

**THE EFFECT OF INTERNAL CONTROLS ON FRAUD
DETECTION AND PREVENTION AMONG COMMERCIAL BANKS
IN KENYA**

BY

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DECLARATION

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

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DEDICATION

To my family with much love for their selfless and continuing love and support. I also dedicate it to the School of Business University of Nairobi for being a study pillar throughout my course. I have been humbled deeply by the knowledge acquired and support accorded to me during my studies at the University.

ABSTRACT

The study sought to investigate the effect of internal controls on fraud detection and prevention among commercial banks in Kenya. The main problem was that there is increased level of fraud and misappropriation of funds in Kenyan commercial banks caused by poor internal control measures. The fact that Kenya has the highest incidences of fraud in the world, based on a global ranking of 78 Countries surveyed and also the findings that commercial banks in Kenya are more susceptible to fraud than commercial banks in her neighbouring countries in Eastern Africa formulated the basis of the research problem. The study adopted an explanatory research design. The population of the study was all the 43 commercial banks operating in Kenya in the study period. The study conducted a census on all the 43 commercial banks. The study used primary data. An ordinary linear regression model was used. The regressions were conducted using statistical package for social sciences (SPSS) version 20. The regression results indicated that there was a negative and significant relationship between reconciliation control and level of fraud prevention and detection. The results also indicated that there is a negative and significant relationship between financial governance control and level of fraud prevention and detection while the relationship between reporting and budget control and level of fraud prevention and detection was positive and significant. Following the study findings, the study recommended that Commercial banks should fully reconcile their accounts more frequently in order to reduce the cases of more incidences of frauds. The study also recommends that commercial banks should put in place stronger financial governance control measures through more frequent meetings among the members of the risk management committee and also finance and investment committee. Another recommendation made by the study is that commercial banks should reduce the variances in budgets through better reporting and budgetary control measures as it will reduce cases of frauds.

TABLE OF CONTENTS

DECLARATION.....	II
ACKNOWLEDGEMENT.....	III
DEDICATION.....	IV
ABSTRACT.....	V
TABLE OF CONTENTS	VI
LIST OF TABLES	IX
LIST OF FIGURES	X
LIST OF ABBREVIATIONS	XI
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study	1
1.1.1 Internal Controls	2
1.1.2 Fraud Detection and Prevention.....	3
1.1.3 Effect of Internal Control Systems on Fraud Detection and Prevention	4
1.1.4 Commercial Banks in Kenya	4
1.2 Statement of the Problem.....	4
1.3 Research Objectives.....	6
1.4 Value of the Study	6
CHAPTER TWO	8
LITERATURE REVIEW	8
2.1 Introduction.....	8
2.2 Theoretical Review	8

2.3	Empirical Review.....	11
2.4	Determinants of Fraud Detection and Prevention.....	14
2.5	Summary of Literature Review.....	17
CHAPTER THREE		18
RESEARCH METHODOLOGY		18
3.1	Introduction.....	18
3.2	Research Design.....	18
3.3	Population	19
3.4	Sample.....	19
3.5	Data Collection	19
3.5.1	Data validity and reliability	20
3.6	Data Analysis	20
3.6.2	Test of Significance	21
CHAPTER FOUR.....		22
DATA ANALYSIS, RESULTS AND DISCUSSION.....		22
4.0	Introduction.....	22
4.1	Trend Analysis	22
4.2	Descriptive statistics	26
4.3	Analytical Model	28
4.3.1	Correlation Analysis	28
4.3.2	Regression Analysis	29
4.4	Discussions	32
4.5	Chapter Summary	34
CHAPTER FIVE		35

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	35
5.1 Summary of Findings.....	35
5.2 Conclusions.....	36
5.3 Recommendations.....	37
5.4 Limitations of Study	37
5.5 Areas for Further Study	37
Appendix I: Data sheet	42

LIST OF TABLES

Table 4.1: Descriptive statistics	27
Table 4. 2: Correlation Results	28
Table 4. 3: Coefficient of Determination.....	30
Table 4. 4: Overall Model Significance.....	30
Table 4. 5: Regression Coefficients	31

LIST OF FIGURES

Figure 4.1: Reconciliation control-Year 2010 to year 2014	23
Figure 4.2: Financial Governance Control-Year 2010 to year 2014	24
Figure 4.3: Reporting and Budget Control-Year 2010 to year 2014	25
Figure 4.4: Number of Fraudulent Incidences-Year 2010 to year 2014	26

LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
FAA	Financial Administration Act
GPFG	Good Public Financial Governance
KCDCA	Kenya Credit and Debit Card Association
KYC	Know Your Customer
PCIDSS	Payment Card Industry Data Security Standards
PFM	Public Finance Management

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A system of internal controls is a critical component of bank management and a foundation for the safe and sound operation of banking organizations. A system of strong internal controls can help to ensure that the goals and objectives of a banking organization will be met, that the bank will achieve long-term profitability targets, and maintain reliable financial and managerial reporting (Markowski & Mannan, 2008). Such a system can also help to ensure that the bank will comply with laws and regulations as well as policies, plans, internal rules and procedures, and decrease the risk of unexpected losses or damage to the bank's reputation. The Basel Committee, along with banking supervisors throughout the world, has focused increasingly on the importance of sound internal controls. This heightened interest in internal controls is, in part, a result of significant losses incurred by several banking organizations. An analysis of the problems related to these losses indicates that they could probably have been avoided had the banks maintained effective internal control systems. Such systems would have prevented or enabled earlier detection of the problems that led to the losses, thereby limiting damage to the banking organization. A system of accounting and records keeping will not succeed in completely and accurately processing all transaction unless controls known as internal controls are built into the system (Opromolla & Maccarini, 2010).

Internal controls are processes designed to provide reasonable assurance that management achieves effectiveness and efficiency of operations, reliability of financial reporting and compliance with applicable laws and regulations (Grant, Miller, & Alali, 2008). A system of internal controls potentially prevents errors and fraud through monitoring and enhancing organizational and financial reporting processes as well as ensuring compliance with pertinent laws and regulations (Rae and Subramanian, 2008). Reasonable assurance is provided when cost effective actions are taken to restrict deviations, such as improper or illegal acts to a tolerable level. The internal audit reviews

the effectiveness of the internal control system to ascertain whether the system is functioning as intended (Fadzil, Haron & Jantan, 2005).

The system of internal controls should emphasize on, proper identification measurement and monitoring of risks, control activities for each level of operation, creation of reliable information systems that promptly reports anomalies and detailed reporting of all operations and monitoring of all the activities (Opromolla & Maccarini, 2010). Internal controls are affected by a company's board of directors, management and other personnel and are designed to ensure effectiveness and efficiency of operations, reliability of financial reporting and compliance with applicable laws and regulations (Spira & Page, 2003). The management should assess and report the effectiveness of an institution's internal controls to its stakeholders (Rezaee, 1995). Internal controls should have the following as its components, control environment, risk assessment, control activities, information and communication and monitoring activities (Basel Committee, 2011). These interrelated components of internal control must be present and functioning properly in order to have an adequate and functioning internal control system (Rezaee, 1995).

1.1 1 Internal Controls

Fraud deterrence are measures to stop fraud occurring in the first place, whereas fraud detection involves identifying fraud as quickly as possible once it has been perpetrated (Naicker, 2006). Zhang (2012) states that fraud detection and deterrence must operate together. Naicker (2006) further states that fraud detection is a continuous process as criminals always adapt to new ways of committing fraud once they know of the existence of a detection method. Fraud deterrence/prevention involves good division of responsibilities, supervision of staff, monitoring work performance and also putting measures in place to ensure that even when systems are accessed that there is proper control (Kimani, 2011).

