

**EFFECT OF FRAUD MITIGATION STRATEGIES ON TAX FRAUD AMONG LARGE
TAX PAYERS IN KENYA REVENUE AUTHORITY**

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DECLARATION

This project is my original work and has not been presented for a degree in any other University.

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APPROVAL

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DEDICATION

I would like to dedicate this project to my family for their financial and moral support which has seen me reach this far, may the almighty God bless you.

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I thank everyone who has assisted me in realizing my dream. I wish to express my gratitude to my supervisor Dr. David N. Kiragu (PhD) and Rev Fr Prof. Donatus Mathenge for the professional guidance and advice throughout the study. Many thanks also go to my colleagues.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACFE	: Association of Certified Fraud Examiners
ASS	: American Sociological Society
CFE	: Certified in Financial Forensics
CIC	: Complaints and Information Centre
ICFR	: Internal Control Financial Forensics
ICT	: Information Computing Technology
KRA	: Kenya Revenue Authority
LPO	: Large taxpayers office
NCDE	: National Centre for Development Education
PWC	: Price water house Coopers
SIU	: State Investigation Unit
USA	: United States of America

ABSTRACT

The emergence of underground economy which majorly deals with cash has led to the evolution of another category of tax fraud method because this kind of businesses does not leave a trail of any transaction making it easy to evade tax and conceal the practice. Underground economies are reluctant to transact using electronic funds transfer, credit and debit cards, does not issue invoices or cheques. Tax fraudsters manage to remain one step ahead also by using services of well-heeled lawyers and auditors making the practice of using aggressive tax planning rampant in Kenya where companies and individuals are looking for all means possible to cut their tax expenses. This study therefore intended to find out the effect of tax fraud mitigation strategies among large tax payers on revenue collection in Kenya revenue authority. The study was guided by four specific objectives: to find out the role of staff training, technology adoption, systems surveillance and forensic auditing of internal controls in mitigation of fraud at Kenya Revenue Authority. The study was anchored on the prospect theory, fraud triangle theory and the theory of internal controls. The research adopted a descriptive research design since it obtains complete and accurate description of circumstances. The target population for the study was fraud investigation unit at Kenya Revenue Authority. The study targeted 1540 fraud unit investigation officers in LTO Section. Purposive sampling technique was used and a proportional sample size of 90 staff was used. The study used questionnaires for primary data collection. A pilot test was conducted on 5 respondents which represents 5% of the sample. Reliability and validity of the research instrument was conducted. Cronbach alpha was used to test the reliability of the research instrument while Content validity of the research instrument was conducted by subjecting the research instrument to experts in strategy and taxation. The collected data was processed using SPSS version 21. The study employed quantitative analysis technique. A multiple linear regression model was used to examine the effect of tax fraud mitigation strategies among large tax payers on revenue collection in Kenya revenue authority at 95 % degree of Confidence. Results were presented using tables and pie charts. The study concluded that Staff Training, technology adoption, system surveillance and forensic audit of internal controls had a positive and significant effect on tax fraud mitigation among large taxpayers at KRA. The study recommends the management of Kenya Revenue Authority to regularly hold awareness seminars on tax evasion and fraud. The management should also provide adequate training to their staff so as to ensure they have know-how on the operation of I-tax systems. There is also need for the management to ensure that forensic data analysis using digital analytical tools to detect and combat fraud. The study further recommends for the adoption of fingerprint and cornea identification systems as well as the use of ICT protection tools such as firewalls and computerized control systems to combat fraud. Moreover, the study recommends the administration of KRA to put in place proper monitoring and prevention measures to supervise and ensure there is job rotation in the LTO Section to promote the effectiveness of the workers. The study recommends the administration of KRA to adopt neutral networks to aid in the prevention of electronic funds transfer fraud. There is also need to ensure that a 24 hour surveillance system is in place to monitor operations and restrict access to valuable information. The organization should adopt the use of close circuit vision for monitoring. Lastly, the study recommends for occasional evaluation of financial statements to ensure that records are fair and accurate. There is need to conduct auditing pro-actively to search for any cases of corruption. The study further, recommends the management of Kenya Revenue Authority to ensure there is an independent line for auditors to report directly to the audit committee so as to enable to express any of their concerns about management.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

According to the association of Certified Fraud Examiners (ACFE, 2014), fraud implies to any unlawful actions characterized by dishonesty, disguise or abuse of trust. These actions are not reliant on the use of intimidation or violence. Normally frauds are committed by persons and firms to acquire cash, assets or services through tax evasion thereby gaining some business advantage. Similarly, Kenya Anti-Fraud and Corruption Policy (2006) describe fraud as dishonesty, enticement, falsification, blackmail, embezzlement and collusion. Furthermore, fraud also describes the use of dishonesty with the aim of gaining an upper hand, evading a compulsion or instigating loss to a different party. Tax evasion can be committed by individuals working in firms or outside the organization. Tax evasion among the corporate firms causes a significant effect on the country's total revenue collection thereby negatively impacting on economy. To observe the strategies for mitigating tax fraud among large tax payers, the study took Kenya Revenue Authority as a unit of analysis to allow the research makes categorical and meaningful conclusions.

Albrecht et al (2004) categorized some reasons for committing fraud as including living over the means, personal drive to gain riches quickly, high individual liability, close attachment to the clients or the notion that the remuneration is disproportionate with tasks, wheeler-dealer defiance, extreme gaming habits or unnecessary peer pressure. Some of the fraud related cases include technological fraud involving IT equipment used to influence data dishonestly, kickbacks misappropriation, thieving or mischievous damage and tangible or attempted break-in, (Kenya Anti-Fraud and Corruption Policy, 2006). All these forms of fraud in one way or another have affected Kenya Revenue Authority thus necessitating mitigation strategies for them.

To curb tax fraud related activities and increase the efficiency of VAT systems, Kenya Revenue Authority has adopted Electronic Tax Registers and Electronic Signature Devices in form of integrated tax management systems. These systems aid in recording tamper prove information for data operations. To ensure these systems of tax fraud mitigation are operational, the government through KRA introduced awareness of its staff through training and seminars as well as businesses on the use and benefits of those devices. Often, naivety of employees and lack of

proper facilities such as communication systems result in skewed posting of accounting information, (Kinsley 2012). According to Kanu & Okorafor, (2013), Kenya Revenue Authority introduced integrated tax management (*itax*) systems to seal the loopholes that affect revenue collection. Similarly, Obat (2010), argue that internal controls such as internal auditing, usage of secret codes, appropriate record controls, assets custody and separation of obligations is vital in the mitigation of tax fraud. Internal controls refer to the means for maintaining firm assets through upholding of its accounting records integrity so as to discourage tax fraud and stealing.

Additionally, small or big firms should put in place tax fraud mitigation strategies to tackle the menace associated with tax evasion. As in indicated in the ACFE (2014) report of tax fraud cases, dishonest activities averagely take up to 18 months before being noticed. Kelly (2010) in agreement states that firms should put in place monitoring mechanisms on their systems as well as their workforces so as ascertain impending threats. To ascertain the effect of strategies for mitigating tax fraud, the study focused on large tax payers because the revenue collected from them

1.1.1 Global Perspective of Tax Fraud

According to Price Waterhouse Coopers report (2007), approximately 50% of Australian companies experienced some form of tax fraud. The report further indicated that Australian government and its firms encounter an estimated loss of \$5.8 billion a year which is equivalent to a third of cumulative cost of all delinquency in Australia, (Australian Institute of Criminology's 2003 report

Even though there is no known infallible method of averting fraud, the menace can be lessened by adopting an efficient and measured method to its administration. Therefore for firms to achieve enhanced performance there is need to adopt tax fraud mitigation strategies. Similarly, in the Unites States of America organization firms cogitate technology as a serious and effective tool for ax fraud control, (Prabowo, 2012).

In addition, mechanisms for identifying tax fraud in the United States of America are many with numerous firms adopting more and more sophisticated databases and data mining structures to aid in identifying phony assertions and relay it to the State Investigation Units. Similarly, the results of a study conducted in Basel on tax fraud by Prabowo (2012) indicated that monitoring of dealings should be carried out frequently so as to discover early irregular transactions. Tax

fraud and tax evasion can be mitigated through staff training and seminars in collaboration with other related financial institutions.

