in control systems. Through detection of such frauds, controls can be tightened making it more difficult for potential perpetrators to act.

One of the most common ways to detect computer fraud is to log exceptions and to follow up on unusual activities in the logs. Exceptions that should be investigated include, for example: Transactions that are out of sequence, out of priority or

otherwise out-of-standard; Aborted runs and entries, including repeated unsuccessful attempts to enter the system; Attempts to access applications or functions beyond a person's authorization level. If problems are uncovered, access logs and web activity logs may provide vital clues for tracking down the person involved. Some organizations implement logging, but only on a limited basis. Data may be refreshed or overwritten too frequently for the logs to be useful for gathering evidence at alter date. Logs should be maintained for at least a few months before being erased. Newly developed intrusion detection systems use artificial intelligence capabilities to detect unusual transactions flowing through a system. These are evolving and have the potential of providing an order of magnitude improvement in crime detection technology.

Responsive fraud management practices aim at taking corrective action and remedying the harm caused by the fraud. In each instance where fraud is detected, Line Management should reassess the adequacy of the current internal control environment (particularly those controls directly impacting on the fraud incident) to consider the need for improvements. The responsibility for ensuring that the internal control environment is reassessed and for ensuring that the recommendations arising out of this assessment are implemented lie with Line Management of the division concerned (Trevino and Victor, 2008).

According to Kinyua (2011), internal audit provides an independent and objective review and advisory service to: provide assurance to the CEO / Board that the financial and operational controls designed to manage the entity's risks and achieve the entity's objectives are operating in an efficient, effective and ethical manner; and assist management in improving the entity's business performance. Internal audit can specifically assist an entity to manage fraud control by providing advice on the risk of fraud, advising on the design or adequacy of internal controls to minimise the risk of fraud occurring, and by assisting management to develop fraud prevention and monitoring strategies. An effective internal audit plan should include a review of those fraud controls designed to address the significant fraud risks faced by an entity.

1.1.2 Financial Performance

Financial performance refers to the potential of a venture to be financially successful (Eljelly, 2004). Sollenberg and Anderson (1995) assert that, performance is measured by how efficient the organization is in use of resources in achieving its objectives. There are three basic situations that can describe business financial situation. It can be profitable, it can break even or it can operate in a loss. In most cases, an organizational goal is to make profit. The grand objective of commercial banks is to make profit. To measure the profitability of commercial banks, there are a variety of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones (Murthy and Sree, 2003 , Alexandru et al.,2008).

ROA represents the ability of a bank to make profits from its assets. It shows how efficiently the resources of the company are used to generate income. An increasing trend on ROA is an indication that the financial performance of the company is improving. Conversely, a decreasing trend means that financial performance is deteriorating (Crosson, Jr Needles, Needles, & Powers, 2008).

ROE measures the rate of return on the owners' equity employed in the firms business. A business that has a high return on equity is more likely to be one that is capable of generating cash internally. Thus the higher the ROE the better the company is in terms of financial performance. Khrawish (2011) explained that ROE is the ratio of Net Income after Taxes divided by Total Equity Capital. ROE reflects therefore how efficient a bank management is using shareholders' funds.

1.1.3 Relationship Between Fraud Risk Management Practices and Financial Performance

There has been no study that has been done focusing on the relationship between fraud risk management practices and financial performance of commercial banks in Kenya. Studies done on fraud risk management practices have focused on the management practices without linking them to financial performance. They are

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however few studies that have been done on the effect of fraud risk management practices on financial performance of a firm.

Githecha (2014) in his study on the effect of fraud risk management strategies on the financial performance of commercial banks accepted the alternative hypothesis that fraud risk management strategies have an effect on the financial performance of commercial banks in Kenya. The correlation analysis showed that technology adoption had the strongest positive Pearson correlation coefficient influence on financial performance of commercial banks. In addition, governance as well as regulation was positively correlated to financial performance of commercial banks as measured by ROA.

Kuria and Moronge (2013) in there study on the effect of fraud management practices on growth of insurance companies in Kenya also concluded that technology and governance when applied as a control mechanism greatly determined the growth of insurance firms. The results of their study also showed that though regulating the industry is a noble goal as far as growth of the industry is concerned, it may not be a major consideration. There are other underlying factors that may come in play as far as growth of insurance firms is concerned. It was clear from their study that regulation of the insurance firms had no relationship with fraud risk management practices in the industry.

Independent studies conducted by KPMG and EY in 2006 indicated that organisations that implement companywide fraud awareness training cut fraud losses by 52%. The study further indicates that companies are devoting more time and resources to fraud management, with the focus generally on fraud detection and reporting. However, less emphasis is placed on fraud prevention and responses to discovery of fraud (Coenen, 2008)

1.1.4   Commercial Banks in Kenya

Commercial Banks in Kenya are governed by the Companies Act, the Banking Act, the Central Bank of Kenya and the Regulations and Prudential Guidelines. Currently there are 43 licensed commercial banks and1mortgage finance company. Out of the 44 institutions, 31are locally owned and 13 are foreign owned. The locally owned financial institutions comprise 3 banks with significant shareholding by the Government and State Corporations, 27 commercial banks and 1mortgage finance institution. The banks in Kenya have formed an umbrella body called Kenya Bankers Association (KBA) which champions and addresses issues affecting member banks. The commercial banks and non-banking institutions offer corporate, investment and retail banking services.

Bank fraud refers to all kinds of intentional, dishonest and non-violent acts committed against banks by insiders, consumers, businesses and other financial institutions to secure unlawful or unfair gain whether in cash or in kind (Norton, 1994; Wells, 2007). Financial activities have been in existence since 2000 B.C when goldsmith kept jewellers and other valuable items for rich merchants (Jhingan & Jinhgan, 1994). According to Ford (African Banker 1st quarter, 2011), the financial crime has existed as long as there has been financial activity.

Fraudsters stole at least US $ 9.4 million from commercial banks in Kenya in the first half of 2014 in schemes that exploited gaps in online banking solutions and involved collusion with bank staff. Data from the Banking Fraud Investigations Department (BFID), a division of the Central Bank, showed that 525 cases of fraud were leading to a loss of US $ 8.5 million by various financial institutions in the first quarter of 2014. In the second quarter of the year, US $ 907,797 was stolen, a decline that can be attributed to technical mitigation efforts such as the move from stripe to chip ATM cards and increased consumer education.

The investigation report cites identity theft, electronic funds transfer, cheque and credit card fraud, forgery of documents and online fraud as among the ways through which financial institutions lost cash

1.2   Research Problem

The real cost of fraud and average losses according to PKF report on the Financial Cost of Fraud 2015 were 5.74% of expenditure. Also according to the Association of Certified Fraud Examiners (ACFE) (2014), annual fraud survey report, typical organization loses 5 % of its revenue to fraud each year. The Banking and Financial Services Sector had the highest number of fraud cases analyzed at 17.8%.

Fraud costs the Kenya Financial Sector over KES 4 billion annually (Institute of Loss Adjusters, 2012). Mugwe (2012) reports that Kenyan banks were victims of more than half the KES 4.1 billion (US $ 48.3 million) fraud in East African banks in 2011 as technology made the crime easier. Mugwe further reports that a single bank lost KES 2.72 billion (US $ 32.1 million) through data manipulation. With the first half of 2012, cybercriminals attempted to steal at least KES 6.375 billion (US $ 75 million) from high-balance business and consumer bank accounts. In addition fraudsters in Kenya stole at least US $ 9.4 million from commercial banks in the first half of 2014 in schemes that exploited gaps in online banking solutions and involved collusion with bank staff (BFID, 2014).

International studies have been done on fraud risk management practices. Murray (1958) did a study on some aspects of fraud, control and investigation; Glover and Aono, (1995) did a study on changing the model for prevention and detection of fraud; Bishop, (2004) studied on preventing, deterring, and detecting fraud: What works and what doesn't; Holtfreter, (2005) studied on fraud in US organisations: an examination of control mechanisms; Bussmann and Werle (2006) did a study on addressing crime in companies; Wright, (2007) did a study on developing effective tools to manage the risk of damage caused by economically motivated crime fraud; Abiola and Idowu (2009) did a study on an assessment of fraud and its management in Nigeria Commercial Bank and Lanoue (2015) did a study on cutting fraud losses in Canadian organizations

Mbwayo (2005) did a study on strategies applied by commercial banks in anti-money laundering compliance programs, Njagi (2009) looked at effectiveness of know your

customer policies adopted by commercial banks in Kenya in reducing money laundering and fraud incidences, Cheptumo (2010) studied response strategies to fraud related challenges by Barclays Bank of Kenya, Waneaba (2010) conducted a study on strategies applied by commercial banks in Kenya to combat fraud ,Wanjiru (2011) studied strategic responses of Equity Bank to fraud related risks, Githecha (2013) studied on the effect of fraud risk management practices on financial performance of commercial banks and Kuria and Moronge (2013) studied on the effect of fraud control mechanisms on growth of insurance companies in Kenya.

None of the above reviewed studies focused on the relationship between fraud risk management practices and financial performance of commercial banks. Studies done on fraud risk management practices have focused on the fraud management practices without linking it to financial performance. They are however few studies that have been done on the effect of fraud risk management practices on financial performance of a firm.This study aims to fill the existing gap by studying on the relationship between fraud risk management practices and financial performance of commercial banks in Kenya

This study will therefore fill the existing gap by answering the following research question:" What is the relationship between fraud risk management practices and the financial performance of commercial banks in Kenya?

1.3   Objective of the Study

The objective of this study was to investigate the relationship between fraud risk management practices and the financial performance of commercial banks in Kenya.

1.4   Value of the Study

This study will be useful to managers as it will explore the increase in financial performance associated with implementing various risk management practices. These results may help managers prioritize investment decisions about effective risk management practices in the context of scarce financial resources.