Institutions should adopt know your customer practices to identify all the features of their clients, management should not only strive to know new customers but must update existing files and monitor their operations in order to detect fraud (Hardouin, 2009).

Daily monitoring of transactions should also be carried out in order to spot unusual transactions (Prabowo, 2012). Fraud awareness can also be enhanced through seminars and training events held in collaborations with institutions like the central bank, the central reference bureau and other financial institutions, covering areas like fraud prevention measures and investigation techniques (Prabowo, 2012). Staff training is a key element in risk management as employees who are actively trained in risk management are better able to identify threats to the organization due to weak or non-existent internal controls (Rae & Subramaniam, 2008). Know your customer is a key compliance issue, whereby an institution is required to identify all the features of its clients by updating existing files and monitoring the operations and checking at least that originators and beneficiaries are not blacklisted (Hardouin, 2009).

1.1.2 Fraud Detection and Prevention

Fraud has been in existence throughout history and has taken many different dimensions. Bank fraud has grown with advent of the banking industry, and has been facilitated by the technological innovations and the widespread use of the Internet. According to the fraud triangle (Cressey, 2003) for fraud to occur the three factors; pressure, rationalization and opportunity should be present. Bank employees have knowledge of the systems as well as classified and confidential information which together with technological advancement can give them the opportunity to commit frauds. All they need is some pressure and the rationalization and that way they become part of fraud cartels that are fleecing millions of shillings from the banks.

According to a report by consultant firm, Deloitte Kenyan banks were victims of more than half the Sh4.1 billion (\$48.3 million) fraud that hit East African banks in 2012 as technology made the crime easier. At least Ksh1.5 billion (\$17.64 million) was stolen from Kenyan banks in the past one year, in schemes hatched by technology-savvy bank employees. This can be attributed to failure by both the bank processes and the employees to detect and control fraud. Security experts say the amounts reported reflect only a small portion of the real losses suffered since banks prefer internal disciplinary

measures in cases involving thieving employees (Kimani, 2013). This means that banks should be on an alert and should also revise their controls to keep up with fraud.

1.1.3 Effect of Internal Control Systems on Fraud Detection and Prevention

Effective Internal control systems are crucial in detecting and preventing fraud. The converse where nonexistence and ineffectiveness of internal controls do not facilitate fraud detection and prevention is also true (MicroSave, 2007). A June 2003 publication by the Institute of Internal Auditors wrote that “risk and control are virtually inseparable like two sides of a coin – meaning that risks first must be identified and assessed; then managed and mitigated by the implementation of a strong system of internal control”.

The goals of financial institutions are to enhance growth, profitability and sustainability, that is, to actually achieve their mission, and minimize the risk of loss or failure in the process of conducting business. To fulfill their mission, financial institutions risks must be managed through effective internal controls. This implies that internal control systems play a positive role in the growth, profitability and sustainability of financial institutions (Njagi, 2009; Kiprop, 2010).

1.1.4 Commercial Banks in Kenya

There are currently 44 commercial banks in the country and one bank is under receivership. Banks in Kenya are classified into three strata; large peer (6), Medium peer group (15) and small peer group (23). As at the end of March 2012, there was KES 2.1 trillion held as assets in the Kenyan banking Sector with loans and advances of about KES 1.2 trillion. The deposit base stood at KES 1.6 trillion and the profit before tax of the sector in general stood at KES 24.7 billion as at 31st March 2012. As at the end of March, the number of customer deposit accounts stood at 14.36 million while the loan accounts stood at 2.032 million accounts (Central Bank of Kenya, 2012).

1.2 Statement of the Problem

The regularity of fraud and misappropriation of funds is creating fear, anxiety, and a loss of confidence in the minds of bank customers. Also, poor internal control system leads to

increase in bank losses (ACFE, 2010). Management is required to set up an internal control system but this system varies significantly from one organization to the next, depending on such factors as their size, nature of operations, and objectives. Since internal controls operate in an environment which influences its operations, proper care must be exerted into the implementation of these systems in order to achieve the utmost aim of the bank. This heightened interest in internal controls is, in part, a result of significant losses incurred by several banking organizations (Hochberg, Sapienza & Jorgensen, 2009). An analysis of the problems related to these losses indicates that they could probably have been avoided had the banks maintained effective internal control systems. Such systems would have prevented or enabled earlier detection of the problems that led to the losses, thereby limiting damage to the banking organization (Levi, 2008). Kenya has the highest incidences of fraud in the world, based on a global ranking of 78 Countries surveyed (PwC, 2011). Commercial banks in Kenya are more susceptible to fraud than commercial banks in her neighbouring countries in Eastern Africa (PWC, 2010).

Duffield & Grabosky, 2001; Zahra, Priem & Rasheed, 2005; Mustafa & Youssef (2010) concentrated on the causes and motivations to defrauding by staff. Other scholars, Alleyne and Howard, 2005; Bakre, 2007 & Lange (2008), studied the role of external auditors in fraud, detection and prevention and they produced conflicting findings. This shows that different opinions exist as to the effect of internal controls on fraud detection and prevention.

Njagi (2009) did a study on the effectiveness of know your customer policies adopted by commercial banks in Kenya in reducing money laundering and fraud incidences and concluded that KYC controls had a significant effect on the fraud incidences in commercial banks. However, the conceptual scope of the study was narrow as it only focused on prevention mechanisms. Kiprop (2010) carried out a study on responses to fraud related challenges by Barclays bank of Kenya and concluded that the bank had put in place fraud detection systems. However, the study failed to assess the effectiveness of the fraud detection systems that had been put in place. Munyua (2013) focused on operational response strategies to payment card fraud by commercial banks in Kenya and

concluded that a mix of operational strategies have been employed by commercial banks. However, the study was narrow as it only focused on credit card fraud only. Wanyama (2012) investigated the effectiveness of fraud response strategies adopted by co-operative bank of Kenya limited and concluded that that ineffective strategies cannot adequately control fraud. The study was narrow in scope as it only concentrated on one bank.

It is for this research gaps that this study sought to answer the following research question; what is the effect of internal controls on fraud detection and prevention among commercial banks in Kenya?

1.3 Research Objectives

The main research objective was to investigate the effect of internal controls on fraud detection and prevention among commercial banks in Kenya

1.3.1 Specific Research Objectives

- i. To establish the effect of reconciliation controls on the level of fraud prevention and detection in commercial banks in Kenya
- ii. To determine the effect of financial governance controls on the level of fraud prevention and detection in commercial banks in Kenya
- iii. To investigate the effect of reporting and budget controls on the level of fraud prevention and detection in commercial banks in Kenya

1.4 Value of the Study

The findings are expected to have implications on policy, practice and theory building. In relation to policy and practice, the findings of the study are also expected to be important to the management of the commercial banks to maintain an enhanced controlled environment by helping management and employees to establish and maintain an environment throughout the bank that sets a positive and supportive altitude towards internal control, reliable management, operating personnel for effecting internal control and internal audit for evaluating whether appropriate controls have been implemented and whether the internal controls are functioning as intended. The government through

the Central Bank of Kenya may use the study findings to formulate policies on risk management and internal control systems.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter explores the literature that focuses on the area of impact of internal control system on the detection and prevention of fraud. The chapter commences by reviewing the theories that informed the discussion on internal control system. It then dwells on the empirical studies that discuss the link between internal control system, detection and prevention of fraud.

2.2 Theoretical Review

The study was hinged on various investments theories; these are the fraud triangle theory and fraud management lifecycle.