1.1.2 Regional perspective of tax fraud

According to Mawanda (2010), South African government has adopted some tax fraud policy frameworks to manage the effects of rising tax fraud activities. In East Africa, a survey done by PwC in Tanzania, Zambia, Rwanda and Uganda in the late 2011 and 2010 to determine the level of risk detection and the level of risk preparedness for home-grown companies showed that more than 50% had poor level of risk detection as well as the level of risk preparedness, (PwC, 2011). This indicates that there is need for tax fraud mitigation strategies. Likewise, the economic survey of 2010 by PwC established that tax fraud cases were on the rise with bigger portions of them being occurring towards the end of 2010 higher than in any other previous year.

1.1.3 Local perspective of tax Fraud

In Kenya, approximately, 90% of the respondents to the study indicated that most organizations had recorded serious cases of fraud. The actual price of tax fraud and the normal losses as per the PKF report on the monetary price of tax fraud in 2015 was of the 5.74% of the total expenditure. Concurrently, the yearly tax fraud survey report compiled by the Association of Certified Fraud Examiners (ACFE) (2014) indicated that characteristic firm 5 % of its total revenue to tax fraud every year. Similarly, Kenya's financial segments have an estimated 17.8% of tax fraud cases.

Moreover, Githecha (2013) study on the on the effect of tax fraud risk management strategies on financial performance of commercial banks in Kenya revealed that tax fraud risk management strategies had a positive and significant effect the financial performance of commercial banks in Kenya. The results further indicated that control, governance and technology acceptance positively associated with financial performance. Tax fraud risk control policies contributed to 77.6% effect on return on assets specifically in financial institutions.

1.2 Kenya Revenue Authority

KRA was formed through an Act of national assembly on 1st July 1995 chapter 469 to facilitate the mobilization of government resources whereas providing efficient tax management and sustainability in the collection of returns, (Kenya Revenue Authority, 2012). Hence, KRA is a Governments agency tasked with a duty to gathering returns for the Government of Kenya.

Moreover, KRA evaluates, collects, organizes and executes the regulations pertaining Governments' revenue. The Authority operates more so like a private company. Kenya Revenue Authority is divided into five Regions as Central Rift Valley, Western, Northern and Southern region. KRA is departmentalized according to the revenue collection and other provisional functions, such as Levies Services, Investigations and Execution, Domestic Duties, Large Taxpayers Office, Road Transport and Support Service Departments, (Kenya Revenue Authority, 2012). However, the major task for the KRA is to oversee and to impose documented rules regarding the evaluation of tax, collection of tax and the accounting of tax as well as monitoring of other agencies of the Government agencies through control of all exit and entry points to the country to make sure that contraband commodities do not gain access through Kenyan borders. It does this through the Customs Services Department.

Despite offering these vital functions to Kenyans, these parastatals have been marred with several cases of fraud ranging from cyber-crime, tax evasion tax avoidance among others. To this end, in 2006, K.R.A established the Anti-fraud and Corruption policy with an aim of mitigating cases of fraud that the parastatals were facing (Yusuf, 2007). The reporting of suspected cases of fraud and corruption whether perpetrated by Kenya Revenue Authority employees or by other actors in the domestic, regional or global economy is an important part of Kenya Revenue Authority integrity promotion and anti-fraud strategy. In June 2003, the commissioner general established a Complaint and Information Center (CIC) to facilitate reporting, investigation and follow-up of cases of fraud and corruption. This is because Kenya Revenue Authority being under the management of Minister of Finance and an agent for the collection and receipt of revenue was suffering several fraudulent practices that had occasionally affected their operations despite the growth of revenue in the recent years. To avoid this, the authority must implement fraud mitigation strategies, (Puttick, 2003). That is why this study sought to investigate the fraud mitigation strategies adopted by of Kenya Revenue Authority.

1.3 Statement of the Problem

The emergence of underground economy which majorly deals with cash has led to the evolution of another category of tax fraud method because this kind of businesses does not leave a trail of any transaction making it easy to evade tax and conceal the practice. Underground economies are reluctant to transact using electronic funds transfer, credit and debit cards, does not issue

invoices or cheques. Tax fraudsters manage to remain one step ahead also by using services of well-heeled lawyers and auditors making the practice of using aggressive tax planning rampant in Kenya where companies and individuals are looking for all means possible to cut their tax expenses. In some cases there are companies which are founded in Kenya, operate in Kenya and sell their products and services in Kenya but the same companies have shell companies registered in tax havens most of which have tax rates between 0 and 15% such as Bahamas, Samoa and Switzerland where they shift their profits and Kenya loses out on revenue.

Cases involving Kenya Revenue Authority corporations on tax fraud or evasion often takes years. Most of these corporations have a tendency of using strong legal departments to tie up cases in protracted litigation battles that stretch across many years. Transferal appraising which is a profit allocation method used to point an international company's net income (or loss) before duty to nations where it ensures business is also evolving as alternative way used by tax swindlers. In 2012, Kenya Revenue Authority reigned that Bangalore, India-based transnational used to relocate mispricing to circumvent compensating the government of Kenya nearly EUR 8 million in corporate income tax, part of a larger set of tax that amount to a quarter of the firm's 2012 sales. This reduces Government income thus affecting the level and quality of public services that the Government is able to offer to its citizens. As a result of individuals and corporations altering their tax payment patterns when they evade tax, there is likelihood of misallocation of resources.

Despite sophistication and volume of fraudulent claims, the vice continues to increase with Kenya Revenue Authority still struggling to put up structures to deal with it. Fraud emanates from both internal and external sources thereby posing substantial cost to our K.R.A and the entire nation of Kenya as a whole. According to the global fraud survey (2014), Kenya ranked fourth globally among the countries worst hit by fraud behind Nigeria Egypt and Namibia. Similar survey by Price Water House Coopers in 2016 ranked Kenya (62% economic crimes) as the third most corrupt country in the world behind South Africa (69%) and France 68%). According to Price Waters and Coopers (2010), fraud in Kenya rose from position 23 in global ranking in the 2009 risk survey to position 4 in the East Africa survey. This indicates that fraud is significantly affecting Kenya's economy. On the other hand, deception, bribery, forgery, extortion, corruption, theft, conspiracy, embezzlement, misappropriation, false representation, concealment and collusion continue to rob the nation of Kenya its revenue. Charles *et al* (2012)

highlighted the influence of tax avoidance and tax fraud through creative accounting although the study did not clearly bring out the various methodologies used by tax payers on creative accounting.

It is worth stating that a lot of research has been done to find out how banking and insurance industries in Kenya have dealt with fraudulent cases over the years. However, limited research has been done to find out how Kenya Revenue Authority has dealt with the vice. This research therefore sought to examine the effect tax fraud mitigation strategies on tax fraud among large tax payers at Kenya Revenue Authority.

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of this study was to examine the effect of fraud mitigation strategies on Tax fraud among large tax payers in Kenya Revenue Authority

1.4.2 Specific Objectives

- i. To determine the role of staff training on tax fraud mitigation at the Kenya Revenue Authority
- ii. To establish the effect of the technology adoption on tax fraud mitigating of Kenya Revenue Authority
- iii. To examine the effect of systems surveillance on tax fraud mitigating at Kenya Revenue Authority
- iv. To investigate the effect of forensic auditing on tax fraud mitigation at Kenya Revenue Authority

1.5 Research Questions

- i. How does staff training influence tax fraud at the Kenya Revenue Authority?
- ii. To what extent does the adoption of technology influence tax fraud at Kenya Revenue Authority?
- iii. What is the influence of system surveillance on tax fraud at Kenya Revenue Authority?
- iv. What effect does forensic auditing have on Tax fraud at Kenya Revenue Authority?

1.6 Justification of the Study

The findings of this study can be relevant to various stakeholders both in the government as well as in the public sector. This is because revenue collection is central to the growth of the economy. Some of the expected beneficiaries of the study findings are policy makers, academicians as well as scholars and the management of Kenya Revenue Authority.

The findings of the study can be of value to policy makers in the in the treasury as well as other public institutions to develop a policy framework that can improve the fraud mitigation strategies in both public and private financial institutions. Appropriate policy frameworks based on the conceptual framework based on the findings of this study can be implemented by the policy makers.

The findings of this study can be important to scholars and other academicians who can investigate more on the knowledge gaps that will be created by this study. The study findings will provide other researchers with the relevant literature for their study. The findings of this study can also form a foundation for further related studies with regard to explaining the theories adopted in this study.

The findings of the study can be imperative to the management of Kenya Revenue Authority. The study can provide recommendations to the management on the effects of tax fraud mitigation strategies on revenue collection. The study can also indicate the strategy that effectively mitigates tax fraud at the institution. This can provide the management of Kenya Revenue Authority with the necessary information to effectively mitigate on tax fraudulence.