The study will be useful to current and potential investors who may wish to invest in commercial banks as they will be equipped with the knowledge of various fraud risk management practices employed in the industry. It is vital for investors to analyze every aspect of their targeted investment before actually putting their stake into it.

The finding of this study will be of great importance to the policy makers especially the Central bank of Kenya in their efforts to deter, prevent and at worst detect fraud timely, as the threat of fraud in Kenya can be contained by taking the right steps. The regulator should be alert in ensuring all commercial banks put in place appropriate controls and policies, monitors the operation of these controls and their effectiveness, create favourable working environment and maintains an anti-fraud culture.

Our findings will be valuable to other researchers because it will show the statistical relationship between fraud risk management practices and financial performance of commercial banks. The study will also form the basis for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

This chapter provides information from publication on topics related to the statement of the problem. It examines what various scholars and authors have said about the relationship between fraud risk management practices and financial performance of a firm. This chapter is divided into the following main areas: review of theories, review of empirical studies, fraud risk management practices, determinants of financial performance and summary of literature review.

2.2   Review of Theories

2.2.1   The Fraud Triangle Theory

The Fraud Triangle theory was developed by Cressey in 1971. According to Cressey, there are three factors which make people to commit fraud. These are: Perceived Pressure, Perceived Opportunity and Perceived Rationalization which make up a triangle. Cressey further describes that every fraud executor is confronted by perceived pressure either work related or personal. The pressures then motivate the individual to commit fraud to meet the expectations of the pressure at hand. The executor of fraud must then believe that he/she can commit fraud without being caught. The opportunity to commit fraud present itself through weak internal controls and inadequate punishment if found.

The third driver of fraud is the ability of the fraudster to find a way to rationalize their actions as acceptable. Rationalization refers to the manner in which people think about their work, performance and contribution within the workplace. They therefore, attach a value that they should derive from the company for being productive or delivering something of value (Chiezey & Onu, 2013).

The theory is applicable for this study since it implies that fraud can be reduced significantly if the pressures, opportunities and rationalization of individuals are addressed by the organization.

2.2.2 Fraud Management Lifecycle Theory

Wesley (2004) describes fraud management lifecycle as a network life cycle. Webster's dictionary refers to a lifecycle as "a series of stages in form and functional activity through which an organism passes between successive recurrences of a specified primary stage" (1997, 1976, &1941) and also refers to a network as "an interconnected or interrelated chain, group or system" (1997, 1976, & 1941).

The Fraud Management Lifecycle is made up eight stages; deterrence, prevention, detection, mitigation, analysis, policy, investigation and prosecution. This theory suggests that the last stage, prosecution, is the culmination of all successes and failures in the Fraud Management Lifecycle. There are failures because the fraud was successful and successes because the fraud was detected, a suspect was identified, apprehended, and charges filed. The prosecution stage includes asset recovery, criminal restitution, and conviction with its attendant deterrent value (Wesley 2004). The interrelationships among each of the stages or nodes in the Fraud Management Network are the building blocks of the fraud management life cycle theory.

Githecha (2013) notes that the theory is important because it vividly shows the stages of fraud risk management in a sequential manner. In addition the theory also shows what institutional processes should put in place for fraud to be effectively managed. The theory however does not explain the drivers of fraud within the commercial banks. This theory assumes uniform cultural, legal, and technological applications in the management of fraud. This theory does not attempt to explain fraud management practices in an environment when such systems and processes fail.

2.2.3 Deterrence Theory

Criminal deterrence pertains to the omission or curtailment of crime out of fear of legal punishment, and the first theory can be traced to the utilitarian philosophers Beccaria (1738–94) and Bentham(1748–1832) who believed that people are motivated fundamentally to obtain pleasure and avoid pain. To the extent that potential offenders anticipate pleasure from crime, they can be deterred by increasing the pain associated with it. In particular, potential offenders can be deterred by making legal punishment certain, celeritous and severe, with certainty being the likelihood of being caught and punished for crime, celerity being the swiftness' of punishment, and severity being the amount of punishment (Von Hirsch et al. 1999, p.6)

The theory is important because it states that fraudulent individuals can be deterred from committing a crime by making punishments certain, celeritous and severe. Such punishments are made through laws and CBK rules. However hat suicidal or psychotic opponents may not be deterred by either forms of deterrence. Also escalation of perceived threat can make it easier for certain measures to be inflicted on commercial banks by its regulator resulting in higher taxes.

2.2.4 Diffusion of Innovation Theory

Diffusion of innovations theory was pioneered by Rogers in 1962. Rogers (2003) described innovation as an idea, practice, or project that is perceived as new by an individual or other unit of adoption. An innovation may have been invented a long time ago, but if individuals perceive it as new, then it may still be an innovation for them. The newness characteristic of an adoption is more related to the three steps (knowledge, persuasion, and decision) of the innovation-decision process.

The theory was developed so as to explain how, over time, an idea, service or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behaviour, or product. According to Arunga (2012) adoption means that a

person does something differently than what they had previously (i.e., purchase or use a new product, acquire and perform a new behaviour, etc.).

In the banking industry, new ideas are very critical components in the survival of commercial banks. Huge financial transactions are involved in the banking industry and as such this if not well managed would cause a downfall of firms in the banking sector. This theory suite this studies because new ideas and use of modern technology helps detect fraudulent transactions.

2.2.5 Game Theory

Game theory was developed by Dixit and Nalebuff (1960) and the emphasis of the theory is based on pure conflict. According to the theory, the essence of a game is the interdependence of player strategies and strategic decision making. There are two distinct types of strategic interdependence that are sequential and simultaneous. In the former the players move in sequence, each aware of the others' previous actions. In the latter the players act at the same time, each ignorant of the others' actions.

This study is based on this theory because game theory is the formal study of decision-making where several players must make choices that potentially affect the interests of the other players. Governance in the banking industry is a critical component that requires strategies and sound decision making. This is because the industry has so many players each trying to out-wit the other for self-gains. The aim of a firm is to maximize on shareholders wealth, while that of management is to maximize their wealth and if not forthcoming they will use some unorthodox means to attain it. Employees on the other hand may find themselves involved without knowledge to this issue. At the end it becomes a game. Dixit and Nalebuff (1960) note the theoretic concept apply whenever the actions of several agents are interdependent. These agents according to the theory may be individuals, groups, firms, or any combination of these.

This this theory fits well in this study because for the industry to grow in the midst of all these other interested parties there should be good governance. Dixit and Nalebuff

(1960) have clearly demonstrated that finite games must always have equilibrium point, at which all players choose actions which are best for them given their opponents' choices.

2.3   Determinants of Financial Performance of Commercial Banks

CAMELS rating system was developed by the Federal regulators in the United States of America to assess the overall condition of banks in 1979. Camel is an acronym of five component measures of performance mainly: Capital adequacy, Asset quality, Management quality, Earnings quality, and liquidity. In 1996 the sixth component-sensitivity to market risk was assed (Siems and Barr, 1998)

2.3.1   Capital Adequacy

Capital adequacy refers to the sufficiency of the amount of equity to absorb any shocks that a bank may experience (Nwankwo, 1991). The capital structure of banks is highly regulated because it plays a crucial role in reducing the number of bank failures and losses to stakeholders. According to Hardy and Patti (2001) and Nwankwo, (1991), capital adequacy is a widely acknowledged key factor in bank performance measurement and evaluation. The capital adequacy measurement ratio was adopted in Nigeria banking system in 1990. It is the ratio of capital of a bank (i.e. Tier 1 and Tier 2 capital) in relation to weighted assets. The banks must meet the minimum requirements stipulated by the regulator which is the Central Bank of Kenya in the case of Kenya.

2.3.2   Asset Quality

Asset quality is the extent of financial strength and risk in the assets of a bank which comprises of loans and investment. The financial health of commercial banks deteriorates with successive erosion the value of their assets. The highest risk facing a bank is non-performing loan (Dang, 2011). The lower the ratio the better the bank is performing (Sangmi and Nazir, 2010). A careful study of the trends in the asset

quality offers a useful means of identifying trends in asset quality as well as those that are likely to cause difficulties to the banks (Ailkeli, 2008)

2.3.3 Management Quality

Management quality plays a big role in determining the future of the bank. The management has an overview of the banks operations, manages the quality of loans and has to ensure that the bank is profitable. The performance of a management capacity is usually qualitative and can be understood through subjective evaluation of management systems, organizational culture, and control mechanisms and so on. However management quality can also be represented by different financial ratios Management quality in this regard, determines the level of operating expenses and in turn affects financial performance (Athanasoglou et al. 2005). One of the ratios used to measure management quality is operating profit to income ratio (Rahman et al. in IIhomovich, 2009, Sangmi and Nazir, 2010).

2.3.4 Liquidity

Liquidity refers to the ability of a bank to fulfil its obligations as they mature. According to Dang (2011), adequate level of liquidity is positively related with bank profitability. Adequate liquidity also improves trust in the general financial setup hence it is important that banks keep enough liquid assets to meet their obligations. IIhomovich (2009) used cash to deposit ratio to measure the liquidity levels of banks in Malaysia. Other ratios used to measure liquidity include the liquid assets to total assets ratio and loans to deposits ratios. However, the study conducted in China and Malaysia found that liquidity levels of banks have no relationship with the performance of banks (Said and Tumin, 2011).

2.3.5 Sensitivity to Market Risk

Commercial banks deal in a greater variety of financial products making them susceptible to among others, interest rate, foreign exchange risks and commodity risk (Olweny and Shipho, 2011). The sensitivity to market risk component in CAMELS

rating focuses on the management ability to detect and control market risk exposures, the characteristics of the exposures of interest rates occurring from non-trading positions and also characteristics of exposures of market risk occurring from foreign and trading business activities (MakDonald and Koch, 2006)

There are several studies that have been done on CAMELS Approach of performance evaluation. Winkar and Tanko (2008) performed a study to establish whether CAMEL is adequate in evaluating performance of banks on eleven commercial banks operating in Nigeria between 1997 and 2005. The findings revealed that there is inability of each component in CAMEL to comprehensively cover the full performance of a bank. Dash & Das (2009) did a CAMELS analysis of the Indian Banking Industry by comparing the performance of twenty nine state owned banks with that of twenty nine foreign banks between 2003 and 2008. The findings concluded that foreign banks performed much better than stated owned banks. The study underscored that the two factors that of the CAMEL parameters that contribute to the best performance of foreign banks were management soundness and profitability.