2.2.1 The Fraud Triangle Theory

Albrecht et al., (2009) States that fraud is composed of three elements, namely a perceived pressure, a perceived opportunity and rationalization of the act of fraud; these three elements are called the fraud triangle. Every act of fraud, irrespective of whether it is done against an entity or on behalf of an entity, is always composed of the three elements (Albrecht et al., 2009). The three elements in the fraud triangle are interactive, for instance the greater the perceived opportunity or the more intense the pressure, the less rationalization it takes for someone to commit fraud (Albrecht, Turnbull, Zhang, & Skousen, 2010). However, fraud is a complex matter and is a function of a combination of factors (Rae & Subramaniam, 2008). For instance in some cases, although internal controls were poor, there were no incidence of fraud, while in other cases even though good internal controls existed employees still managed to circumvent the internal controls to commit fraud (Rae & Subramaniam, 2008). An understanding of how opportunities, pressures and rationalizations contribute to fraud in organizations can assist management to easily recognize the areas of susceptibility to fraud and strengthen these areas (Albrecht et al., 2010).

Fraud perpetrators must have some way to rationalize their actions as acceptable (Albrecht et al., 2009). Justification of fraudulent behavior is usually as a result of a fraudster's lack of personal integrity or other moral reasoning (Rae & Subramaniam, 2008). Individuals do not commit fraud unless they can justify it as being consistent with their own personal code of ethics, as personal integrity may be the key limiting factor in keeping a person from misappropriating assets (Hillison et al., 1999). Rationalization by fraudsters emanates from their feeling that the victims owe them and that they deserve more than they are getting (Mutua, 2011). Some individuals possess an attitude, character or set of ethical values that allow them to knowingly and intentionally commit a dishonest act (Cohen et al., 2011). A strong moral code can prevent individuals from using rationalizations to justify illicit behavior; internal auditors however should assume that anyone is capable of justifying the commission of fraud (Hillison et al., 1999).

2.2.2 The Fraud Management Lifecycle

Effective management of the fraud management lifecycle starts with a common understanding of the stages in the lifecycle (Wilhelm, 2004). The fraud management lifecycle is a network lifecycle where each stage in the life cycle is an aggregated entity that is made up of interrelated, interdependent and independent actions, functions and operations (Albrecht et al., 2009). The fraud management lifecycle is made up of eight stages; Deterrence stage involves stopping fraud before it happens by increasing the difficulty of committing the fraud as fraudsters tend to migrate toward the path of most anonymity and least resistance (Wilhelm, 2004). Deterrence is achieved through creating fear of consequences or difficulty of perpetration, to turn aside, discourage or prevent fraudulent activity from being attempted (Kimani, 2011).

Policy must seek to balance deterrent value, loss reduction, sales volume, operational scalability and cost effectiveness (Wright, 2007). Policy development involves constantly reassembling the situations disassembled in the analysis stage, by taking advantage of the knowledge gained by analysis, combining it with internal, external and interactive environmental factors in order to craft policies that address the whole, while leveraging the knowledge of the parts (Wilhelm, 2004). Policy development staffs are most

frequently the leaders within the fraud management organization as they must consider all disciplines within the fraud management department as well as the needs of the rest of the business enterprise (Hassink et al., 2010). The investigation stage involves obtaining enough evidence and information to stop fraudulent activity, to obtain recovery of assets or restitution and to provide information and support for the successful prosecution and conviction of the fraudsters (Albrecht, et al., 2009). Fraud investigations are focused upon three primary areas of activity; internal investigations, external investigations and law enforcement coordination. Internal investigations includes investigations of employees, contractors, consultants or vendors while external investigations are conducted on customers, fraudsters and organized groups (Wilhelm, 2004). Law enforcement coordination as further argued by Gottschalk (2010) is the provision of information and resources to, and the maintenance of, a partnership with federal, state, regional and local law enforcement authorities.

Rigorous and routine investigations provide for both an incremental lift in deterrence and the maintenance of an effective relationship with law enforcement. Finally the prosecution stage is focused upon prosecutorial and judicial authorities as well as with law enforcement (Wilhelm, 2004). The three aims of prosecution in the fraud arena is to punish the fraudster in an attempt to prevent further theft, to establish, maintain and enhance the business enterprise's reputation of deterring fraud so that the fraud community becomes aware of it and to obtain recovery or restitution wherever possible (Albrecht et al., 2009)

2.2.3 Theory of Internal Control

A system of effective internal control is a critical component of an organization's management and a foundation for its safe and sound operation. A system of strong internal control can help to ensure that the goals and objectives of an organization will be met, that it will achieve long-term targets and maintain reliable financial and managerial reporting. Such a system can also help to ensure that the organization will comply with laws and regulations as well as policies, plans, internal rules and procedures, and reduce the risk of unexpected losses and damage to the organization's reputation.

The following presentations of internal control in essence cover the same ground. In USA, the Committee of Sponsoring Organizations of the Tread way Commission (COSO) issued Internal Control – Integrated Frameworking 1992, which defined internal control as a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: Effectiveness and efficiency of operations; Reliability of financial reporting; Compliance with applicable laws and regulations. The Rutteman Report (1994) in UK defined internal control as the whole system of controls, financial and otherwise, established in order to provide reasonable assurance of Effective and efficient operations; Internal financial control and Compliance with laws and regulations. The theory is relevant to the study because it outlines the internal control policies, procedures and rules to be followed in the banking industry.

2.3 Empirical Review

This section reviewed the literature from prior scholars regarding the impact of internal control system on the detection and prevention of fraud.

Njenga and Osiemo (2013) sought to investigate effect of fraud risk management on organization performance with focus to deposit-taking micro finance institutions in Kenya. The study was guided by the following specific objectives, that is, anti-fraud policies, corporate governance practices, fraud detection mechanisms and systems of internal controls and their effect on performance of deposit-taking microfinance institutions in Kenya. The target population of this study was all deposit-taking microfinance institutions in Kenya. The study adopted stratified sampling with the sample been drawn from the senior management, middle management and lower management staff of the head office branches of the 8 deposit-taking microfinance institutions. The study used both primary data and secondary data. Secondary data accessed from the CBK (2012) report while a semi-structured questionnaire was used for collecting primary data from the respondents. Both qualitative and quantitative analysis was carried out. The study concluded that, most of the organizations had anti-fraud policies which were also effective. On the same, the stu

dy established that the institutions have separate and distinct anti-fraud policy from a code of conduct policy. The institution's employees were trained on anti-fraud mechanisms and that management reports on the occurrence and the cost of fraud to staff of the institution. The findings also indicated that the institutions have documented policies and procedures which are clearly communicated to all employees and that employee understand what fraud constitutes in all products of the deposit-taking microfinance while Anti-Fraud Policies affect organization performance to a great extent.

Kiprop (2010) carried out a study on responses to fraud related challenges by Barclays bank of Kenya. This was a case study since the unit of analysis was one organization aimed at getting detailed information regarding the strategic responses to increasing fraud risk at Barclays Bank. Primary data was collected using self-administered interview guides. The interview guides contained open-ended questions. The content analysis was used to analyze the respondents' views about the strategic responses to fraud risk in Barclays Bank. The information was presented in a continuous prose. 18 out of the 20 interviewees targeted completed the interview guide making a response rate of 87.5%. The study concluded that the bank had put in place fraud detection systems. However, the study failed to assess the effectiveness of the fraud detection systems that had been put in place.

Munyua (2013) focused on operational response strategies to payment card fraud by commercial banks in Kenya. The study employed a census study of all the members of KCDCA. This was found suitable since member banks of KCDCA issue cards that are accepted worldwide and are key stakeholders in employing strategies to address the payment card fraud challenge. Data analysis was conducted using descriptive statistics and correlation analysis. The study concluded that a mix of operational strategies have been employed by commercial banks to; minimize payment card fraud, protect cardholder data, monitor and respond to compromise events as they occur. Enabling strong authentication; issuing chip and pin cards; sending transaction alerts; complying to

PCIDSS; using fraud prevention and detection systems are some of the operational response strategies used by commercial banks in Kenya to address the payment card fraud challenge. The strategies are applied in varying degrees, explaining why only a few banks in Kenya issue chip cards or have real time fraud management solutions as at October, 2013. However, the study was narrow as it only focused on credit card fraud only.