1.7 Scope of the Study

This research focused on the effects of tax fraud mitigation strategies on tax fraud on large tax payers at Kenya Revenue Authority. The study specifically focused on the effects of staff training, technology adoption, system surveillance and forensic auditing of internal controls on tax fraud among large taxpayers at KRA. The study was conducted at the Kenya Revenue Authority. The research adopted a descriptive research design since it obtains complete and accurate description of circumstances. The target population for the study consisted of subordinate employees and the management of Kenya Revenue Authority. The study targeted

1540 fraud investigation unit officers who were stratified and randomly selected. The sample size for the study was 90 fraud investigation unit officers.

1.8 Limitations of the Study

This research focused specifically on the effects tax fraud mitigation strategies on revenue collection at the Kenya Revenue Authority and therefore other studies should be conducted on other institutions to examine the effect of fraud mitigation strategies. The study expected to encounter challenges especially during data collection. This was because some respondents can feel suspicious due fear of victimization for giving information and taking part in the study. The researcher assured the respondents that the study was going to be used solely for academic purposes and not for any other reason except for the reason provided by the researcher. The respondents who are open and willing to give the required information especially that affects them, the researcher explained to them the value of the study and how it improved their work. The researcher also assured the participants of their confidentiality by asking them not to indicate their names on the questionnaires.

1.9 Assumptions of the study

The study expected all the participants to be supportive and provide consistent answer to the questions of the study. The study expected that all the participants were going provide honest information to the study.

1.10 Definition of terms

Auditing refers to on-site verification activity, such as inspection or examination, of a process or quality system to ensure compliance to requirements, (ACFE, 2014).

Fraud refers to any unlawful actions characterized by dishonesty, disguise or abuse of trust. These actions are nor reliant on the use of intimidation or violence, (ACFE, 2014).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This part provides a review of theoretical background of the study, the conceptual framework, literature and empirical review. The chapter further presents critique of existing literature and research gaps.

2.2 Theoretical Review

The segment provides the theories upon which the study anchors on. Based on the theoretical connection, it is easier to relate the results of the study with the prevailing theories to establish whether the findings are for or against the theories. This helped in building and adding more to the existing knowledge in the logistics management practices. The theories that anchor the study are prospect theory, fraud triangle theory and the theory of internal controls.

2.2.1 The Prospect Theory of Tax Evasion

The proponent of this theory was Daniel Kahneman and Amos in Tversky 1979. The theory provides an understanding on why people tend to take risks. The theory states that persons associated with gains and losses have in a way or another linked to some cause. Therefore the theory is useful in explaining the equity- premium challenges common in accounting which are related in essence to the tax evasion dilemma in that both can be computed with respect to the problem of portfolio choice. Alm, Jackson and McKee (1992), advice that one conceivable justification on why individuals compensate taxes can probably be centered on non-linear alteration of possibilities to overweigh the chance of a tax audit, which delivers for an apparent warning to tax avoidance action.

The theory has been put forward in early payment of tax in an effort to discourage avoidance of tax. In a situation where proceeds from tax levies is higher than the real tax liability, in which instance the taxpayer properly reports revenue, the taxpayer gets a reimbursement, once more. Hence, the taxpayer's efficacy function is bowl-shaped to achievements. Alternatively, if the progressive payment were smaller than the real liabilities of tax, then the efficacy function would be arched for losses and can be more eager to take a bet of avoiding taxes, (Yaniv, 1999; Elffers

and Hessing, 1997). Therefore, this theory is useful in providing an understanding on the tax fraud among large tax payer firms in Kenya as well as mitigative policies to manage it.

In as much as the theory is helpful in providing an insight on tax fraud, it does not elucidate clearly on the causes of tax fraud. The theory only centers on advance payment of tax and its role in discouraging tax evasion.

2.2.2 The Fraud Triangle Theory

The theory was proposed by Donald Cressey in 1950. Cressey was criminologist. The theory state that individuals initiates things for a purpose. Cressey describes non-shareable monetary difficulty as a reason for trust desecration. This is because individuals consider themselves as having suffered financial commitments which are deliberated as non-socially attainable and which, subsequently, must be pleased by a sequestered or undisclosed means.

Additionally, Cressey contends that offender of tax fraud must design some form of ethically satisfactory justification before participating in an immoral behavior. Justification talk about the validation that the immoral conduct is something other than unlawful action. If a person cannot justify some immoral activities, it is improbable that he or she will participate in tax fraud. It is imperative to note that validation is hard to detect, as it is difficult to read the offender's mind, (Cressey 1953 in Wells, 2005). Persons who do tax fraud have a mind-set that permits them to rationalize or vindicate their dishonest actions, (Hooper and Pornelli, 2010). Justification is an explanation of deceitful conduct because of a worker's absence of individual uprightness, or other ethical explanation, (Rae and Subramanian, 2008). Furthermore, some persons are more likely to engage in tax fraud than others. That the tendency to engage in tax fraud relies on the individuals' moral values as well as on their particular situations such as job uncertainty due to downscaling, severance, a work setting that stimulates anger such as being overlooked for promotion.

Therefore this theory can be used to understand private and business stresses which stimulate activities for tax fraud obligation. However, this theory only centers on the reasons that predisposes individuals to engage in fraudulent activities. The theory does not specifically pinpoint the mitigation strategies for rationalization and non-socially attainable behaviors.

2.2.3 Theory of Internal Controls

Rutteman Report of the United Kingdom (1994) describes internal control as an entire arrangement of controls, monetary and otherwise, created so as to give a more justifiable guarantee of efficient and effective activities for managing funds in accordance with the rules and regulations. The theory is vital to the study in that it provides more insight with regard to policies for internal control, measures and guidelines to be adhered to in the financial sector.

A method of operational internal control is a vital constituent of an administration's control and a basis for its secure and complete operation. An organization of robust internal control can aid in guaranteeing that the objectives for a firm are achieved, that it will accomplish extended-term objectives and uphold consistent business and managerial recording. Such an organization can also benefit organization fulfilling the existing rules and regulations in addition to strategies, ideas, internal guidelines and processes, and decrease the risk of unforeseen losses and damage to the reputation of the firm.

Similarly, the Committee of Sponsoring Organizations of the Tread way Commission (COSO) in the US came up with the framework for integrated Internal Control in 1992 arguing that internal control as a procedure, stimulated by an organizations panel of directors, administrators and other persons, aimed to provide judicious guarantee concerning the accomplishment of goals in the following sets: efficacy and proficiency of processes; consistency of financial recording; fulfillment of the appropriate laws and guidelines. Hence this theory is vital to the study as it aids in understanding the variable of forensic auditing. However, the theory of internal controls is very broad and it does not succinctly provide a deeper understanding on the relationship between forensic auditing and tax fraud.

2.3 Empirical Review

This section sought to review some of the empirical studies that have focused on fraud and fraud mitigation strategies. In this case it covers the concept of strategy, types of fraud and causes of fraud in Kenya.

2.3.1 Staff Training and Tax Fraud

A study by Akindele (2011) revealed that insufficient training, a break in communication and bad management skills are the root cause of fraud in the financial institutions. The study

recommended for satisfactory inner regulatory instruments be put in place and that workers satisfaction and comfort be taking care of.

Pettitt (2006) study revealed that occupational activities for instance steady training, job variation and control support in reducing fraud. Presence of distinct systems for control in place for example for buying and recompensing has also been established to be efficient. Some firms currently are for instance utilizing the commonly referred nonpartisan links in the deterrence of automated funds Transfer scam. Similarly, an application has been invented to scrutinize electronic card holders' expenditure designs so as to alert persons to the existence of unapproved businesses, and also commercial credit supervisory methods to identify demanding forms of fraudulent dealers. Software has also been generated so as to keep accounts of misplaced electronic cards, cards that are stolen, forged cards, falsified submissions and cards certainly not expected mail commands, phone commands and directory transactions as well as business schemes.

2.3.2 Technology Adoption and Tax Fraud

Mararia (2014) carried out a research to ascertain the impact of Integrated Tax Management System (ITMS) on tax compliance by the SMEs within Nairobi. The target population for the study was y focused on 200 taxpayers. A sample 100 taxpayers was focused on. Study results showed that penalties and fines had a positive significant association with tax compliance. This resulted to an overall increase in collections as penalties and fined deterred tax evasion by taxpayers.