2.4   Review of Empirical Studies

Empirical literature review involves citing researchers and recent books and journals or recent time observations and experiments. Some of the studies that have been conducted on the relationship between fraud risk management practices and financial performance have been discussed below.

Oloidi et al, (2014) in their study on Bank Frauds and Forgeries in Nigeria focused on the causes, types, detection and prevention of frauds and forgeries in the Nigerian banking sector. Questionnaires were designed to collect data from 81 bank branches in the south west. Their findings revealed that the major factor in play was the problem of effective internal control system and enforcement of strict adherence. They recommended that banks should install effective internal control system and enforce strict adherence.

Dominic, (2015) in his study on cutting frauds in Canadian organisations analysed the effect of various internal controls (i.e. hotlines, regular ethics (fraud) training, surprise

audits, internal and external audits and background checks) on reducing occupational fraud losses by victim organizations. He based his study on data from an occupational fraud report co-authored by the Association of Certified Fraud Examiners (ACFE) and Peltier-Rivest (2007), used a multivariate regression analysis to analyse the effect of various internal controls on preventing fraud losses. The findings demonstrated that hotlines, regular ethics (fraud) training, surprise audits and internal audits all decrease fraud losses when used separately. However, hotlines and surprise audits were the only statistically significant controls when controlling for the potential correlation among all internal controls. Hotlines were associated with a reduction of 54 per cent in median fraud losses, while surprise audits cut median losses by 69 per cent.

PWC in there 2014 Global Economic Crime Survey conducted between August 2013 and February 2014 categorized the method of fraud detection into the following categories: corporate controls; corporate culture; or happenstance. Their findings indicated that suspicious transaction reporting still remained an effective way of detecting fraud according to16% of Kenya respondents followed by routine internal audits at 14%, then fraud risk management at 13% and tip offs both external and internal at 14%.The report recommended that more emphasis should be placed in strengthening internal audit functions and conducting regular fraud risk assessments as a way of early detection or prevention of economic crimes.

Kuria and Moronge, (2013) conducted a study on the effects of insurance fraud control mechanism on the growth of the insurance industry with focus on insurance firms in Kenya. To achieve its objective, the study adopted a descriptive research design. The data was obtained mainly from claim managers and risk managers of the companies. The target population was the 49 insurance companies in Kenya. A census was used owing to the small size of the target population. Questionnaires were used as the tool for collecting data. The analysis was done by use of a spreadsheet program and presented in tables and charts. The study found out that regulation does not aid in fraud control and had little impact on the growth of the insurance sector. Technology and governance on the other hand had been used to fight fraud in the insurance industry and not only aided fraud mitigation but also promote growth of the sector.

Githecha, (2013) conducted a study on the effect of fraud risk management strategies on the financial performance of commercial banks in Kenya. In his study he adopted a descriptive research design and his target population was the overall 43 commercial banks. He used primary and secondary data. The analysis was done using Microsoft excel and SPSS. The results of his study showed that there is a positive and statistically significant effect of fraud risk management strategies on the financial performance of commercial banks in Kenya. Regulatory, governance and technology adoption were positively correlated with financial performance and 77.6% of variation or change in financial performance as measured by ROA was explained by fraud risk management strategies instituted by commercial banks.

Kariuki, (2005) carried out a study that used bank turnover and profits as measure of performance. The findings showed that there were positive impacts of ICT on the banking performance. He established that banks with high profit growth were more likely to be using greater numbers of advanced ICTs. He concluded that e-banking leads to higher profits though in long-term but not in short-term due to high ICT investment cost.

Ngalyuka, (2013) conducted a study to establish the relationship between ICT utilization and fraud losses in commercial banks in Kenya. Secondary data was collected from reports at Central Bank, Banking Fraud Investigation Unit and audited financial reports of the 43 commercial banks in Kenya. Data was analysed using SPSS through correlation analysis and regression analysis. His main conclusion was that adoption of ICT tends to reduce the chances of Identity theft due to the fact that transactions are online and real time.

Kinyua, (2011) in her study of strategic response of equity bank to fraud related risks recommends that the judiciary needs to be empowered through reforms to be able to deal with fraud related incidents, review of fraud legislation, security features of security documents (The Kenyan National Identity Card, Driving licenses, passports and Title deeds) and staff management through employee screening, staff account monitoring and motivation of staff. The study used open-ended questions

Mbuguah, (2013) in his study on response strategies to fraud by the listed commercial banks in Kenya finds out that the pressures that often motivate fraud are staff frustrations, poor/lack of controls, and lack of product knowledge. The study also found out that preventive, training, detection, prosecution and investigation strategies were used by all listed commercial banks in managing the fraud menace. The law enforcement agencies were found to play a critical role in fraud management. The study adopted a descriptive research design. Primary and secondary dates were used in the stud. Primary data was collected using a semi structured questionnaire while secondary date was obtained from the review of reports from the Bank Fraud Investigation Department of the Central Bank and review of periodic reports filed by listed companies.

2.5   Chapter Summary

The literature has tackled the concepts of fraud risk management practices as well as financial performance of firms. Commercial Banks are exposed to fraud risk in the daily undertakings. Given the existing risk in the commercial banks, the management of fraud risk management is essential for survival and profitability today.

As it can be noted, there is no study that has been conducted on the relationship between fraud risk management practices and financial performance of commercial banks in Kenya. A lot of studies focused on fraud risk management practises without linking them to the financial performance of commercial banks in Kenya. Hence, the present study seeks to bridge the gap.

CHAPTER THREE
RESEARCH METHHODOLOGY

3.1 Introduction

This chapter outlines the method that was used by the study to achieve its set objective. Section 3.2 presents the research design. Section 3.3 presents a description of the population of study. Section 3.4 presents the sample size. Section 3.5 deals with data collection. Section 3.6 deals with data validity and reliability and. Section 3.7 deals with data analysis.

3.2 Research Design

This study adopted a descriptive design since it was intended to determine the relationship between fraud risk management practices and financial performance of commercial banks in Kenya. According to Mugenda and Mugenda (2006), a descriptive research design is the process of collecting data in order to answer questions regarding current status of the subjects in the study. The research design therefore was suitable in conducting the study.

3.3 Population

According to Ngechu (2004), a population is a well-defined set of people, services, elements, and events, group of things or households that are being investigated. The population of interest was based on forty three commercial banks regulated by the CBK. Appendix II shows the commercial banks regulated by CBK.

3.4 Sample

A sample size is a number of individual selected from a population for a study in a way that they represent the larger group from which they were selected. It would then be possible to generalize the characteristics of the sample to the population. The study

targeted the whole population of all the 43 banks. This is because the population is small hence may not need to be sampled.

3.5 Data Collection

The study administered both primary and secondary data. Primary data was collected using questionnaires that were self-administered. The questionnaires contained close ended questions. Structured questions were used in order to conserve time and money as well as to facilitate an easier analysis as they were in immediate usable form. The questionnaires were administered using drop and pick method. Questionnaires were used because they allowed the respondents who were senior officers in the risk management department to give their responses in a free environment. A sample questionnaire is attached in Appendix III. Data on ROA was obtained from the CBK bank supervision annual reports.

3.6 Data Validity and Reliability

According to Berg and Gall (1989) validity is the degree by which the sample of test items represents the content the test is designed to measure. Content validity which was employed by this study is a measure of the degree to which data collected using a particular instrument represents a specific domain or content of a particular concept. According to Shanghverzy (2003) reliability refers to the consistency of measurement and is frequently assessed using the test–retest reliability method. Reliability is increased by including many similar items on a measure, by testing a diverse sample of individuals and by using uniform testing procedures.

3.7 Data Analysis

The collected data was analysed using the Statistical Package for Social Sciences (SPSS) version 22. Regression analysis was used to quantify the relationship between the dependent variable and the independent variables. The technique assisted in coming up with estimated coefficients in the empirical equation that measure the

change in the value of the dependent variable for each one unit change in the independent variable, holding the other independent variables constant.

The multiple linear regression analysis was used to determine how each of the dependent variable relates to ROA. The regression analysis took the form below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y= Return on Assets of commercial banks which is a financial performance measure.

Return on assets was measured using the net profit after tax of the commercial banks divided by the total assets.

α = Constant variables that affect financial performance of commercial banks.

β_1, β_2 and β_3 are Parameters which were the coefficient of the independent variables.

X_1= Preventive fraud risk management practices.

Preventive fraud risk management practices were measured from Likert scale questions presented under section B.

X_2= Detective fraud risk management practices.

Detective fraud risk management practices were measured from Likert scale questions presented under section C.

X_3= Responsive fraud risk management practices.

Responsive fraud risk management practices were measured from Likert scale questions presented under section D.

ε= Error term.

Test of significance

Research Hypothesis: There is a relationship between fraud risk management practices and the financial performance of commercial banks in Kenya.

Null Hypothesis: There is no relationship between fraud risk management practices and financial performance of commercial banks in Kenya.

Level of significance is $\alpha = 0.05$.

Null Hypothesis $\qquad$ H_0: $\beta_1 = \beta_2 = \beta_3 = 0$.

Alternative Hypothesis H_1: Not all β_j are equal to zero, for all j=1, 2, 3.

Test Statistic:

F-test = MSR/MSE where MSR = SSR/k and MSE = SSE/n-k-1

SSR = Regression Sum of Squares (Explained variability).