Wanyama (2012) investigated the effectiveness of fraud response strategies adopted by co-operative bank of Kenya limited. This was a case study aimed at getting detailed information regarding effectiveness of responses strategies to fraud at Co-operative bank of Kenya. The primary data was collected using an interview guide. The interview guide contained open-ended question that enabled the researcher to collect in-depth qualitative data. The information was presented in a continuous prose. The researcher interviewed all the six proposed managers making a response rate of 100%. The study concluded that ineffective strategies cannot adequately control fraud. The study was narrow in scope as it only concentrated on one bank.

Kimani (2011) conducted a Fraud Risk Assessment Plan for Barclays Bank of Kenya. The study aimed at providing more understanding of fraud; prevention, detection, reporting and resolution guidelines which the Bank can incorporate in its fight against fraud. The author noted that the typical organization loses an average of 5-7% of its gross revenue to fraud annually. Theft of assets, which includes money, physical assets and or services, is the most common type of fraud. Majority of frauds are detected through tips reported by either employees, vendors or whistle blowers. Organizations that implement company-wide fraud awareness training cut fraud losses by 52%. Barclays Bank Kenya was not an exception to this status of increased fraud. The study concluded that in order for Barclays Bank of Kenya to be able to prevent and reduce frauds to the minimum, the fraud risk assessment team of the Bank should follow a fraud risk assessment strategy which provides guidelines that help to prevent, detect, manage and resolve fraud.

Omondi (2013) carried out a study on the impact of forensic accounting services on fraud detection and prevention among commercial banks in Kenya. The objective of this study

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

2.4 Determinants of Fraud Detection and Prevention

According to Vorhies (2006) balance sheet account reconciliations are one of the oldest and most important accounting processes. Yet, in many companies they're underappreciated as an internal control over financial reporting. Before Sarbanes-Oxley many companies relegated this control to a corrective role; since the control operates after the financial reports are issued, it is effective only in identifying misstatements for correction. With increasingly tight SEC filing deadlines and section 404 requirements, many companies haven't recognized the importance of accelerating balance sheet account reconciliations in order to make them detective controls and to complete them in time to identify and correct errors before the company files SEC reports.

According to Basel Committee, (2011) companies need to reconcile all accounts that could contain a significant or material misstatement and post all necessary adjustments to the general ledger in a timely manner. Necessary adjustments include all identified general ledger entries that either individually or in the aggregate are significant or material to the financial statements, with the most necessary adjustments being those that would result in a material misstatement if they were not recorded. The company also should analyze all unreconciled accounts and unposted identified adjustments to the

general ledger to determine their effect and the potential for financial misstatement or significant deficiency or material weakness.

Corporate governance is the system by which companies are directed and controlled and is concerned with establishing structures and allocating responsibilities within companies (Schachler, Juleff and Paton, 2007). A sound internal governance framework forms the foundation for effective operational risk management (Basel Committee, 2011). The tone at the top provides the cornerstone of ethical behavior throughout the organization (Law, 2011). When senior management adopts core values and a strong ethical culture, an ethical environment that helps to reinforce employees' ethical perceptions and behavior at work is created (Law, 2011). Ethical values may be communicated by example through leadership and management's strict adherence to admonishing those who violate the ethical standards or code (Rae and Subramaniam, 2008).

Cabri (2014) states that in order to promote economic growth and sustainable development an effective state should be able to mobilize revenue, borrow prudently, plan and manage the spending of public money in an effective and efficient way and to account for the use of funds and the results achieved. Sound public finance management (PFM) contributes to these outcomes through its elements of transparency, participation, responsiveness, oversight, accountability and predictability. These are elements of good public financial governance (GPFG) a prerequisite for a state's economic and social development and a focal area of CABRI's work.

Australian Institute of Company Directors (2006) noted that strengthening Financial Governance is designed to help directors develop their knowledge and skills in the financial governance of a company. Financial governance sharpen the governance skills in: Key issues and financial risks relating to the stage of lifecycle of a company; Financial governance and reporting responsibilities; Governance practices relating to external financial reporting and Critical financial considerations and risk areas in financial reporting.

Salah (2010) noted that faced with constraints and demands for improved services, modern organizations at every level are discussing, experimenting with, and

implementing new ways of budgeting. The budget process is increasingly being seen as a tool to promote corporate accountability and effectiveness, rather than simply as a vehicle for allocating resources and controlling expenditures. It is important to mention that streamlining the budgeting process alone, without “fine-tuning” the budgeting system and the budget control points will render only a fraction of the expected benefits. That is why the complementary skill set of our financial management professionals will make the difference in creating the best budgeting framework fitting the company needs and distinct characteristics.

Parker (2014) states that the Financial Administration Act (FAA), provide Treasury Board with authority regarding the form and content of the budget. Development of the budget and fiscal plan is an integral part of financial management as it determines the resources needed to fulfill the objectives of ministry programs and forms the basis for operational and financial control and accountability. Funding targets are established by Treasury Board to assist ministries in developing budgets. Ministries identify budget packages for their programs and rank them in priority order as part of their initial review. Budget proposals are reviewed by various levels and finally by Treasury Board. Once approved and implemented, budgetary control is required to ensure that resources are properly used, and that actual revenues and expenditures do not differ significantly from forecasts.

ACI (2014) noted that as electronic payment volumes grow, and more banking activity extends to the web and mobile devices, the ability to detect and prevent financial crime and reduce fraud risk exposure across the enterprise has become critical. Financial institutions face ever-increasing challenges around fraud. Malware, Trojans, phishing, vishing, whaling, SMSishing, first party bust-out, skimming, hacking criminals continually dream up new fraud schemes with the intention of staying one step ahead of those trying to combat such tactics. The burden on financial institutions is to protect their customers from fraud, protect themselves from losses due to financial crime, and comply with mounting national and international regulations and mandates.

Kimani (2011) noted that despite the efforts made, it is not possible to prevent or eliminate all frauds which is why it is important to put in place measures to detect fraud. Finding fraud can be one of the most challenging and interesting areas of fraud risk management. Detecting fraud early enough helps to minimize losses and increases the likelihood of recovery for frauds that have been identified. Putting detection measures in place can also act as a deterrent, preventing potential frauds from being committed and making the organization more resilient to fraud.

2.5 Summary of Literature Review

The goals of financial institutions are to enhance growth, profitability and sustainability, that is, to actually achieve their mission, and minimize the risk of loss or failure in the process of conducting business. To fulfill their mission, financial institutions' risks must be managed through effective internal controls. This implies that internal control systems play a positive role in the growth, profitability and sustainability of financial institutions (Njagi, 2009; Kiprop, 2010).

Njagi (2009) did a study on the effectiveness of know your customer policies adopted by commercial banks in Kenya in reducing money laundering and fraud incidences and concluded that KYC controls had a significant effect on the fraud incidences in commercial banks. However, the conceptual scope of the study was narrow as it only focused on prevention mechanisms. Kiprop (2010) carried out a study on responses to fraud related challenges by Barclays bank of Kenya and concluded that the bank had put in place fraud detection systems. However, the study failed to assess the effectiveness of the fraud detection systems that had been put in place. Munyua (2013) focused on operational response strategies to payment card fraud by commercial banks in Kenya and concluded that a mix of operational strategies have been employed by commercial banks. However, the study was narrow as it only focused on credit card fraud only. Wanyama (2012) investigated the effectiveness of fraud response strategies adopted by co-operative bank of Kenya limited and concluded that ineffective strategies cannot adequately control fraud. The study was narrow in scope as it only concentrated on one bank.