Similarly, Mhamane and lobo (2012) sought to find out how to identify and avert fraud in the financial institutions specifically in internet banking. The findings of the study revealed that using forensic technology such as the use of analytical tools, ICT protection tools, firewalls and digital computerized control systems. Furthermore, the results of a study by Chiezy and Onu (2013) on the effect of fraud and dishonest activities on the performance of firms in Nigeria between the years 2001-2011 showed that the organizations needed to strengthen their internal control systems using advanced technology.

Additionally, Dzomira (2014) sought to determine the effect of the adoption of computerized investigative tools and equipment in automated fraud and identification used in the Zimbabwe's public sector. Results of the study revealed that parastatals should overhaul their fraud mitigating

policies by adopting frauds recognition exertions through innovative analytics with interrelated tools, applications and its software to attain better proficient oversight. Equally, Kumar and Sriganga (2014) underscored the shared insider scams happening in public initiatives and sought to classify them into diverse forms. Accordingly, study builds on the earlier studies of frauds in public enterprises considering the limited data on the strategies adopted by parastatals to mitigate fraud.

Bindiya *et al* (2011) carried out a desk study to ascertain the impact of IT in curbing banking fraud in Indian Banks. Results of the study indicated that although IT had increased competition within the industry on; latest trends of IT in banking, IT too had exposed the banks to IT application and system problems; Security of information systems making banks more vulnerable. In this study, IT Fraud was identified as one of the major problem of the banking industry with India and was highly as a result of increased adoption of information technology, inducing more process and product innovations. Banks providing Internet-related services should have consistent and safe approaches to substantiate their consumers. The degree of verification adopted by the banks should be suitable to the dangers related with those services.

2.3.3 System Surveillance and Tax Fraud

Mohd (2010) conducted a study on the awareness and conformity of tax elements in self-regulatory structure in Malaysia. The findings of the study revealed that self-regulatory structures in Malaysia and the awareness of tax had a positive and significant effect on the conformity of tax. However, the degree of tax awareness differed among the participants. Further, the results indicated that males who are high wage beneficiaries and taxpayers with tax information passages are the informed group of taxpayers. The findings also showed that compliance of tax was predisposed by possibility of being appraised, monitoring government expenditures, fines, individual funding challenges. These findings were corroborated through a numerous questionnaires either with direct and theoretical questions) and examinations.

Joe *et al* (2012) carried out a study on fraud in the financial institutions in Nigeria. Results of the study indicated that appropriate deterrence and supervisory mechanisms for instance double regulation, loaning units, systems for recording, formation of inspectorate entities, close circuit visualization, referencing on demonstration of document of personal assistant, separation of responsibilities, confirmation of signs, control of inactive accounts, finding of authorization

photos, closer monitoring of workforce lifestyle and coding/decoding telex communications. Processes intended at discovering fraud comprise of inspection of tellers, call-over, harmonizing and balancing of books at outlets, bank to bank at headquarter levels.

Furthermore, Van Rhoda (2011) indicated that integrated fraud recording and observation has considerably decreased plastic card fraud. A keen observation specifically on personal details such as thumbprints, configurations of speech, keying arrangements, retinal pictures, hand and facial geometry and body smell can significantly help in the discouragement of fraud, (Johnson, 2006)., these forms of security are normally difficult to manipulate and as such they provide better degree of security.

2.3.4 Forensic Auditing and Tax Fraud

Naibei, Momanyi and Oginda (2012) carried out a study to examine the association between the size of income, inspection and VAT compliance on private firms in Kenya sampled 233 registered firms where questionnaires were administered to the respondents. Data was analyzed through correlation analysis. The results showed that there was a higher VAT compliance level on those firms which had undergone a tax audit by Kenya Revenue Authority. 58% of the businessmen agreed that tax audits acted as deterrence on tax evasion. This in effect had a positive effect on the VAT revenues collected by Kenya Revenue Authority.

According to Ansoff (2010), auditing is an independent investigation and assessment of the fiscal statement of a firm to ascertain that the accounts are just and reflect the business deal. It can be committed by either internal staff on an outside. Auditing aids in the collection of various assets in diverse sectors in collaboration with the management to mitigate fraud. Internal auditing serves as a recognition and prevention measure for fraud by trying and appraising the suitability and operationalization of internal control system, corresponding with the extent of probable contact of the risk in the diverse sections of administrative undertakings.

The auditors may also conduct pro-active auditing by research to search out for corruption, embezzlement of property fraud in financial statement. It also consists of the use of procedures and computer support analysis to isolate abnormalities and per foam detailed review of accounts and transactions which have high risk of potentials fraud in the financial statement (Johson & Scholes, 2002). Auditors also have an independent line and report directly to the audit committee to allow them to be able to express any of their concerns about management commitment to

appropriate internal controls or they can report suspected or alleged fraud relating to senior management (Shannon, 2009).

External auditors also assist management and board of directors (or audit committee) by providing an assessment of the entity process for identity as well access to and respond to the fraud risk. Boards of directors (or audit committee) have frank dialogue and open to independent auditors to assess the risk assessment process and internal control system such a dialogue should include discussion of the sensitivity of the entity to fraudulent financial reporting and the entity exposure to property entity, (Pierce *et al*, 2004). Auditing also prevents fraud in a way that there is a communication with the audit committee, management and legal advice about the allegation of fraud and how they deal with it. It also considers evidence gathered through the audit of Internal Control Financial Reporting (I.C.F.R). It may indicate the existence of one or more elements of fraud risk and the fact that adequate and internal control has not solved the identification of risks.

2.4 Conceptual Framework

According to Mugenda and Mugenda (2009) a conceptual framework is a hypothesized model which identifies the model under study and the association between the dependent and independent variables. This framework was drawn from the literature review arguments. A research framework aids the researcher in determining the research questions and also acts as a guide to interviews and discussions so as to keep the research focused. In this study the independent variables are staff training, technology adoption, surveillance and auditing of internal controls while the dependent variable is tax fraud. The conceptual framework for this study I presented in figure 2.1 below.

Independent variables

Dependent variable

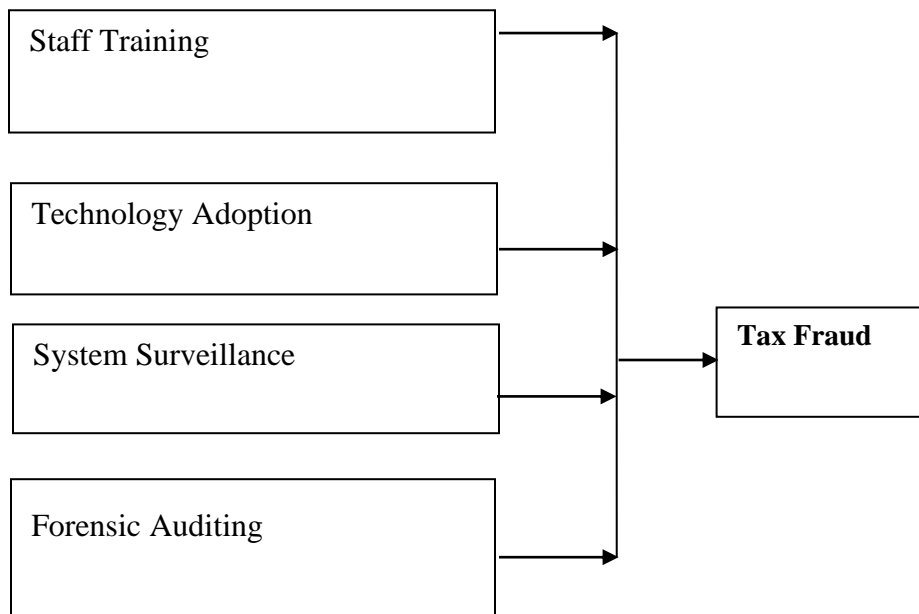


Figure 2.1: Conceptual Framework for Tax Fraud Mitigation Strategies

2.4.1 Staff Training

Employee training is instrumental in curbing tax evasion or fraud. This is because a considerable proportion of fraud and corruption is not identified at an early stage because staff does not recognize the warning signs nor are sure on how to report their suspicions. Organizations should take measures to raise awareness of directors, staff and volunteers of fraud and corruption risks including early warning signs and how to respond if fraud or corruption is suspected. Annual training sessions are an effective way to raise awareness and also demonstrate the Board and senior management's commitment to fraud and corruption prevention.

Fraud and corruption awareness can also be promoted through regular meetings, staff newsletters or other internal publications. Other studies by KPMG and EY in 2006 showed that firms that have adopted firm-wide awareness training have tremendously reduced fraud losses cut fraud losses by about 52%, (Coenen, 2008).