SSE = Error Sum of Squares (Unexplained variability).

MSR = Mean Sum of Regression.

MSE = Mean Sum of Error.

N is the number of observations.

K is the number of independent variables = 3.

Decision Rules:

If F-test $\geq F_{0.05}$; k; n-k-1, The Null Hypothesis is rejected.

If F-test < F0.05; k; n-k-1, The Null Hypothesis is accepted.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter provides the presentation, analysis and interpretation of all data collected from the area of study during the research period. The chapter is divided into 5 sections. The First section deals with the general information of the bank, Section Two deals with preventive fraud risk management practices, Section Three deals with detective fraud risk management practices, Section Four deals with preventive fraud risk management practices and Section Five deals with the relationship between fraud risk management practices and financial performance of commercial banks in Kenya.

4.2 General Information about Commercial Banks in Kenya

4.2.1   Response Rate

From the study, 32 out of 43 sampled respondents filled in and returned the questionnaires making a response rate of 74.42%.The response rate was presented below in table format.

Table 4.1 Response Rate

Response	Frequency	Percentage
Responded	32	74.42%
No response	11	25.58%
Total	**43**	**100%**

Source: Field Study (2015)

According to Mugenda and Mugenda (1999) a response rate of 50% is adequate for analysis and reporting; a response rate of 60% is good and a response rate of 70% and over is excellent; therefore, this response rate was excellent for analysis and reporting.

The high response rate can be attributed to the personal calls and visits to remind the respondents to fill in and return the questionnaire by the researcher.

4.2.2   Victim of Banking Fraud

The study sought to find out if banks respondents have been victim to banking fraud. Their responses were presented below in a pie chart format.

Figure 4.1 Victims to Banking Fraud
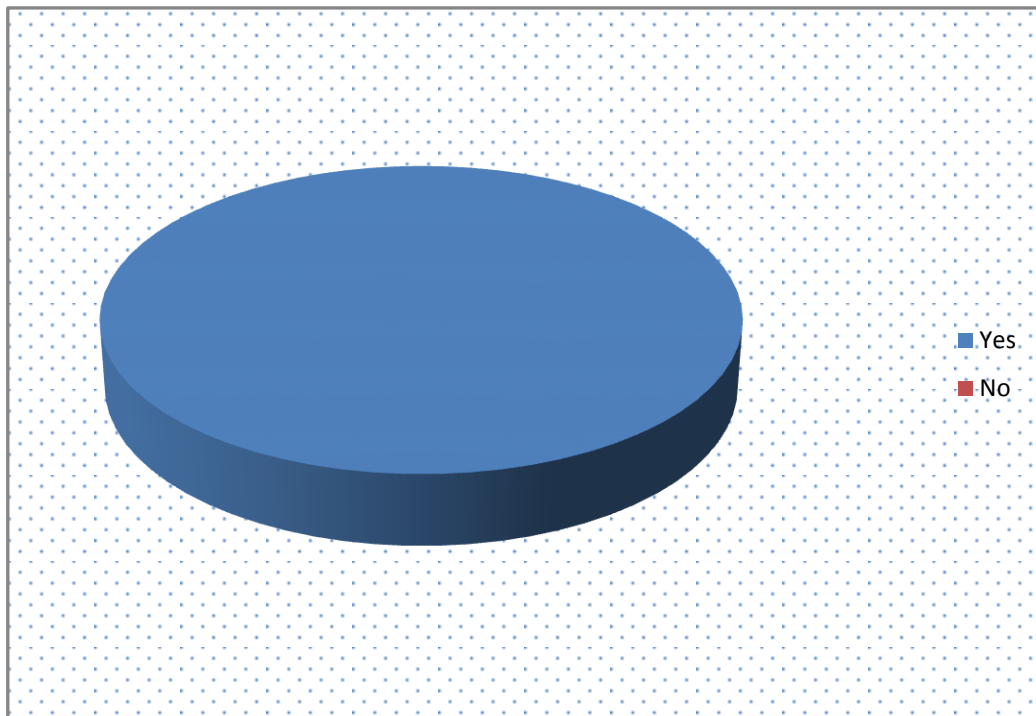
Source: Field Study (2015)

From the study all (100%) of the respondents indicated that their banks have been victim to banking fraud. This implies that fraud is common in the banking sector.

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The study further sought to determine how adversely the respondents' banks have been affected by banking fraud. Their responses were presented below in a bar chart format.

Figure 4.2 Adverse effect of banking fraud to the banks
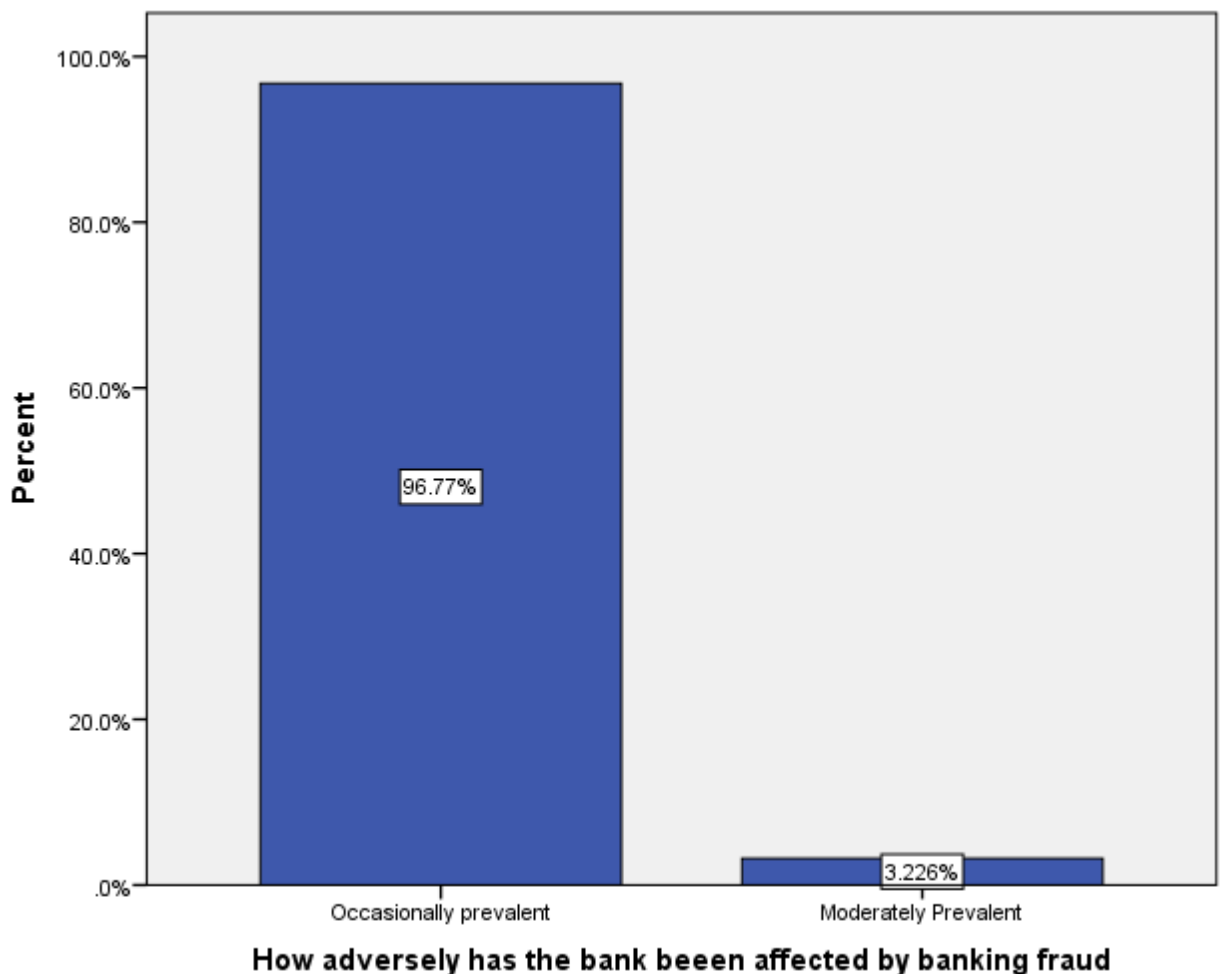
From the study findings majority of the respondents' banks i.e. 96.77% indicated that the effect of bank fraud is occasionally prevalent to their banks while 3.23% indicated that bank fraud is moderately prevalent to their banks. This means that although commercial banks have high rate of bank fraud, they also have adopted fraud risk management practices that cushion them against the adverse effect that may arise due to fraud.

4.2.3 Causes of Fraud in the Banking Sector

The study sought to determine the views of the respondents on the following causes of fraud in their banks on a Likert scale of 1 to 5 (Where 1= Highly disagree, 2= Disagree, 3 = Indifferent, 4 = Agree, 5 = Highly agree). Their means and standard deviations were applied to measure magnitude of the agreement. Their responses were presented below in a table format.

Table 4.2 Causes of Fraud in the Banking Sector

	Mean	Standard Deviation
Greed	3.7500	1.1359
Poor record keeping	3.5625	.9136
Poor internal controls	3.5000	1.0776
Inadequate staffing	3.0645	1.0935
Inadequate training and retraining	3.1935	.9805
Poor salaries	4.2500	.5680
Lack of appropriate punishment to fraudsters	3.0625	1.2684
Lack of reporting mechanism	2.8125	1.1760
Disgruntled staff	3.8125	.7803
Intelligent staff who want to check if controls are existing	3.2812	.9583

Source: Field Study (2015)

The findings indicated that poor salaries had the highest mean at 4.25, disgruntled staff followed with a mean of 3.8125, greed with a mean of 3.75, poor recording keeping with a mean of 3.5625, poor internal controls had a mean of 3.5, intelligent staff who want to check if controls are existing had a mean of 3.2812, inadequate training and retraining had a mean of 3.1935, inadequate staffing had a mean of 3.0645, lack of appropriate punishment for fraudsters had a mean of 3.0624 and lack of reporting mechanism had a mean of 2.8125.