It is for this research gaps that this study sought to answer the following research question; what is the impact of internal control system on the detection and prevention of fraud in commercial banks in Kenya?

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the type of research design, population, target population, sampling frame, sample, sample size, sampling technique, instruments to be used, pilot test and data analysis.

3.2 Research Design

Research design refers to how data collection and analysis are structured in order to meet the research objectives through empirical evidence economically (Chandran, 2004; Cooper and Schindler, 2006).

The research design employed is explanatory study design. Explanatory study designs are important in answering the “how” questions. Such designs seek to explain how one variable affects another. The use of the explanatory research was considered appropriate to use any time there is need to clarify a perceived problem. Whenever there is a problem, it is important to completely understand it before solving it and the use explanatory research to address such a problem is recommended (Johnson, 2006). Explanatory study design was preferred because the study needs to establish the impact of internal control system on the detection and prevention of fraud in commercial banks in Kenya.

3.3 Population

The population of the study was the 43 commercial banks in Kenya with a total of 31,636 employees. The population was obtained from the Central Bank of Kenya as at 31st May 2014. The population was justified on the basis that the secondary data on levels of fraud would be on a bank to bank basis.

3.4 Sample

The study conducted a census of the 43 commercial banks instead of adopting a sampling methodology. This was justified on the basis that the number of banks are few. The study respondents were therefore 43 internal audit managers. The use of internal audit managers was justified on the basis that they were more aware about the occurrence of fraud compared to other managers.

3.5 Data Collection

Primary data was collected using a self-administered questionnaire. The questionnaire was based on a likert scale while others were factual questions aimed at avoiding perceptions and bias. The questionnaire is divided into 3 sections namely A, B and C. Section A of the questionnaire addressed the first Objective of the study which is the reconciliation controls. The questionnaire presents statements about reconciliation controls which the respondents are supposed to rate on a scale of 1 to 5 rated from 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=strongly agree. Section B of the questionnaire addressed the second objective of the study which is the financial governance controls. The questionnaire presents statements about financial governance controls which the respondents are supposed to rate on a scale of 1 to 5 rated from 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=strongly agree. Section C is the last section of the questionnaire and it addresses the third objective of the study which is reporting and budget control. The questionnaire presents statements about reporting and budget control which the respondents are supposed to rate on a scale of 1 to 5 rated from 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=strongly agree. A

questionnaire of the sample questions is attached at the appendix I. A questionnaire was preferred because of its convenience and ease of administration.

3.5.1 Data validity and reliability

The questionnaire was subjected to a pilot test. Specifically, two internal audit managers were requested to fill the questionnaire. Data from the 2 filled questionnaires were entered into SPSS and cronbach alpha statistics calculated. A cronbach alpha of 0.7 was the benchmark of deciding whether or not the instrument is reliable. Validity was enhanced by requesting industry experts and the supervisor to express an opinion on the terminologies used in the questionnaire. Care was taken to exclude the 2 piloted respondents from the main study.

3.6 Data Analysis

Data analysis was through descriptive and inferential statistics. The particular descriptive statistics were mean scores, frequencies and standard deviations. The particular inferential statistics were regression analysis.

The tool of analysis was the statistical Package for Social Science (SPSS V.20). The results were presented using tables and pie charts to give a clear picture of the research findings at a glance.

3.6.1 Regression Model

This study applied a multiple regression model to establish the relationship between the dependent variable and the independent variables. The multiple regression analysis was be used because there are more than one independent variable. The model took the following format:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where Y – dependent variable (level of fraud prevention and detection)

X_1 – Reconciliation controls

X_2 – Financial governance controls

X_3 – Reporting and budget controls

ϵ – Is the error term which is assumed to be normally distributed with mean zero and constant variance

β – Parameters to be estimated

Operationalization and measurement of variables

Level of fraud prevention and detection was measured by the number of fraudulent incidences.

Reconciliation controls was measured by the approximate number of accounts that were fully reconciled.

Financial governance controls was measured by the frequency of finance and investment committee meetings.

Reporting and budget controls was measured by amount of budget variances in millions of Kenya shillings.

3.6.2 Test of Significance

In this study, the level of significance was 5% which means that all statistical tests were done and compared against the 5% level of significance.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

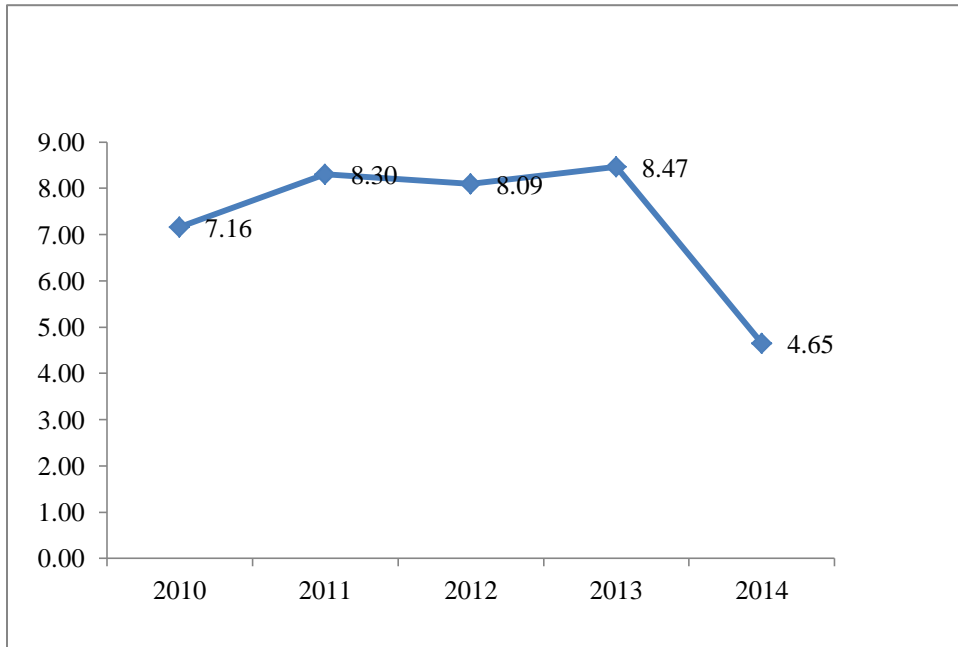
4.0 Introduction

In this chapter, the data collected during the research was analyzed and reported. This study was executed to achieve the stated objectives. Both descriptive and inferential statistics were presented.