2.4.2 Technology Adoption

Adoption of technology aids in detecting and alerting of potentially fraudulent activities before the damage is done and large losses are encountered. However, it is cumbersome to monitor suspicious behavior. To enhance the accountability systems for Value Added Tax, the Kenya Revenue Authority has spearheaded the introduction of the Electronic Tax Registers and Electronic Signature Devices. These devices offer unique benefits to traders and the Revenue Authority alike by recording transaction data in such a manner that it cannot be deleted. The Government of Kenya on the other hand allowed businesses to offset the cost of the ETR installation against the input VAT as well as training of traders on the use and benefits of those devices.

Kanu & Okorafor, (2013), identifies technological causes of frauds. The study reveals that technology has improved significantly in the modern world. Everything is nearly computerized. One can communicate with persons in far places as if they are near. This has made things easy. However, fraud has also become easy to perpetrate. In addition, technological advancement is a continuous process and hence technological frauds keep on evolving. Kenya Revenue Authority introduced integrated tax management (itax) systems to seal the loopholes that affect revenue collection.

2.4.3 System surveillance

System surveillance involves evaluating, tracking and monitoring the internal control frame and operational status as well as taking the necessary actions to ensure that internal control can operate effectively. Surveillance can be done through frequent monitoring as well as conducting individual assessment. Constant surveillance of activities usually are that the management department and each staff at various levels inspect, analyze and evaluate the effectiveness and efficiency of production and operating activities of their respective during execution of the internal control system. It is a kind of self-control mode. The higher the level is, the less individual evaluation need. Individual assessment is to evaluate the internal control system regularly and is usually done by the relatively independent internal audit department.

Matamande (2012) further states that conducting surprise counts of cash on roadblocks and tollgates comparing amounts with corresponding records helps in minimizing revenue leakages.

In addition, there is need for the analysis of system error detected by internal controls and taking corrective action to thwart further similar errors and fraud from occurring in the future.

2.4.4 Forensic Auditing of internal Controls

According to Obat (2010), internal controls involve internal auditing, use of passwords, proper record controls, assets custody and segregation of duties. Kenya Revenue Authority Kenya Revenue Authority is tasked with revenue collection as well as making sure that all revenue leakages are closed. It also facilitates efficient transaction by ensuring that those measures that allow controlled movement of goods and services. Kenya Revenue Authority therefore has put in place those measures to reduce the leakages. Therefore to ensure that leakages are sealed through the incorporation of software applications and techniques. This ensures that suspect transactions are identified and investigated to assist in the early detection of abnormal transactions. Transaction analysis can be undertaken using data analytics or manual review depending on an organization's size and the sophistication of its systems.

Kenya Revenue Authority carries out internal audits regularly and randomly in all departments. Internal audit is an effective tool in revenue management because internal auditors are employees by Kenya Revenue Authority hence they are better placed to understand the accounting systems, the control procedures and the control environment. According to Matamande (2012) argues that internal controls stimulate discipline in the organization's workforce. Risk resulting from failure to safeguard assets from theft and failure to maintain adequate controls to ensure adequate accounting records are mitigated or reduced.

2.5 Operational Framework

An operational framework describes the execution plan for the research. It offers a summary of the order of work to carry out the research purpose. It is used to provide a summary of the key concepts for the study. This study intended to investigate how staff training, system surveillance, technology adoption and the forensic audit of internal controls as fraud mitigation strategies and their effect on revenue collection among large tax payers at KRA. The target population of the study comprised of 1540 fraud investigation unit officers at Kenya Revenue Authority. For the purpose of this study, the sample population was 90 senior, middle level and lower level fraud investigation unit officers.

Independent variables

Dependent variable

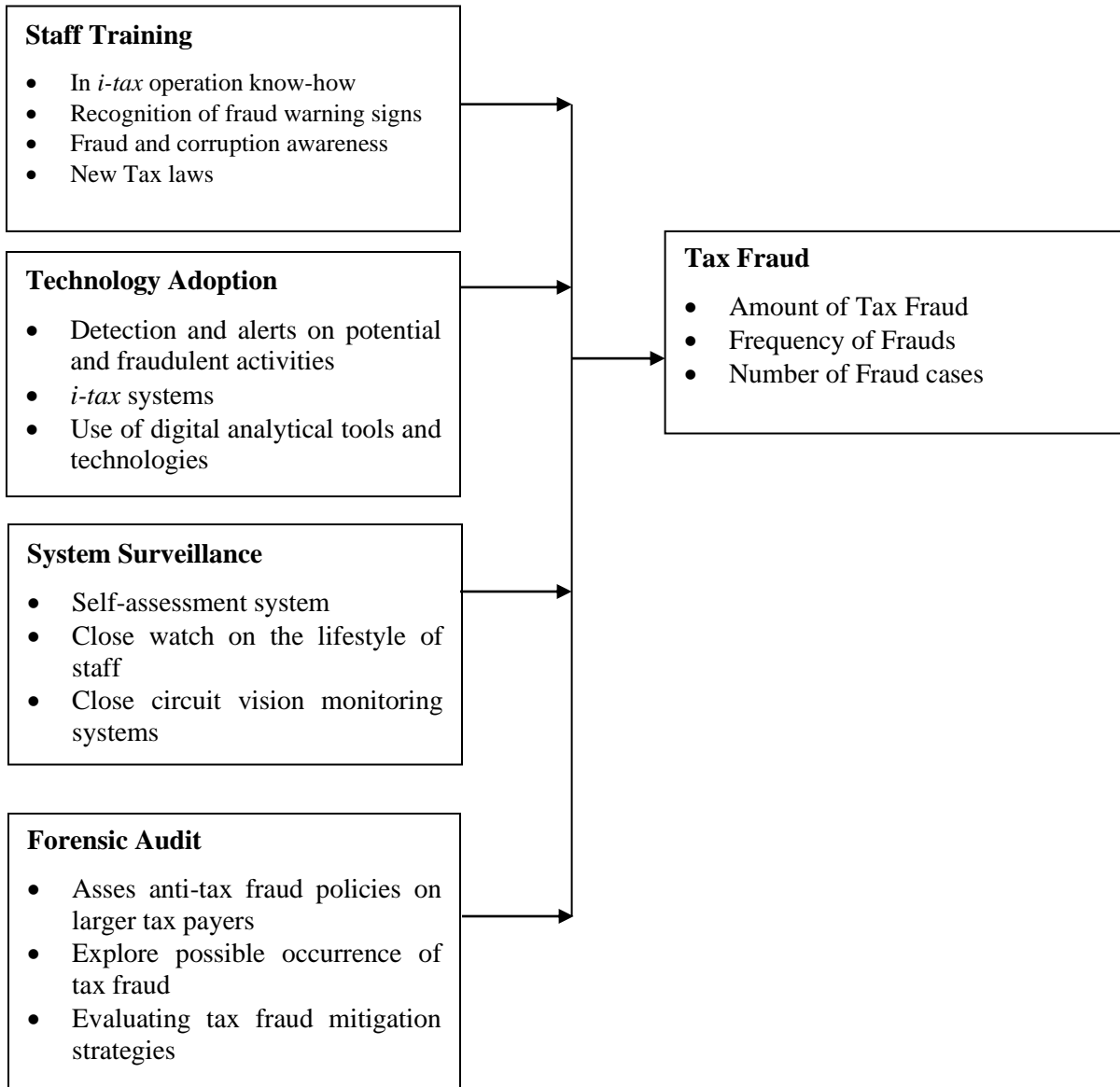


Figure 2.2: Operational framework for Tax Fraud Mitigation Strategies

2.6 Research Gaps

Knowledge gaps are presented in the previous studies that have focused on the same theme as the current study. From the literature review, it is clear that there are few studies that have looked at the mitigation strategies of tax fraud among large tax payers. There is conceptual knowledge gap in a study by Naibei *et al* (2012) which looked at the relationship between income size, inspection and VAT compliance on private firms in Kenya, the study examined on the effect of inspection only. There is scarcity of studies that have taken into consideration the effect of Integrated Tax Management System (ITMS) on tax compliance as argued by Mararia (2014).