The findings reveal that majority of the respondents agreed that poor salaries was the major cause of bank fraud followed by disgruntled staff, poor record keeping and poor internal controls in that manner. From the findings the respondents were indifferent as to whether intelligent staffs who want to see if controls are working, inadequate training and retraining, inadequate staffing and lack of appropriate punishment to fraudsters caused fraud. However the respondents disagreed that lack of reporting mechanism caused fraud.

4.2.4   Extent of Prevalence of Fraudulent Activities in the Banking Sector

The study sought to determine the views of the respondents on the extent of prevalence of fraudulent activities in their bank on a Likert scale of 1 to 5 (Where 1= Highly disagree, 2= Disagree, 3 = Indifferent, 4 = Agree, 5 = Highly agree). Their means and standard deviations were applied to measure magnitude of the agreement. The findings were as presented below in table format.

Table 4.3 Prevalence of Fraudulent Activities in the Banking Sectors

	Mean	Standard Deviation
Stolen checks fraud	2.2500	1.1359
Cheque Kitting fraud	1.6129	.7154
Forgery and altered cheques fraud	2.2258	1.0866
Accounting fraud	1.4839	.8513
Uninsured deposits fraud	1.2903	.4614
Demand draft fraud	1.3667	.4901
Rogue traders fraud	1.3103	.7123
Fraudulent loans fraud	1.4839	.8896
Fraudulent loan application fraud	1.5161	.8896
Forged or fraudulent document fraud	2.8437	.7666
Wire transfer fraud	3.3750	5.5168
Bill discounting fraud	1.3750	.5536
Payment card fraud	2.0625	1.1897
Booster cheques fraud	1.2500	.4399
Stolen payment cards fraud	1.5625	.8400
Duplication or skimming of card information fraud	1.5313	.8026
Empty ATM envelope deposits fraud	1.2500	.5680
Impersonation fraud	2.1875	.9980
Stolen checks fraud	1.7931	1.0481
Prime bank fraud	1.2581	.4448
Fictitious bank inspector fraud	1.3548	.6082
Phishing and internet fraud	2.6129	.9193
Money laundering fraud	2.4516	.7676

Source: Field Study (2015)

From the study findings there was an agreement that wire transfer fraud, forged or fraudulent document fraud and phishing & internet fraud were moderately prevalent in the banking as indicated by their mean scores of 3.3750, 2.8437 and 2.6129.

Also from the findings Money laundering, stolen checks fraud, forgery and altered document fraud, impersonation fraud, payment card fraud, stolen cheque fraud, cheque kitting fraud, stolen payment card fraud, duplication or skimming of card information fraud and fraudulent loan application were prevalent to a little extent in the banking sector as indicated by their mean scores of 2.4516, 2.25, 2.2258, 2.1875, 2.0625, 1.7931, 1.6129, 1.5625, 1.5313 and 1.5161.

Accounting fraud, fraudulent loans fraud, bill discounting fraud, demand draft fraud, fictitious bank inspector fraud, rogue traders fraud, uninsured deposits fraud, prime bank fraud, empty envelope deposits fraud and booster cheques fraud were not prevalent at all in the banking sector as indicated by their scores of 1.4839, 1.4839, 1.3750, 1.3667, 1.3548, 1.3103, 1.2903, 1.2581, 1.250 and 1.250.

The results of the study indicate that wire transfer fraud, forged or fraudulent document fraud and phishing & internet fraud were the major frauds facing commercial banks in Kenya. However the findings shows that banks have been able to manage accounting fraud, fraudulent loans fraud, bill discounting fraud, demand draft fraud, fictitious bank inspector fraud, rogue traders fraud, uninsured deposits fraud, prime bank fraud, empty envelope deposits fraud and booster cheques fraud as they were not prevalent in the banking sector.

4.2.5 Commercial Banks Strategic Response to Fraud Detection

The study sought to find out commercial banks strategic response to fraud detection. Their responses were presented below in a bar graph format.

Figure 4.3 The Banks Strategic Approach to fraud detection

The banks strategic approach to fraud detection
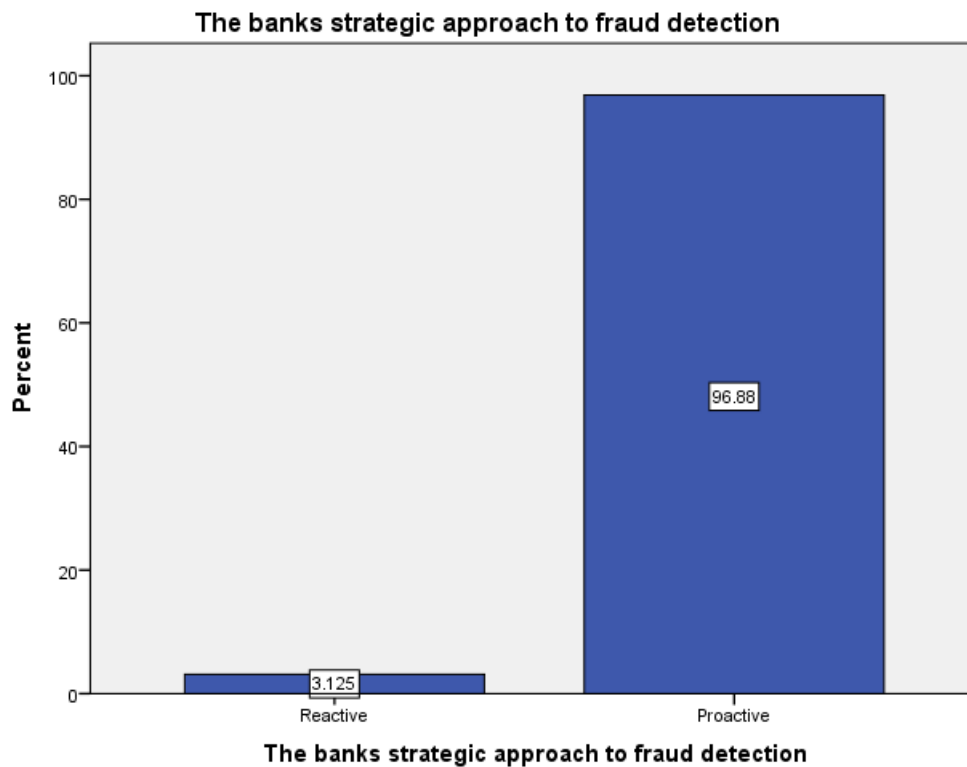
Source: Field Study (2015)

From the findings 96.68% of the commercial banks indicated that their strategic response to fraud was proactive while 3.12% indicated that their strategic response to fraud was reactive. This implies that commercial banks act in advance to prevent future fraud occurrence rather than just reacting to fraud.

4.2.6 Extent to which Fraud affects Financial Performance of Commercial Banks

The study sought to find out the extent to which fraud affects the financial performance of the respondent's commercial bank. The results of the finding were presented in the bar graph below.

Figure 4.4 Extent to which Fraud affects Financial Performance of Commercial Banks

Extent to which fraud affects financial performance of the bank
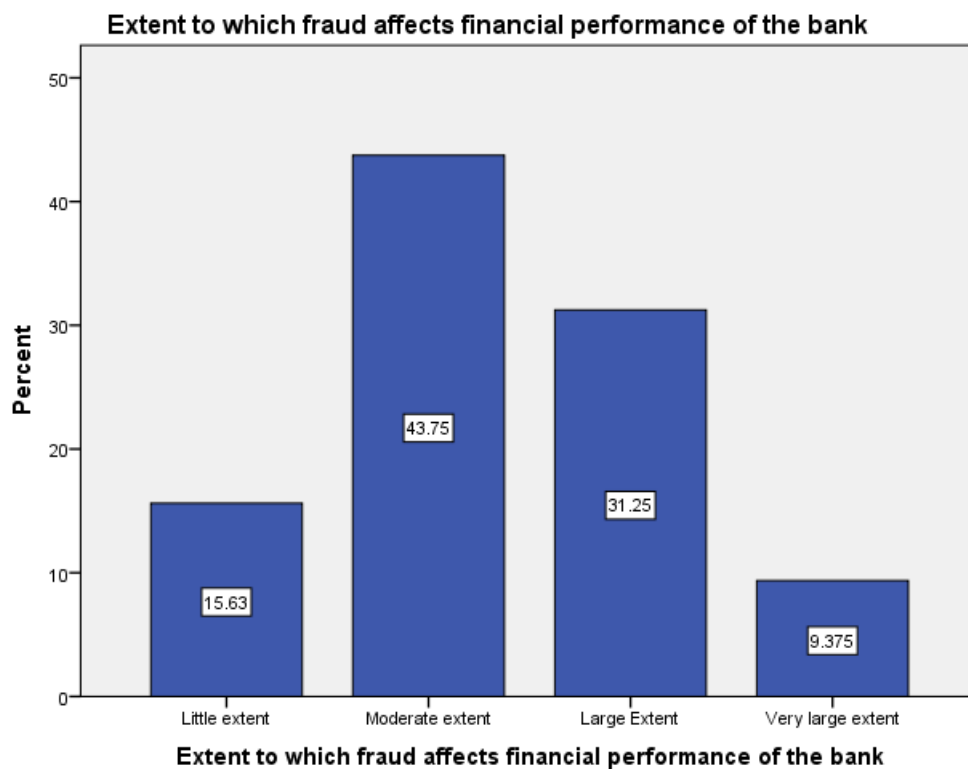
Source: Field Study (2015)

The results of the findings indicate that 43.75% of the respondents indicated that fraud moderately affects financial performance of the commercial bank, 31.25% of the respondents indicated that fraud affects financial performance of the commercial bank to a large extent, 15.63% indicated that fraud affects financial performance of the bank to a little extent and 9.375 % of the respondents indicated that fraud affects financial performance of the commercial banks to a very large extent. None of the respondents indicated that fraud does not at all affect financial performance of commercial banks. The finding implies that fraud affects the financial performance of

commercial banks and for a bank to improve its financial performance then it has to manage fraud incidences.