4.1 Trend Analysis

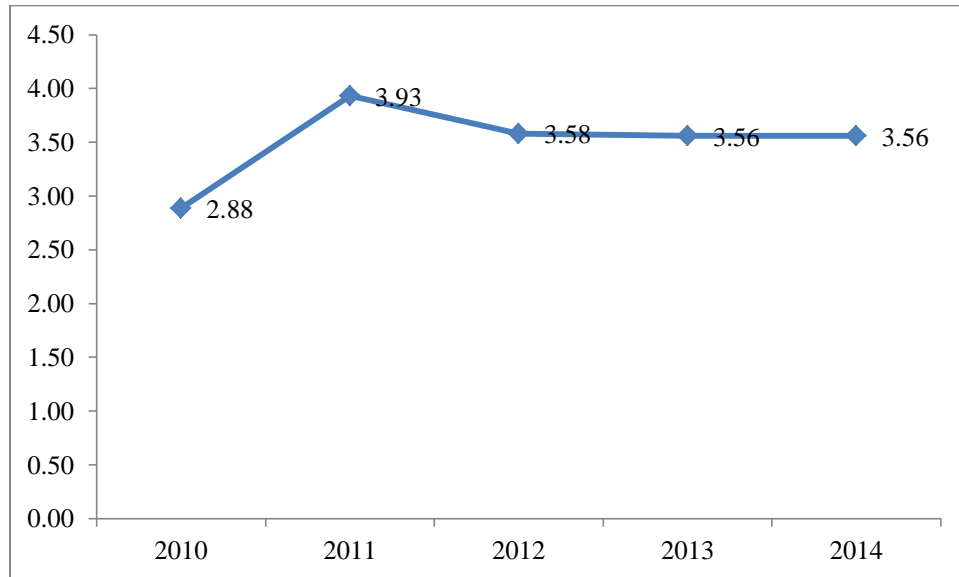
This section analyzed the demographic characteristics/summary statistics for the commercial banks. The results in figure 4.1 indicated the mean number of accounts that were fully reconciled to be 7.16 in the year 2010. This increased to 8.30 in the year 2011 before gradually decreasing to 8.09 in the year 2012. The following year saw the number of fully reconciled accounts rise to 8.47. The year 2014 recorded the lowest mean number of fully reconciled accounts at 4.65.

Figure 4.1: Reconciliation control-Year 2010 to year 2014



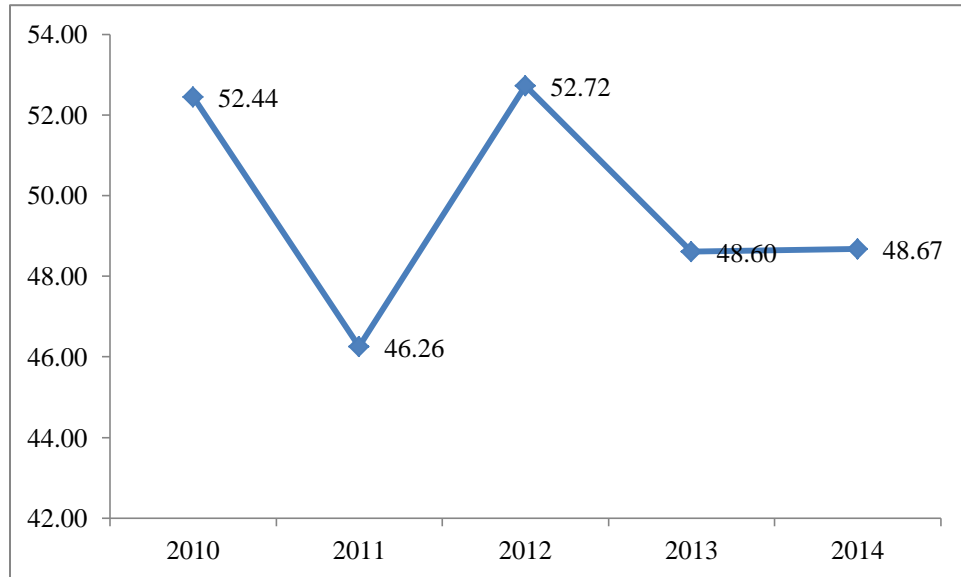
The results in figure 4.2 indicated that the frequency of finance and investment committee meetings was 2.88 times on average across all banks in the year 2010. This increased to an average of 3.93 times in 2011, the highest frequency recorded for the study period before decreasing gradually to an average of 3.58 times in 2012. The frequency of finance and investment committee meetings for the period 2013 and 2014 remained constant at an average of 3.56 times.

Figure 4.2: Financial Governance Control-Year 2010 to year 2014



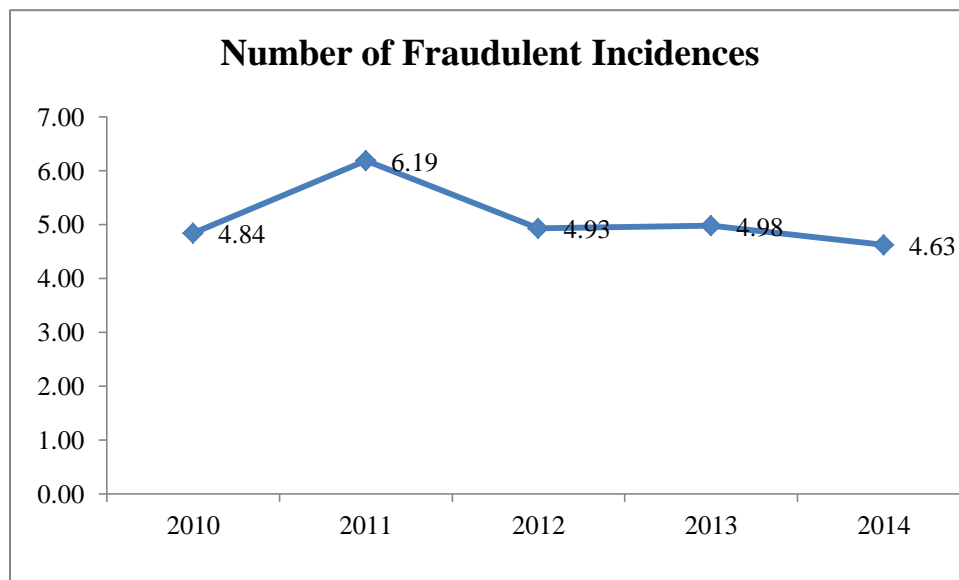
The results in figure 4.3 indicated that the mean amount of budget variances for the year 2010 was Kenya shillings 52.44 million. This drastically decreased to Kenya shillings 46.26 in 2011 before increasing to 52.72 million in 2012, the highest mean budget variance recorded for the study period. There was a sharp decrease in the mean budget variances in the year 2013 to 48.60 million and in the year 2014, this amount increased to a mean of Kenya shillings 48.67 million.

Figure 4.3: Reporting and Budget Control-Year 2010 to year 2014



The results in figure 4.4 indicated that the average number of fraudulent incidences in the year 2010 was 4.84 cases. This increased drastically to 6.19 cases in the year 2011 on average, the highest number of incidences recorded for the study period. This was followed by a drastic decrease in the number of fraudulent incidences to 4.93 cases on average in the year 2012. The number of fraudulent incidences in 2013 was 4.98 cases on average before decreasing in the year 2014 which recorded an average of 4.63 cases.

Figure 4.4: Number of Fraudulent Incidences-Year 2010 to year 2014



4.2 Descriptive statistics

The descriptive statistics in Table 4.1 gives the mean, standard deviation, minimum and maximum value of the study variables. The mean reconciliation control as shown by the number of fully reconciled accounts was 7.3. The minimum average number of fully reconciled accounts was 5 and maximum was 9. The standard deviation was 1.10 which indicated a small variation in the number of fully reconciled accounts among the commercial banks in the study period.

The mean financial governance control as shown by the frequency of finance and investment committee meetings was 3.525581 times. The minimum average number of meetings was 2 and a maximum of 4. The standard deviation was 0.530989 which indicated a large variation in the frequency of finance and investment committee meetings among the commercial banks in the study period.

The mean reporting and budget control as indicated by the amount of budget variances was 49.73954 million Kenya shillings. The minimum average budget variance was 26.4 million Kenya shillings and a maximum of 78.4 million Kenya shillings. The standard deviation was 10.45622 which indicated a large variation in the amount of budget variances among commercial banks in the study period.

The mean level of fraud detection and prevention as indicated by the number of fraudulent incidences was 5.111628 incidences. The minimum average number of fraudulent incidences was 2 cases and a maximum of 8 cases. The standard deviation was 1.302234 which indicated a large variation in the number of fraudulent incidences among commercial banks in the study period.