Other studies present contextual gaps due to differences in the sectors that were conducted on. Akindele (2011) found that lack of adequate training was the major cause of fraud in banks, Mararia (2014) looked at the effect of Integrated Tax Management System (ITMS) on tax compliance, Dzomira (2014) study was carried out in Zimbabwe's public sector while Bindiya, Manishib and Navaratan (2011) study was focused on tax fraud in Indian Banks. Moreover Mohd (2010) conducted a study on Tax Knowledge and Tax Compliance determinants in Self-Assessment System in Malaysia. For more insight and comparison of findings across sectors, there was a need to look at a different sector other than what has been researched on and hence a there was a need to focus on effect of mitigating strategies on tax fraud among large tax payers on revenue collection at the Kenya Revenue Authority.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out various stages and phases that were followed in the collection, measurement and analysis of data. The main purpose of this study was to investigate the effect of tax fraud mitigation strategies among large tax payers at Kenya Revenue Authority. This part specifically looked at research design, target population, data collection instruments, data collection procedures and the data analysis, data presentation and ethical considerations.

3.2 Research Design

According to Kothari (2004) a research design can be defined as the plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process. According to Chandran (2004), descriptive research design portrays an accurate profile of people, events or situations. The study adopted a descriptive research design. Descriptive cross section survey research design was used when the research objectives include determining the degree to which one variable (independent) affects the dependent variable. A descriptive research design is suitable since it attempts to describe or define a subject often by creating a profile of a group of problems, people or events through the collection of data and tabulation of the frequencies on research variables or their interaction as indicated, (Serekan & Bougie, 2010).

3.3 Target Population

Cooper and Schindler (2011) define population as the total collection of all the elements about which the study wishes to make some inference. The target population for the study was large tax payer companies listed by Kenya Revenue Authority in 2017. The study specifically targeted fraud investigation unit officers both in senior middle level departments at KRA in Nairobi. Although there is 3,905 staff, the focus was senior tax officers, middle level officers, subordinate officers who are 1,540. The targeted population comprised of senior and middle level management staff in charge of Large Tax Payer section of Kenya Revenue Authority.

Table 3.1 Target Population

Respondents	Frequency	Percentage (%)
Top level Management	41	2.7
Middle level Management	267	17.3
Subordinate officers	1232	80
Total	1540	100

3.4 Sample and sampling techniques

3.4.1 Sampling Frame

Sampling frame is a physical representation of the target population and comprises all the units that are potential members of the sample (Kothari, 2004). Mugenda and Mugenda (2009) argue that a sampling frame is a list of the target population from which the sample is made. For the purpose of the study, the sampling frame consisted of a list of senior, middle level and subordinate fraud investigation unit officers at Kenya Revenue Authority.

3.4.2 Sample Size and Sampling Technique

Gall and Borg (2007) indicate that a sample size of 10% of the target population is large enough so long as it allows for reliable data analysis and allows testing for significance of differences between estimates. According to Serekan and Bougie (2010) sample size depends on what one wants to know, the purpose of the inquiry, what is at stake, what is useful, what will have credibility and what can be done with available time and resources. A sample is a relatively small portion of individuals, which acts as a representative of the entire organization, (Mugenda & Mugenda, 2011). The study used a proportionate purposive sampling technique where the emphasis was on some managers in senior, middle level and lower level fraud investigation unit officers. The study used purposive sample of ninety (90) LTO Staffs in the head office.

Table 3.2: Proportional Sample Size

Respondents	Population Frequency	Sample Frequency	Percentage (%)
Top level Management	41	2	2.2
Middle level Management	267	16	17.8
Subordinate officers	1232	72	80.0
Total	1540	90	100

3.5 Data Collection Instruments

Data collection refers to the process of collecting raw and unprocessed information that can be processed into meaningful information, following the scientific process of data analysis (Gall, Gall and Borg, 2007). Burns and Grove (2010) define data collection as the precise, systematic gathering of information relevant to the research problems, using methods such as interviews, participant observations, focus group discussion, narratives and case histories. Primary data was gathered using structured questionnaires and captured using a 5-point Likert scale. Likert scale with close-ended questions with the guide of research assistants was distributed to respondents, after approval to collect data by the university administration.

Likert scale is an interval scale that specifically uses five anchors of strongly disagrees, disagree, neutral, agree and strongly agree. The Likert measures the level of agreement or disagreement. This type of questionnaires is more appropriate because enables consistency in questions asked and data yielded will be easy to analyze. Likert scales are good in measuring perception, attitude, values and behavior. The Likert scale has scales that assist in converting the qualitative responses into quantitative values (Upagade & Shende, 2012).

3.6 Data Collection Procedure

Burns and Grove (2010) define data collection as the precise, systematic gathering of information relevant to the research problems, using methods such as interviews, participant observations, focus group discussion, narratives and case histories. The study used both secondary data and primary data. Primary data was collected using drop and pick method using questionnaires. Questionnaires were dropped and picked later to allow the respondents have enough time to respond to the questionnaires. This enhanced reliability. Secondary data was obtained from the Kenya Revenue Authority financial tax reports.

3.7 Pilot Study

A pilot study was conducted to check the validity and reliability of the instrument before the actual research. Questionnaires were distributed to a sample of the staff at the Kenya Revenue Authority. According to the rule of the thumb, a minimum of 5% to 10% of the target sample is good to carry out a pilot test, (Cooper & Schindler, 2011). Therefore the study pilot tested on 5% of the respondents which is an acceptable percentage according to Cooper and Schindler (2011) threshold. Therefore the participants in the pilot study were 5 respondents who were not selected to participate in the main study.

3.7.1 Reliability of the Research Instrument

Reliability is the consistency of a set of measurement items (Cronbach, 1951). Reliability is the consistency of measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. In short, it is the repeatability of measurement. A measure is considered reliable if a person's score on the same test given twice is similar. The researcher used the most common internal consistency measure known as Cronbach's Alpha which is generated by SPSS. It indicates the extent to which a set of test items can be treated as measuring a single latent variable (Cronbach, 1951). The recommended value of 0.7 will be used as a cut off of reliability for this study.

Alpha equals zero when the true score is not measured and there is only an error component. Alpha equals 1.0 when all items measure only the true score and there is no error component. If the values are too low, either too few items were used or the items had little in common. Nunnally's (1978) suggestion is that a value of not less than 0.7 to be acceptable. This study therefore will adopt alpha values of 0.7 and above.

3.7.2 Validity of data collection instruments

Validity is used to check whether questionnaire is measuring what it purports to measure. Content validity is the extent to which the content of the instrument appears to comprehensively examine the scope it is intended to measure (Bowling, 2014). The determination of content validity is not numerical, but subjective and judgmental. In this research, Content validity was tested by subjecting the research instrument to experts in strategy and taxation. Content validity was also be checked by comparing the study with existing literature.

3.8 Data Analysis and Presentation

Descriptive and inferential statistics was used to analyze the primary data. Descriptive statistics includes mean, frequencies and standard deviation. Descriptive results were presented in form of tables, figures and charts where appropriate. Inferential statistics refers to correlation and regression analysis. Pearson's product moment of correlation analysis was used to test the correlation between the independent and dependent variables. Analysis was conducted using statistical package for social sciences (SPSS) computer software version 21. Regression enabled the study to establish the significance of the effect of each independent variable on the dependent variable.

A regression model was used to ascertain the relationship between the study variables, that is, fraud mitigation strategies and tax fraud. Because of the presence of more than one predictor variable, a multivariate regression analysis was suitable. The model is as indicated:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where;

Y = Tax Fraud

X₁ = Staff Training

X₂ = Technology Adoption

X₃ = Systems Surveillance

X₄ = forensic Auditing of Internal Controls

β_0 = Represents the constant term

β_i = Predictor variables coefficients

ε =The error term

The study conducted ANOVA test to establish the model significance. T statistics was also used to test the significance of the model coefficients. In this study, the level of significance was at 5% which implies that all statistical tests were done and compared against the 5% level of significance.

3.9 Ethical Considerations

The researcher sought the consent of every respondent during data collection. The consent of the respondents was sought by requesting them to participate willingly in the filling of the questionnaire. Only those that who were willing to take part in filling the questionnaires were given the questionnaires. The researcher informed the respondents that participation in this study was purely voluntary and withdrawal from participation is acceptable. The study also sought for permission from the University before data collection commenced.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter contains analysis of data collected for the study. It also contains results presentation for this study; the results were presented in forms of figures and tables. Figures were used to present results on demographics while tables were used to show results on descriptive and inferential analysis. The analyzed data was arranged under themes that reflect the research objectives.