4.3 Preventive Fraud Risk Management Practices

The study sought to determine to what extent do respondent's commercial bank practice the use of preventive fraud risk management practices in prevention and deterrence of fraud incidences in their bank on a Likert scale of 1 to 5 Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent.Their means and standard deviations were applied to measure magnitude of the extent. The findings were presented below in table format.

Table 4.4 Extent to which commercial banks practice the use of Preventive Fraud Risk Management Practices

Extent to which the following preventive fraud risk management practices are practised	Mean	Standard Deviation
Fraud risk assessment program	4.7813	.4200
Board audit committee and senior management oversight	4.6562	.6016
Information technology	4.5000	.7620
Strong internal controls	4.7813	.4908
Effective code of conduct and related standards	4.2903	.7391
Specific and general training	4.3226	.8713
Employment screening	4.3125	.8958
Surprise audits	4.5313	.6214
Reward for whistle blower	3.6875	1.2811
Fraud department	4.3548	1.0503
Antifraud policy	4.5937	.7121
Employee support program	4.2187	.7925

Source: Field Study (2015)

From the study findings the respondents to a very large extent employed use of fraud risk assessment program, strong internal controls, board audit committee and management oversight, antifraud policy, surprise audits and use of information

technology respectively as indicated by their mean scores 4.7813, 4.7813, 4.6562, 4.5937, 4.5313 and 4.5 to prevent and deter fraud in the commercial banks.

The study findings in addition indicated that the respondents to a large extent employed the use of a fraud department, specific and general training, employment screening, effective code of conduct and related standards, employee support program and reward for whistle blower preventive practices as indicated by their means 4.3548, 4.3226, 4.3125, 4.2903, 4.2187 and 3.6875 to prevent and deter fraud in commercial banks.

The study findings implies that commercial banks to a very large extent employ the use of fraud risk assessment program, strong internal controls, board audit committee and management oversight, antifraud policy, surprise audits and use of information technology respectively to prevent and deter fraudulent activities in the commercial banks.

4.4 Detective Fraud Risk Management Practices

The study sought to determine to what extent do the respondents commercial banks practice the use of detective fraud risk management practices in deterrence of fraud incidences in their bank on a Likert scale of 1 to 5 Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent. Their means and standard deviations were applied to measure magnitude of the extent. The findings were presented below in form of a table format

Table 4.5 Extent to which commercial banks practice the use of Detective Fraud Risk Management Practices

Extent to which the following Detective Fraud Risk management Practices are practiced	Mean	Standard Deviation
Monitoring systems	4.3437	.7453
External audits	4.1875	.8206
Management review	4.1563	.8076
Account reconciliation	4.6250	.6091
Confession	1.7812	.8322
Proactive data analysis	4.2500	.7620
Fraud risk awareness training	3.9355	.7718
Performance appraisal	4.0000	.8165
Whistle blowing hotline	1.6875	.9651
Internal tipoff	3.6875	1.1198
External tipoff	3.9062	1.2276
Law enforcement investigation	4.0625	.9817
Job rotation	4.0625	.9136
Internal audit	4.5312	.6214
Corporate security	4.0333	.8087

Source: Field Study (2015)

The results of the study indicated that account reconciliation and internal audit were used to a very large extent in detection of fraud as indicated by their mean scores of 4.625 and 4.5312.

The results of the study also indicated that monitoring systems, external audit, management review, proactive data analysis, job rotation, law enforcement investigation, corporate security, performance appraisal, external tipoff and internal tipoff were to a large extent used in the detection of bank fraud as indicated by their mean scores of 4.3437, 4.1875,4.1563, 4.25, 4.06,4.06,4.033 , 4.00, 3.906, 3.9355 and 3.6875

However the results of the finding indicated that confessions and whistle blowing hotline were used to a small extent as detective fraud risk management practices as indicated by their mean scores of 1.7812 and 1.6875 respectively.

The results of the findings imply that commercial banks in Kenya to a large extent used account reconciliation and internal audit to detect fraudulent activities in the banking sector. The findings also implied that commercial banks to a small extent employed the use of confessions and whistle blowing practices to detect fraudulent activities in the banking sector.
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4.5 Responsive Fraud Risk Management Practices

The study sought to determine to what extent do the respondents commercial banks practice the use of responsive fraud risk management practices in prevention, deterrence and detection of fraud incidences in their bank on a Likert scale of 1 to 5 Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent. Their means and standard deviations were applied to measure magnitude of the extent. The findings were presented below in form of a table format

Table 4.6 Extent to which commercial banks practice the use of Responsive Fraud Risk Management Practices

Extent to which Responsive fraud risk management practices are practiced	Mean	Standard Deviation
Internal investigation	4.1563	.8466
Progressive sanctions	4.0645	.9978
Disclosure of the results of internal investigation to the regulator	3.8125	1.1483
Prosecution of the offender	3.6250	1.0701
Remedying the harm caused	3.2500	1.2700
Strengthening controls	4.2500	.8032
Communication to employees that that management took appropriate action responsive practice	4.4063	.6652
Public disclosure of fraud and misconduct	3.4688	1.6261
Recovery of stolen	4.1875	.8958

Source: Field Study (2015)

The results of the study indicated that communication to employees' that management took appropriate action, strengthening controls, recovery of stolen assets, progressive sanctions, disclosure to the regulator of fraud and misconduct and prosecution were to a great extent applied as a responsive fraud risk management practice as evidenced by their mean scores 4.4063, 4.2500, 4.1875, 4.0645, 3.8125 and 3.60.

However the results of the study also indicated that public disclosure of fraud and misconduct was moderately used as a responsive fraud risk management practice as shown by its mean score of 3.4688.In addition remedying of the harm caused by fraud was used to a little extent as a responsive fraud risk management practice as indicated by its mean of 2.25.

The study findings implies that commercial banks in Kenya use communication to employees' that management took appropriate action, strengthening controls, recovery of stolen assets, progressive sanctions, disclosure to the regulator of fraud and misconduct and prosecution responsive strategies to a large extent in prevention and deterrence of fraudulent activities

The findings also implies that commercial banks in Kenya moderately disclose fraud and misconduct to the general public and in addition to a little extent try to remedy the harm caused by fraud.

4.6 Relationship between Fraud Risk Management Practices and Financial Performance of Commercial Banks In Kenya

4.6.1 Correlation Analysis

Correlation is a statistical measure that can show whether and how strongly pairs of variables are related. The measure of correlation is the correlation coefficient (r) which ranges from -1.0 to +1.0. If r is close to zero, it means there is no relationship between the variables. If r is positive, it means the variables move in the same direction i.e. if one variable increases the other increases and vice versa. If r is negative, it means the variables move in opposite direction i.e. if one variable increases, the other variable decreases and vice versa. The correlation of Preventive, Detective, Responsive Fraud Risk Management Practices and Financial Performance is presented below in form of a table format.

Table 4.7 Correlation Analysis

Correlations

		Return on assets	Preventive	Detective	Responsive
Return on assets	Pearson Correlation	1	.932**	.868**	.764**
	Sig. (2-tailed)		.000	.000	.000
	N	32	32	32	32
Preventive	Pearson Correlation	.932**	1	.976**	.932**
	Sig. (2-tailed)	.000		.000	.000
	N	32	32	32	32
Detective	Pearson Correlation	.868**	.976**	1	.965**
	Sig. (2-tailed)	.000	.000		.000
	N	32	32	32	32
Responsive	Pearson Correlation	.764**	.932**	.965**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	32	32	32	32

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

Source: Field Study (2015)

The analysis above shows that preventive fraud risk management practices had the strongest positive (Pearson correlation coefficient =0.932) influence on financial performance of commercial banks. In addition, detective fraud risk management practices as well as responsive fraud risk management practices are positively correlated to financial performance of commercial banks as measured by ROA (Pearson correlation coefficient =0.868 and 0.764).

4.6.2 Regression Analysis

Regression model is used here to describe how the mean of the dependent variable changes with changing conditions. Regression Analysis was carried out for fraudulent management practices (Preventive, Detective and Responsive) and financial performance of the commercial banks.

To test for the relationship between fraud risk management practices and financial performance of commercial banks, the study did the multiple linear regression analysis. Financial performance of commercial banks became the dependent variable and fraudulent management practices as the independent variables. The coefficient of determination which is a measure of how well a statistical is likely to predict future outcomes is computed. The coefficient of determination R^2 is the square of the correlation coefficient between outcomes and predicted values. It explains the extent to which change in the dependent variable can be explained by the change in the independent variable or the percentage of variation in the dependent variable (Financial Performance, ROA) that is explained by all the three independent variables (Preventive, Detective and Responsive) as fraud risk management practices.

The model envisaged here took the form;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y= Return on Assets of commercial banks

Return on assets was measured using the net profit after tax of the commercial banks divided by the total assets.

α = Constant variables that affect financial performance of commercial banks.

β_1, β_2 and β_3 are Parameters which were the coefficient of the independent variables.

X_1 = Preventive fraud risk management practices.

These are preventive fraud risk management practices used to prevent and deter fraudulent practices

X_2 = Detective fraud risk management practices.

These are detective fraud risk management practices used to detect fraudulent practices.

X_3 = Responsive fraud risk management practices.

This are Responsive Fraud Risk Management Practices used to prevent, deter and detect fraudulent practices

ε = Error term.

The results of the regression analysis were shown below in form of a table format.