Table 4.1 Descriptive statistics

	Mean	Std. Deviation	Minimum	Maximum
Reconciliation control	7.3	1.103	5	9
Financial governance control	3.525	0.530989	2	4
Reporting and budget control	49.739	10.45622	26.4	78.4
Level of fraud detection and prevention	5.118	1.302234	2.2	8.2

4.3 Analytical Model

This section presented the correlation and regression analysis results. The correlation analysis which showed the direction of association of the variables and their level of significance was presented first.

4.3.1 Correlation Analysis

Correlation analysis was conducted to reveal the direction of association of the variables.

The correlation analysis results are presented in Table 4.1.

Table 4. 1: Correlation Results

		Reconciliation control	Financial governance control	Reporting and budget control	Level of fraud prevention and detection
Reconciliation control	Pearson Correlation	1	0.178	-0.161	-.594**
	Sig. (2-tailed)		0.255	0.303	0.00
Financial governance control	Pearson Correlation	0.178	1	0.089	-.401**
	Sig. (2-tailed)	0.255		0.572	0.008
Reporting and budget control	Pearson Correlation	-0.161	0.089	1	.363*
	Sig. (2-tailed)	0.303	0.572		0.017
Level of fraud prevention and detection	Pearson Correlation	-.594**	-.401**	.363*	1
	Sig. (2-tailed)	0.00	0.008	0.017	

Results in Table 4.2 reveal that the correlation between reconciliation controls and level of fraud prevention and detection is negative and significant ($R = -0.594$, $p \text{ value} = 0.000$). This implies that an increase in reconciliation controls is associated with a decrease in level of fraud prevention and detection.

The findings also reveal that the correlation between financial governance control and level of fraud prevention and detection is negative and significant ($R = -0.401$, $p \text{ value} = 0.008$). This implies that an increase in financial governance control is associated with a decrease in level of fraud prevention and detection.

Reporting and budget control was found to be positively correlated to level of fraud prevention and detection ($R = 0.363$, $p \text{ value} = 0.017$). This implies that an increase in budget variances which represents financial control is associated with an increase in level of fraud prevention and detection.

4.3.2 Regression Analysis

The relationship between the predictor variables (reconciliation controls, financial governance control, Reporting and budget control) and the dependent variable was investigated using a regression analysis.

The regression analysis results presented in Table 4.3 indicates that the coefficient of determination ($R \text{ squared}$) was 0.539 which implies that 53.9% of the changes in level of fraud prevention and detection is explained by the independent variables (reconciliation controls, financial governance control, Reporting and budget control) while 45.1 % of the variations in level of fraud prevention and detection are explained by other factors not included in the model.

Table 4. 2: Coefficient of Determination

Model Summary				
	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.734a	0.539	0.504	0.917375

Results in table 4.3 presents the overall model significance. The results indicate that the overall model was significant. The reported F statistic of 15.211 in table 4.3 was larger than the F critical (F tabulated). The reported p value was lower than the critical p value of 0.05. The findings imply that the independent variables are good joint predictors of level of fraud prevention and detection.

Table 4. 3: Overall Model Significance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	38.403	3	12.801	15.211	0.000
Residual	32.822	39	0.842		
Total	71.224	42			

The regression coefficients and their associated t statistics and p values are presented in table 4.4. The results indicate that there is a negative and significant relationship between reconciliation control and level of fraud prevention and detection .This finding was supported by a regression coefficient of -0.57 and a p value of 0.000. The reported p value was less than the critical p value of 0.05. A regression coefficient of -0.57 implies that a one unit increase in reconciliation control leads to a 0.57 units decrease in level of fraud prevention and detection.

The results also indicate that there is a negative and significant relationship between financial governance control and level of fraud prevention and detection .This finding

was supported by a regression coefficient of -0.842 and a p value of 0.004. The reported p value was less than the critical p value of 0.05. A regression coefficient of -0.842 implies that a one unit increase in financial governance control leads to a 0.842 units decrease in level of fraud prevention and detection.

Results further indicated a positive and significant relationship between reporting and budget control and level of fraud prevention and detection .This finding was supported by a regression coefficient of 0.039 and a p value of 0.007. The reported p value was less than the critical p value of 0.05. A regression coefficient of 0.039 implies that a one unit increase in reporting and budget control leads to a 0.039 units increase in level of fraud prevention and detection.

Table 4. 4: Regression Coefficients

Coefficients	B	Std. Error	t	Sig.
(Constant)	10.285	1.439	7.146	0.000
Reconciliation control	-0.57	0.133	-4.299	0.000
Financial governance control	-0.842	0.273	-3.084	0.004
Reporting and budget control	0.039	0.014	2.847	0.007
Dependent Variable: level of fraud prevention and detection				

Level of fraud prevention and detection = 10.285 – 0.57 Reconciliation control - 0.842 Financial governance control + 0.039 Reporting and budget control

4.4 Discussions

The results indicated an increase in the mean number of accounts that were fully reconciled from 7.16 in the year 2010 to 8.30 in the year 2011 before gradually decreasing to 8.09 in the year 2012. The following year saw the number of fully reconciled accounts rise to 8.47 while in the year 2014 the number of fully reconciled accounts was the lowest at 4.65. The frequency of finance and investment committee meetings was 2.88 times on average across all banks in the year 2010. This increased to an average of 3.93 times in 2011, the highest frequency recorded for the study period before decreasing gradually to an average of 3.58 times in 2012. The frequency of finance and investment committee meetings for the period 2013 and 2014 remained constant at an average of 3.56 times. The results also indicated that the mean amount of budget variances for the year 2010 was Kenya shillings 52.44 million. This drastically decreased to Kenya shillings 46.26 in 2011 before increasing to 52.72 million in 2012, the highest mean budget variance recorded for the study period. This figures decreased to 48.60 million in 2013 and 48.67 in the year 2014. In the same period of time, the average number of fraudulent incidences in the year 2010 was 4.84 cases and it increased drastically to 6.19 cases in the year 2011 on average, the highest number of incidences recorded for the study period. This was followed by a drastic decrease in the number of fraudulent incidences to 4.93 cases on average in the year 2012. The number of fraudulent incidences in 2013 was 4.98 cases on average before decreasing in the year 2014 which recorded an average of 4.63 cases.

Correlation analysis reveal a negative and significant association between reconciliation controls and level of fraud prevention and detection ($R = -0.594$, $p \text{ value} = 0.000$) which implies that an increase in reconciliation controls is associated with a decrease in level of fraud prevention and detection. The correlation between financial governance control and level of fraud prevention and detection was also negative and significant ($R = -0.401$, $p \text{ value} = 0.008$). This implies that an increase in financial governance control is associated with a decrease in level of fraud prevention and detection. On the other hand, reporting and budget control was found to be positively correlated to level of fraud prevention and detection ($R = 0.363$, $p \text{ value} = 0.017$) which implies that an increase in budget variances which represents financial control is associated with an increase in level of fraud prevention and detection.

The regression results indicated a negative and significant relationship between reconciliation control and level of fraud prevention and detection ($\text{Beta} = -0.57$, $p \text{ value} = 0.000$). The results also indicate that there is a negative and significant relationship between financial governance control and level of fraud prevention and detection ($\text{Beta} = -0.842$, $p \text{ value} = 0.004$). Reporting and budget control was positively and significantly related to level of fraud prevention and detection ($\text{Beta} = -0.039$, $p \text{ value} = 0.007$).

The findings of the current study are consistent with the findings of the study by Wanyama (2012) which concluded that ineffective strategies cannot adequately control fraud.

The findings of the study are also consistent with the findings of a study by Kimani (2011) which concluded that frequent meetings were important in order for Barclays Bank of Kenya to be able to prevent and reduce frauds to the minimum.