4.2 Response rate

The number of questionnaires that were administered was 90. A total of 73 questionnaires were duly filled and returned. This represented an overall successful response rate of 81.11% as revealed on Figure 4.1. Mugenda and Mugenda (2003) argue that a return rate of 50% is acceptable and therefore a response rate of 86% is hence good for the current study. The high response rate was achieved because the method of drop and pick was effective. The respondents who were busy were given more time to respond to the questionnaire before they were picked.

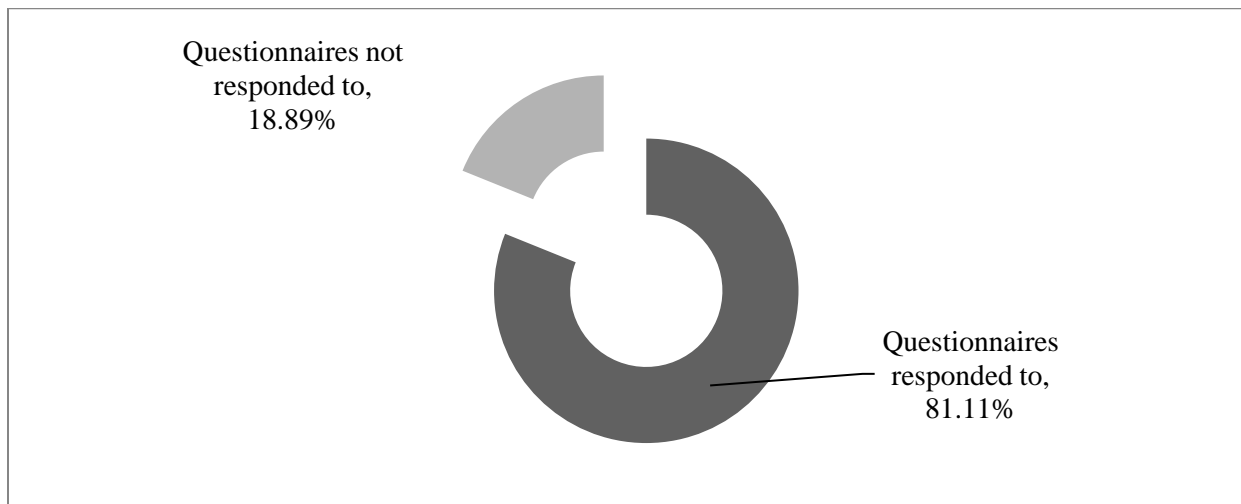


Figure 4.1 Response Rate

4.2 Pilot Test

The study conducted a pilot of the questionnaire before using it for the final data collected. Both reliability and validity test were conducted. Content Validity did not use data. The Cronbach's

coefficient results for all the variables were above 0.7. The study hence concluded that the questionnaire was reliable to be used to collect data. This was consistent with Sekaran (2003) and Nunnally's (1978) propositions and confirmed the reliability of data collected through the administered questionnaires. Table 4.1 presents the alpha values of the questionnaire items.

Table 4.1: Pilot Test Results

Variable	Cronbach's Alpha	Number of Items	Interpretation
Staff Training	0.772	5	Reliable
Technology Adoption	0.801	5	Reliable
System surveillance	0.734	5	Reliable
Forensic Auditing	0.725	5	Reliable
Operation cost reduction	0.789	5	Reliable

4.3 Demographics Analysis of the Respondents

This section contains results on demographic analysis which include age of the respondents and level of education. It shows the demographic characteristics of the respondents.

4.3.1 Respondents age

The study sought to establish the age bracket of the respondents. The results are as shown in Figure 4.2 below. The study findings showed that of the 23.3% Of the respondents were aged below 30 years, those who were aged between 31-35 years were 20.5% while those who were aged between 36 and 40 years were 19.2%. The results also indicated that only 13.7% of the respondents were aged between 41 and 45 years while those who were aged above 45 years were 23.3%. This implies that the majority of the staff involved in tax fraud mitigation are younger generations below the age of 40 years.

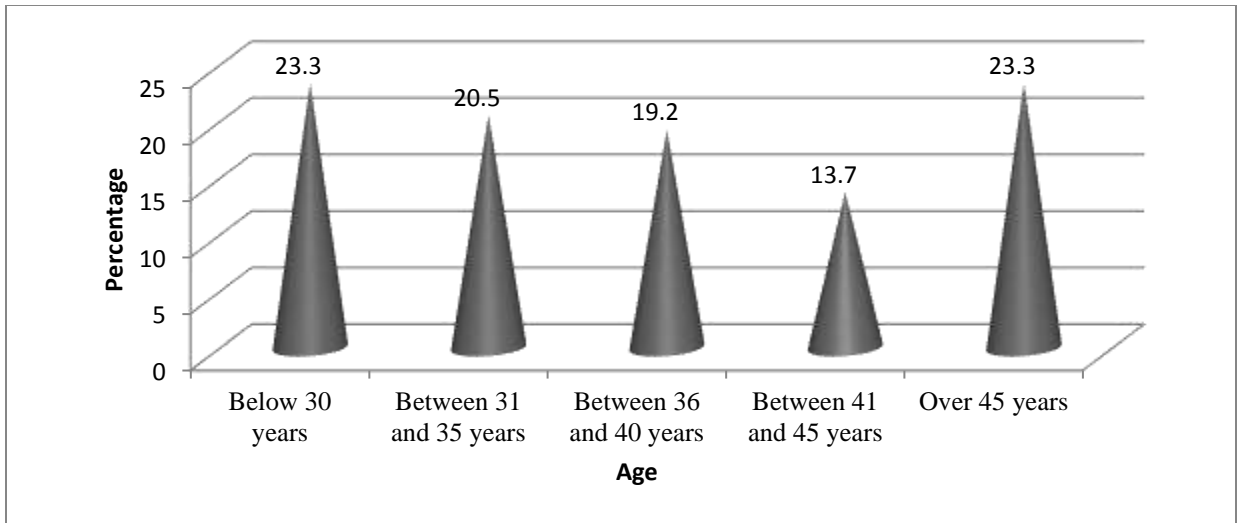


Figure 4.2 Respondents Age

4.3.2 Respondents Education Level

The study sought to establish the level of education of the respondents. The results are as shown in Figure 4.3 below. The findings indicated that 24.7% of the respondents have college level education, 38.4% have university level education while those that have post graduate level education were 37%. The findings reveal that majority of the respondents are literate. This indicates that with literacy, interpretation of the questions was easy and it contributed to the high reliability. Barrick et al. (2007) argues that the more literate a person is the more knowledgeable and able to comprehend ideas they are.

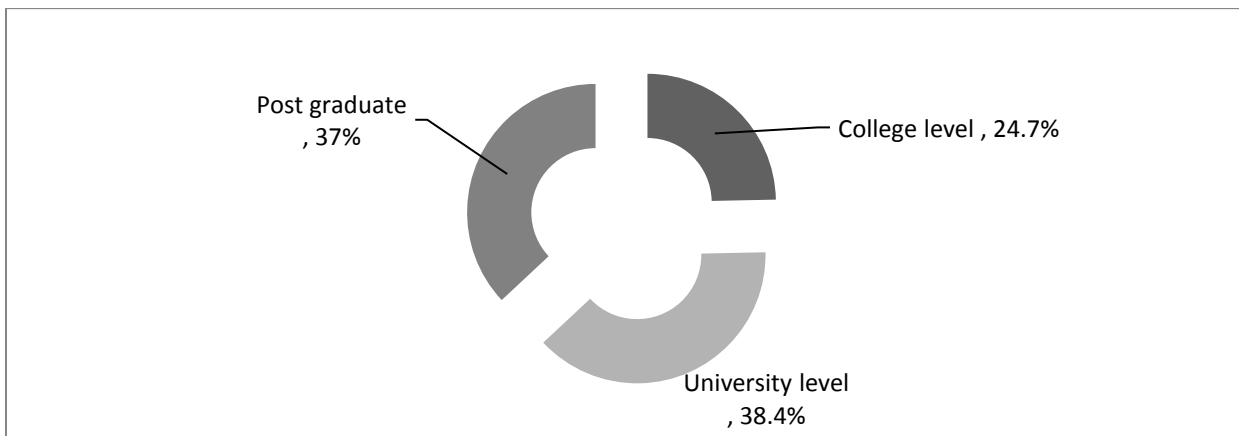


Figure 4.3 Respondents Education Level

4.3.3 Respondents Working Duration

The results of the study revealed that 16.4% of the respondents had worked for less than 2 years, majority 32.9% had worked for between 2 and 5 years while 30.1% had worked for between 6 and 10 years and those who have worked for more than 10 years were 20.5%. The results of the study indicate that most of the respondents had worked for over 2 years and therefore they had a great understanding with the questions regarding tax fraud.