Table 4.8 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.975[a]	.950	.945	22689.0074850	1.359

a. Predictors: (Constant), Responsive Fraud Risk Management Practices, Preventive Fraud Risk Management Practices, Detective Fraud Risk Management Practices

b. Dependent Variable: Return on assets

Source: Field Study (2015)

Table 4.8 above shows R square which is known as the coefficient of determination. It explains the variations of dependent variable that is due to change in independent variables. As per the table above the value of R squared was found to be 0.950, shows

that 95 % of variation in financial performance of commercial banks is explained changes in fraud risk management practices.

R is the correlation coefficient and it explains the strength of relationship between the independent and dependent variable, an estimate of 0.975 shows a strong linear relationship between the dependent and independent variable.

The results of ANOVA analysis were presented below in form of a table format.

Table 4.9 ANOVA Table

<div align="center">

ANOVA[a]

</div>

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	275161905430.590	3	91720635143.530	178.171	.000[b]
1	Residual	14414149698.285	28	514791060.653		
	Total	289576055128.875	31			

a. Dependent Variable: Return on assets

b. Predictors: (Constant), Responsive Fraud Risk Management Practices, Preventive Fraud Risk Management Practices, Detective Fraud Risk Management Practices

Source: Field Study (2015)

Decision Rules:

If F-test ≥ F0.05; k; n-k-1, The Null Hypothesis is rejected.

If F-test < F0.05; k; n-k-1, The Null Hypothesis is accepted.

Since F-test ≥ F0.05 the study rejects the null hypothesis that there is no relationship between fraud risk management practices and financial performance of commercial banks in Kenya and accepts the alternative that there is a relationship between fraud risk management practices and financial performance of commercial banks in Kenya.

The results for the model coefficients were shown below in a table format

Table 4.9 Coefficients

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-510817.270	41924.628		-12.184	.000
Preventive Fraud Risk Management Practices	337426.027	41226.848	1.599	8.185	.000
Detective Fraud Risk Management Practices	26629.516	62364.544	.115	.427	.673
Responsive Fraud Risk Management Practices	-180271.396	34972.381	-.837	-5.155	.000

a. Dependent Variable: Return on assets

Source: Field Study (2015)

From the table of coefficients; the model is therefore fitted as;

$Y = -510,817.270 + 337,426.027X1 + 26,629.51X2 - 180,271X3$

Y = Financial Performance, ROA of the Commercial banks.

 X1 = Preventive Fraud Risk Management Practices

X2 = Detective Fraud Risk Management Practices.

X3 = Responsive Fraud Risk Management Practices.

-510,817.270 is the y-intercept.

According to the regression model equation established, if the independent variables (Preventive, Detective and Responsive fraud risk management practices) constant at zero the financial performance realized will be- 510,817.270. The analyzed data findings also shows that taking other independent variables at zero, a unit increase in Preventive fraud risk management practice leads to 337,426.027 increase in Financial Performance (ROA) of commercial banks. A unit increase in detective fraud risk management practices will lead to 26,629.51 increases in Financial Performance (ROA) of commercial banks whereas an increase in responsive fraud risk management practices will lead to 180,271 decreases in Financial Performance (ROA) commercial banks in Kenya.

4.7 Summary & Interpretation of Findings

The following paragraphs present the summary and interpretation of findings.

All the respondents indicated that their bank were victims of fraud with the prevalent fraud being wire transfer fraud, forged or fraudulent document fraud and phishing & internet fraud. The study also found out that the commercial banks were able to mitigate accounting fraud, fraudulent loans fraud, bill discounting fraud, demand draft fraud, fictitious bank inspector fraud, rogue traders fraud, uninsured deposits fraud, prime bank fraud, empty envelope deposits fraud and booster cheques fraud. This was attributed to the fraud risk management practices employed by the commercial banks. The study findings were in agreement with Wanyama (2012) findings which identified the following as the types of fraud facing Cooperative bank of Kenya: Identity fraud, card fraud, cybercrime, ATM fraud, internet fraud and bank fraud

The study found out that the major causes of fraud were poor salaries paid to employees as shown by a mean score of 4.25, disgruntled staff as shown by a mean score of 3.8125, greed as shown by a mean score of 3.75, poor recording keeping as shown by a mean score of 3.5625 and poor internal controls as shown by a mean score of 3.5. This finding contradicts the findings by Idowu (2009) and Akinyomi (2012)

whose studies indicated that greed was the foremost cause of fraud in the banking sector.

The study sought to determine commercial banks strategic approach to fraud detection. The study findings indicated that proactive fraud risk management strategy was used as the banks strategic approach to fraud detection as indicated by a mean score of 96.68%. The findings are in agreement with Githecha (2013) study that found out that commercial banks strategic approach to fraud detection was proactive.

The study further sought to determine the extent to which fraud affects the financial performance of commercial banks. The study findings indicated that fraud moderately affected commercial banks financial performance in Kenya as indicated by its mean score of 43.75%.

The study further found it of great importance to determine the extent to which the respondent's commercial bank practiced the use of preventive fraud risk management practices in prevention and deterrence of fraud incidences in their bank. The study findings indicated that the respondents to a very large extent employed use of fraud risk assessment program, strong internal controls, board audit committee and management oversight, antifraud policy, surprise audits and use of information technology respectively as indicated by their mean scores of 4.7813, 4.7813, 4.6562, 4.5937, 4.5313 and 4.5 to prevent and deter fraud in the commercial banks. This implies that commercial banks uses fraud risk assessment program, strong internal controls, board audit committee and management oversight, antifraud policy, surprise audits and use of information technology practices in prevention and deterrence of bank fraud.

The study further investigated extent to which the respondent's commercial bank practiced the use detective fraud risk management practices. The study findings indicated that the respondents to a very large extent practiced the use of account reconciliation and internal audit were used to a very large in deterrence of fraud in the banking sector. This implied that commercial banks used bank reconciliation and internal audit in detection of fraudulent activities in the commercial banks.

In addition the study further investigated extent to which the respondent's commercial bank practiced the use of responsive fraud risk management practices. The study findings indicated that the respondents communication to employees' that management took appropriate action, strengthening controls, recovery of stolen assets, progressive sanctions, disclosure to the regulator of fraud and misconduct and prosecution were used to a large extent with disclose fraud and misconduct to the general public remedying the harm caused by fraud used to a small extent.

This findings correlates with PWC 2014 Global Economic Crime Survey that indicated that indicated that suspicious transaction reporting, internal and external audits, tipoffs, fraud risk management were effective ways managing fraud in organisations.

The correlation analysis showed that preventive fraud risk management practice has the strongest positive Pearson correlation coefficient influence on financial performance of commercial banks. In addition, detective fraud risk management practices as well as responsive fraud risk management practice were positively correlated to financial performance of commercial banks as measured by ROA. Regression model was used to find out the relationship between fraud risk management practices and financial performance of commercial banks.

Finally the study sought to find out if there exists a relationship between fraud risk management practices and financial performance of commercial banks. The findings of the study indicated that there exists a relationship between fraud risk management practices and financial performance of commercial banks since F-test was greater than 0.05. The findings are in concurrence with Githecha, (2013) and Kuria and Moronge, (2013) finds that showed that there exists a positive relationship between fraud risk management practices and financial performance of commercial banks in Kenya.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The summary of the study is based on the objective of the study which was to investigate the relationship between fraud risk management practices and financial performance of Commercial Banks in Kenya.

To test for the relationship between fraud risk management practices and financial performance of commercial banks, the study did the multiple linear regression analysis. Financial performance of commercial banks became the dependent variable and fraudulent management practices as the independent variables.

The findings indicated that R squared was found to be 0.95 which showed that 95 % of variation in financial performance of commercial banks was explained by changes in fraud risk management practices. R was found to be 0.975 which showed that there exist a strong linear relationship between the dependent and independent variable.

In addition the study rejected the null hypothesis that there is no relationship between fraud risk management practices and financial performance of commercial banks since F-test $\geq$ F0.05 and accepted the alternative that there is a relationship between fraud risk management practices and financial performance of commercial banks in Kenya.

The model envisaged was fitted as;

$$Y = -510,817.270 + 337,426.027X1 + 26,629.51X2 - 180,271X3$$

The study found out that if the independent variables (Preventive, Detective and Responsive fraud risk management practices) were constant at zero the financial performance realized was - 510,817.270. The analyzed data findings also showed that taking other independent variables at zero, a unit increase in Preventive fraud risk management practice led to 337,426.027 increases in Financial Performance (ROA) of commercial banks. A unit increase in detective fraud risk management practices led to

26,629.51 increases in Financial Performance (ROA) of commercial banks whereas an increase in responsive fraud risk management practices led to 180,271 decreases in Financial Performance (ROA) commercial banks in Kenya.

5.2 Conclusions of the Study

The conclusion of the study was based on the research objective: To determine the relationship between fraud risk management practices and financial performance of Commercial banks in Kenya.

First, from the study it can be concluded that all commercial banks are victims to fraud incidences and that the use of preventive and detective fraud risk management practices increases the ROA of commercial banks in Kenya. However the use of responsive fraud risk management practices decreases the ROA

Secondly, that wire transfer fraud, forged or fraudulent document fraud and phishing & internet fraud were the major fraud facing commercial banks in Kenya. In addition the major causes of fraud were poor salaries paid to employees, disgruntled staff, greed, poor recording keeping and poor internal controls.

Thirdly, it can also be concluded from the study that all of the commercial banks strategic approach to fraud risk management is proactive. Fourthly, it can be concluded that the practices used by commercial banks to manage fraud risk are both detective, preventive and response practices. The preventive practices fraud risk management practices used by banks included use of fraud risk assessment program, strong internal controls, board audit committee and management oversight, antifraud policy and surprise audits. The detective fraud risk management practices used were both bank reconciliation and internal audit function while the responsive fraud risk management practices were communication to employees that management took appropriate actions, strengthening internal controls, recovery of stolen assets and progressive sanctions.