The findings of the study are also consistent with the findings of the study by Omondi (2013) which indicated that the application of forensic accounting services on reconciliation led to increased fraud prevention in the commercial banks and the highest application was on enhancing quality of financial reporting.

4.5 Chapter Summary

The chapter presented the findings of the study. The findings indicated that there was a negative and significant relationship between reconciliation control and level of fraud prevention and detection. The results also indicated that there is a negative and significant relationship between financial governance control and level of fraud prevention and detection while the relationship between reporting and budget control and level of fraud prevention and detection was positive and significant. The findings of this chapter were useful in making summary and conclusion in chapter five.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The study sought to investigate the effect of internal controls on fraud detection and prevention among commercial banks in Kenya. The main problem was that there is increased level of fraud and misappropriation of funds in Kenyan commercial banks caused by poor internal control measures. The fact that Kenya has the highest incidences of fraud in the world, based on a global ranking of 78 countries surveyed and also the findings that commercial banks in Kenya are more susceptible to fraud than commercial banks in her neighbouring countries in Eastern Africa formulated the basis of the research problem.

The trend analysis results indicated a decrease in the mean number of accounts that were fully reconciled for all the commercial banks in Kenya from 7.16 in the year 2010 to 4.65 in the year 2014. This is an indication of poor internal control measures. The frequency of finance and investment committee meetings increased from 2.88 times on average across all banks in the year 2010 to 3.56 times in the year 2014. The trends also indicated a consistent number of fraudulent incidences which were 4.84 cases in the year 2010 and 4.63 cases in the year 2014.

Correlation analysis revealed a negative and significant association between reconciliation controls and level of fraud prevention and detection ($R = -0.594$, $p \text{ value} = 0.000$) which implies that an increase in reconciliation controls is associated with a decrease in level of fraud prevention and detection. The correlation between financial governance control and level of fraud prevention and detection was also negative and significant ($R = -0.401$, $p \text{ value} = 0.008$). This implies that an increase in financial governance control is associated with a decrease in level of fraud prevention and detection. On the other hand, reporting and budget control was found to be positively correlated to level of fraud prevention and detection ($R = 0.363$, $p \text{ value} = 0.017$) which

implies that an increase in budget variances which represents financial control is associated with an increase in level of fraud prevention and detection.

The regression results indicated a negative and significant relationship between reconciliation control and level of fraud prevention and detection (Beta= -0.57, p value = 0.000). The results also indicate that there is a negative and significant relationship between financial governance control and level of fraud prevention and detection (Beta= -0.842, p value = 0.004). Reporting and budget control was positively and significantly related to level of fraud prevention and detection (Beta= -0.039, p value = 0.007).

5.2 Conclusions

The study concluded that the reconciliation control measures among the commercial banks in Kenya has been poor over the study period as the mean number of accounts that were fully reconciled for all the commercial banks in Kenya showed decreasing trends from 2010 to 2014.

The study also concluded that there is a negative and significant relationship between reconciliation control and level of fraud prevention and detection. Commercial banks that fully reconcile more accounts face low number of fraud incidences.

The findings of the study also led to the conclusion that there is a negative and significant relationship between financial governance control and level of fraud prevention and detection. Commercial banks which have a higher frequency of risk management committee meetings face low number of fraud incidences.

Another conclusion made by the study is that higher variances in the budget positively and significantly relate to level of fraud. Commercial banks that have poor reporting and budgetary control measures which lead to higher variances in budgets have higher incidences of frauds.

5.3 Recommendations

The study recommends that Commercial banks should fully reconcile their accounts more frequently in order to reduce the cases of more incidences of frauds.

The study also recommends that commercial banks should put in place stronger financial governance control measures through more frequent meetings among the members of the risk management committee and also finance and investment committee.

Another recommendation made by the study is that commercial banks should reduce the variances in budgets through better reporting and budgetary control measures as it will reduce cases of frauds.

5.4 Limitations of Study

However accurate, no study is free of limitations. The data used was collected from audit managers. The researcher relied on the information given by the respondent and there was no proof of whether it was accurate information.

The study only focused on 5 years (year 2010 to year 2014). Perhaps using a longer time period would have yielded different trends and results.

5.5 Areas for Further Study

The study suggests that further areas of study should focus on a longer time span than what the current study used. This would clarify whether the observed relationship changes over the years. Future studies can also use both secondary and primary data as this can help to bring out a clear picture and erase the bias which might otherwise be in the respondent's responses when primary data is used.

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Appendix I: Data sheet

Commercial Bank	Mean Reconciliation control (Number of accounts fully reconciled)	Mean Financial Governance control (Frequency of committee meetings)	Mean of Reporting and budget controls (Amount of variances in Kenya shillings)	Mean of level of fraud (Number of fraud incidences)
1. ABC Bank (Kenya)	5.8	3.80	54.00	6.20
2. Bank of Africa	4.6	3.40	26.40	4.80
3. Bank of Baroda	6	4.00	53.60	6.20
4. Bank of India	8.6	4.40	50.60	3.60
5. Barclays Bank Kenya	7.4	3.60	46.00	4.40
6. CFC Stanbic Holdings	7.2	4.20	47.40	3.60
7. Chase Bank Kenya	8.2	3.20	38.80	5.80
8. Citibank	8	3.80	45.40	2.20
9. Commercial Bank of Africa	8.4	4.00	58.60	5.20
10. Consolidated Bank of Kenya	6.8	4.00	66.60	4.20
11. Cooperative Bank of Kenya	7	3.40	54.60	5.60
12. Credit Bank	8	4.20	34.20	3.60
13. Development Bank of Kenya	7	4.20	41.60	3.60
14. Diamond Trust Bank	7.6	3.60	65.80	6.80
15. Dubai Bank Kenya	6.4	3.20	54.60	8.00
16. Ecobank Kenya	8.8	3.40	57.60	5.20
17. Equatorial Commercial	5.4	3.20	51.00	8.20

Bank				
18. Equity Bank	8	3.80	49.20	4.00
19. Family Bank	7.4	3.60	43.20	5.60
20. Fidelity Commercial Bank Limited	7.8	3.60	40.60	4.20
21. First Community Bank	6.6	3.20	67.00	5.60
22. Giro Commercial Bank	7.6	3.20	42.80	3.60
23. Guaranty Trust Bank Kenya	8.6	3.40	44.40	3.40
24. Guardian Bank	5.8	3.00	43.80	7.00
25. Gulf African Bank	6.8	3.40	47.00	5.80
26. Habib Bank	7.2	4.20	78.40	5.00
27. Habib Bank AG Zurich	7.4	3.80	46.20	5.60
28. Housing Finance Company of Kenya	8	3.20	48.40	5.60
29. I&M Bank	7.2	2.80	50.40	3.80
30. Imperial Bank Kenya	8.8	3.20	49.80	5.20
31. Jamii Bora Bank	8.4	2.80	48.20	5.60
32. Kenya Commercial Bank	7.8	2.60	48.40	5.40
33. K-Rep Bank	6.8	2.20	47.00	6.00
34. Middle East Bank Kenya	8.4	3.40	36.20	4.20
35. National Bank of Kenya	9	4.00	29.00	3.60
36. NIC Bank	6.2	2.00	55.00	6.40
37. Oriental Commercial Bank	8.4	3.80	49.40	5.20
38. Paramount Universal Bank	7.4	3.60	38.80	4.80
39. Prime Bank	5	3.40	61.20	6.40

(Kenya)				
40. Standard Chartered Kenya	9	4.00	52.20	3.40
41. Trans National Bank Kenya	6.2	3.80	66.20	7.00
42. United Bank for Africa	7	4.20	64.80	5.40
43. Victoria Commercial Bank	7.4	3.80	44.40	4.80