Finally, the study concluded that there is a positive relationship between fraud risk management practices and financial performance of commercial banks in Kenya.

5.3 Recommendations to Policy and Practice

Due to the diverse nature of businesses and organizations, implementing a fully standardized approach to fraud would not be feasible or practicable. There are, however, a number of key best-practice policies and procedures that the study recommends that the commercial banks should consider. The recommendations are based on the study findings.

The research findings showed that preventive and detective fraud risk management practices had a positive Pearson correlation coefficient influence on financial performance of commercial banks. Therefore the study recommends that commercial banks should adopt these practices to reduce fraud incidences in commercial bank.

These practices include use of fraud risk assessment program, strong internal controls, board audit committee and management oversight, antifraud policy, surprise audits, use of information technology, bank reconciliation and internal audit.

Secondly the study showed that wire transfer fraud, forged or fraudulent document fraud and phishing & internet fraud were the major fraud facing commercial banks in Kenya. Therefore the study recommends that commercial banks should channel all their efforts to mitigate or minimize the following types of fraud facing them.

Finally the study showed that the major causes of fraud were poor salaries paid to employees, disgruntled staff, greed, poor recording keeping and poor internal controls. Therefore the study recommends that commercial banks should address the following causes of fraud if they are to mitigate fraud incidences in commercial banks.

5.4 Limitation of the Study

The dataset used in this study does not include detailed information on other factors that affect the financial performance of commercial banks such as the macro-economic factors and contingent liabilities.

The response by 32 commercial banks was a limitation. The results were limited to all 43 banks licensed by the Central Bank of Kenya. The results thus cannot be generalized to all the licensed banks by the CBK because different banks may employ different practices for managing fraud risks.

Finally, the period of the research was short i.e. 1 year which does not give the true of the financial performance of commercial banks.

5.5 Suggestion for Further Research

First, a study on the challenges facing fraud risk management practices should be undertaken. This would enable policy makers to identify the best way to curb the challenges.

Secondly, further studies should examine the entire population of the commercial banks in Kenya. This will enable generalization of the findings in the entire industry.

Thirdly, there is need to replicate these results to other sectors such as manufacturing industry and agricultural industry to establish the relationship between fraud risk management practices and financial performance of firms in other sectors.

Lastly the study focused on the selected fraudulent management practices in commercial banks in Kenya. There are other practices that have equally important contribution towards fraud management. Therefore other studies should focus on other practices not considered and how they can be incorporated in the variable to enhance further financial performance of commercial banks in Kenya.

APPENDICES

Appendix I: Introductory Letter

Dear Respondent,

RE: RESEARCH DATA COLLECTION

I am a postgraduate student at the University of Nairobi pursuing a Master of Science degree in Finance. I am currently collecting data for my research project titled: ***Relationship Between Fraud Risk Management Practices and Financial Performance of Commercial Banks in Kenya.***

In view of the above, I humbly request you to create time and answer the questions in the questionnaire attached.

Kindly read the accompanying instructions and respond to the questions as provided for. You may provide any documentation on the same at your discretion. Your positive and objective response will help achieve the objectives of the study.

The information provided will be treated with strict confidentiality for the purpose of achieving the objectives of this research and not for any other purpose whatsoever. Your response and cooperation in this matter will be highly appreciated.

Thank you in advance,

Yours Faithfully,

Ronald Opiyo Ohando

D63/71242/2014

Appendix II: List of Licensed Commercial Banks in Kenya

1.   African Banking Corporation Bank (Kenya).

2.   Bank of Africa Kenya Ltd.

3.   Bank of Baroda (K) Ltd.

4.   Bank of India.

5.   Barclays Bank.

6.   Brighton Kalekye Bank.

7.   CFC Stanbic Bank.

8.   Chase Bank (Kenya).

9.   Citibank N. A Kenya.

10.   Commercial Bank of Africa.

11.   Consolidated Bank of Kenya.

12.   Cooperative Bank of Kenya.

13.   Credit Bank Ltd.

14.   Development Bank of Kenya.

15.   Diamond Trust Bank Kenya Ltd.

16.   Dubai Bank Kenya Ltd.

17.   Ecobank Kenya Ltd.

18.   Equatorial Commercial Bank.

19.   Equity Bank Ltd.

20.   Family Bank Ltd.

21.   Fidelity Commercial Bank Ltd.

22.   Fina Bank Ltd.

23.   First Community Bank Ltd.

24.   Giro Commercial Bank Ltd.

25.   Guardian Bank Ltd.

26.   Gulf African Bank Ltd.

27.   Habib Bank Ltd.

28.   Habib Bank AG Zurich

29.   I&M Bank Ltd.

30.   Imperial Bank Kenya

31.   Jamii Bora Bank Ltd.

32. Kenya Commercial Bank Ltd.

33. K-Rep Bank Ltd.

34. Middle East Bank Kenya Ltd.

35. National Bank of Kenya Ltd.

36. NIC Bank Ltd.

37. Oriental Commercial Bank.

38. Paramount Universal Bank.

39. Prime Bank (Kenya).

40. Standard Chartered Kenya.

41. Trans National Bank Kenya.

42. United Bank for Africa.

43. Victoria Commercial Bank.

Mortgage Finance Company

44. Housing Finance Corporation of Kenya Ltd.

Source: Central Bank of Kenya (2015).

Appendix III: Questionnaire

Questionnaire

This questionnaire is meant to collect information on *Relationship between Fraud Risk Management Practices and Financial Performance of Commercial Banks in Kenya*.

This information is being sought solely for academic purposes and will be treated with strict confidence. Kindly answer the questions by ticking the boxes provided as will be applicable. . Do not indicate your name as the information given is confidential.

SECTION A: GENERAL INFORMATION

1. Name of Bank (optional)? ……………………………………

2. Has the company ever been a victim of banking fraud?

Yes   [ ]   No   [ ]

3. How adversely has the bank been affected by banking fraud? Fraud is…

Highly prevalent   [ ]   Moderately Prevalent [   ]

Occasionally prevalent [   ]   Has never occurred   [ ]

4. What are your views on the following causes of fraud in the banking Sector?

(Circle the number closest to your view)

Use a scale of 1 to 5 where 5 =highly agree, 4=agree, 3=indifferent, 2=disagree a, 1= highly disagree

Causes of Bank Fraud	Highly agree	Agree	Indifferent	Disagree	Highly disagree
Greed					
Poor Record keeping					
Poor Internal Controls					
Inadequate staffing					
Inadequate training and retraining					
Poor salaries					
Lack of appropriate punishment to fraudsters					
Lack of reporting mechanism					
Disgruntled staff					
Intelligent staff who want to check whether controls are existing					
Any other? Specify					

5. The table below shows the different types of fraud that your commercial bank faces. Kindly indicate the extent of prevalence of the fraudulent activities. Please tick as appropriate in the boxes using a tick (√) or cross mark (x).

Fraud	Not at all	Little Extent	Moderate Extent	Large Extent	Very Large Extent
Stolen checks					
Cheque kiting					
Forgery and altered cheques					
Accounting fraud					
Uninsured deposits					
Demand draft fraud					
Rogue traders					
Fraudulent loans					
Fraudulent loan applications					
Forged or fraudulent documents					
Wire transfer fraud					
Bill discounting fraud					
Payment card fraud					
Booster cheques					
Stolen payment cards					
Duplication or skimming of card information					
Empty ATM envelope deposits					
Impersonation					
Stolen checks					
Prime bank fraud					
The fictitious 'bank inspector'					
Phishing and Internet fraud					
Money laundering					

6. In your opinion, generally, what is the banks strategic approach to fraud detection?

Proactive   [ ]   Reactive   [ ]   Passive   [ ]

7. To what extent does fraud affects the financial performance of the bank?

Not at all   Little Extent Moderate Extent   Large Extent Very   Large
Extent

[ ]   [ ]   [ ]   [ ]   [ ]

SECTION B: PREVENTIVE FRAUD RISK MANAGEMENT PRACTICES To what extent do you practice the following preventive fraud risk management practices in prevention and deterrence of fraud incidences in the bank? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent).

Preventive Fraud Risk Management Practices	Not at all	Small Extent	Moderate Extent	Large Extent	Very Large Extent
Fraud risk assessment program.					
Board, audit committee and senior management oversight					
Use of information technology to prevent fraud.					
Establishment of strong internal controls					
Establishment of effective code of conduct and related standards					
Specific and General training					
Employment Screening					
Surprise audits					
Reward for whistle blower					
Fraud Department					
Antifraud policy					
Employee support program					

SECTION C: DETECTIVE FRAUD RISK MANAGEMENT PRACTICES To what extent do you practice the following detective fraud risk management practices in prevention, deterrence and detection of fraud incidences in the bank? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent).

Detective Fraud Risk Management Practices	Not at all	Small Extent	Moderate Extent	Large Extent	Very Large Extent
Monitoring systems designed to detect fraud					
External audits					
Management review					
Account reconciliation					
Confessions					
Proactive data analysis					
Fraud risk awareness training.					
Performance appraisal on fraud prevention.					
Whistleblowing hotline					
Internal tip-off					
External tip-off					
Law enforcement investigation					
Job rotation					
Internal audit					
Corporate security					

SECTION D: RESPONSIVE FRAUD RISK MANAGEMENT PRACTICES To
what extent do you practice the following responsive fraud risk management practices
in prevention, deterrence and detection of fraud incidences in the bank? Give your
ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate
extent 4 = Large extent 5 = Very large extent).

Responsive Fraud Risk Management Practices	Not at all	Small Extent	Moderate Extent	Large Extent	Very Large Extent
Conducting internal investigation					
Progressive sanctions					
Disclosing the results of internal investigations to the regulator					
Prosecution of the offender					
Remedying the harm caused					
Strengthening controls					
Communicating to the employees that management took appropriate action					
Public disclosure of fraud and misconduct					
Recovery of the stolen funds					

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