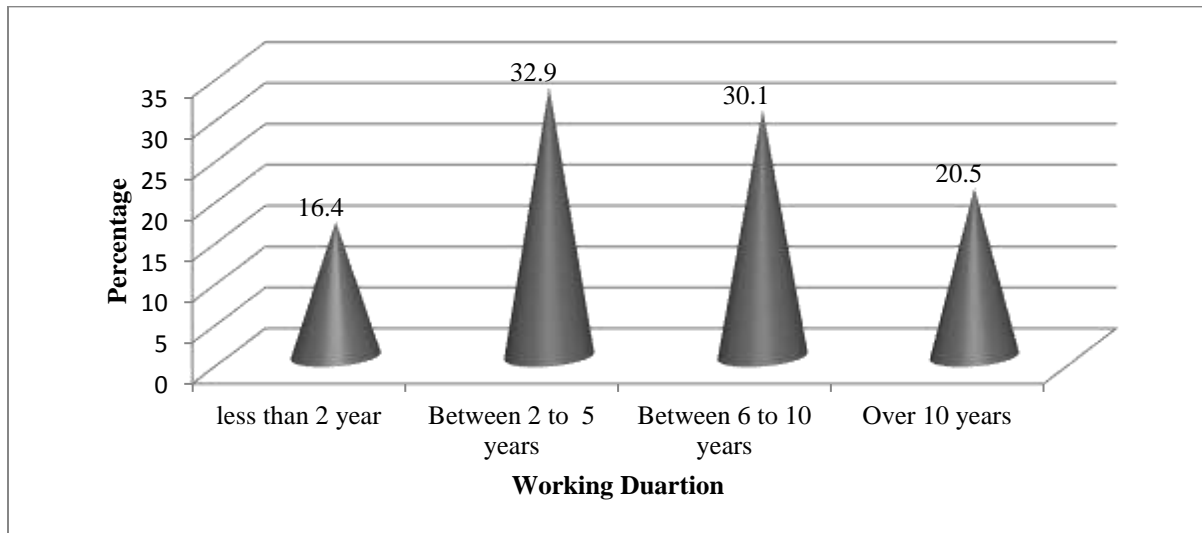


Figure 4.4 Respondents Working Duration

4.4 Tax Fraud

The study sought to determine the approximate yearly amount of Tax Fraud detected in the organization between the years 2012 and 2016. The results of the study are as shown in figure 4.5. The findings of the study revealed an unsteady trend in the detected amount of tax fraud. In 2012, the amount of detected tax fraud was reported to be approximately 1.81 billion shillings. Although the figure dropped in 2013 to 1.63 billion shillings, it picked in 2014 to approximately 1.7 billion shillings but it subsequently dropped in 2015 due to the introduction of integrated tax management systems to 1.4 billion shillings. The amount of tax fraud detected in 2016 was approximately 1.2 billion shillings. The drop in tax fraud detected can be attributed to the introduction of integrated tax management systems in 2015.

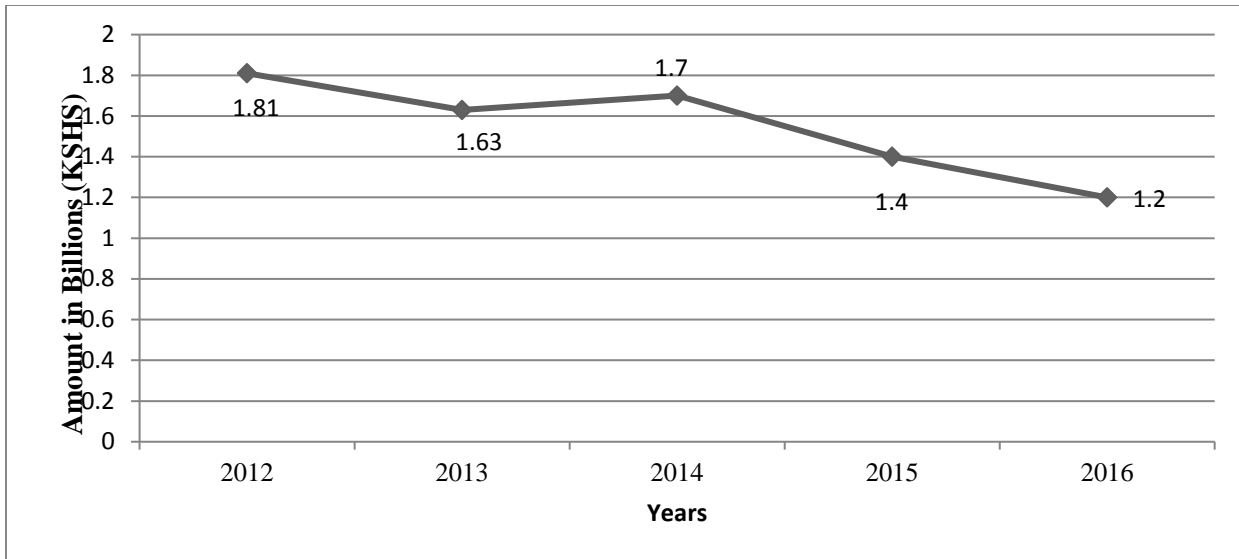


Figure 4.5 Trend for Approximate Yearly Amount of Tax Fraud Detected

The findings revealed that majority 35.6% of the respondents indicated that the number tax fraud cases in their organization are below 20 while 31.5% indicated that the number of reported tax fraud cases in their organization was between 21 and 35 and those that indicated that reported number of tax fraud case in their organization were 32.9%. The results reveal that tax fraud cases are considerably high. The results are presented in Figure 4.6 below.

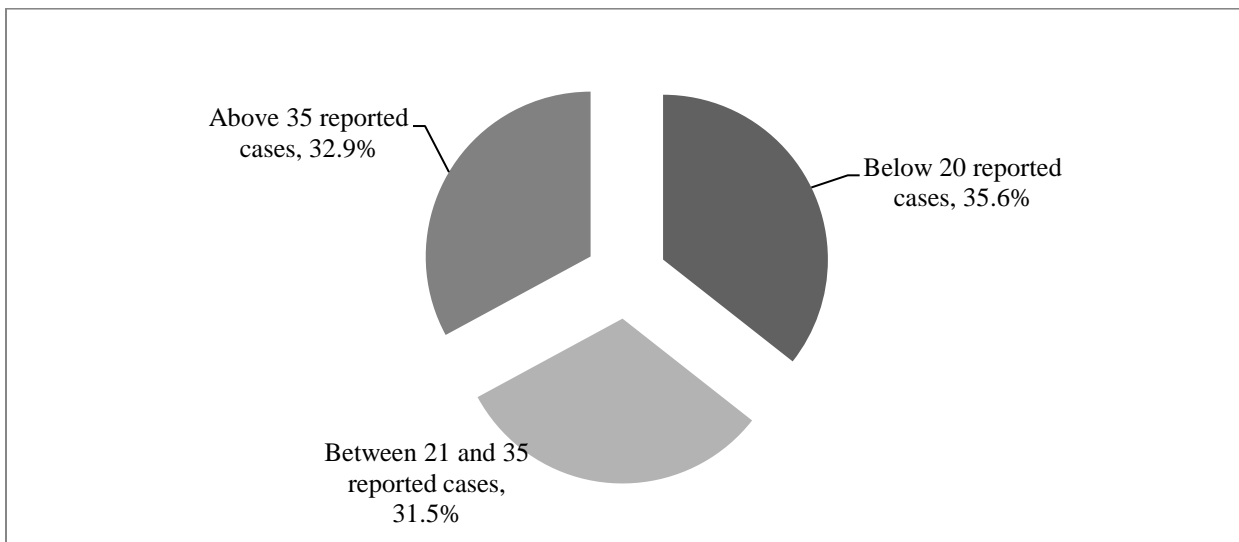


Figure 4.6 Yearly Frequency of Reported Tax Fraud Cases

The study also sought to determine how fraud tax mitigation strategies influence revenue collection at Kenya Revenue Authority for the last five years. The respondents were asked to

indicate the extent to which they agree or disagree with the statements based on a Likert scale where 1= strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. The results of the study were as shown in table 4.6.

The summary of the findings showed that majority 82.2% of the respondents strongly agreed that there is an increase in revenue collection while 17.8% of them neither agreed nor disagreed with the statement. Results of the study also revealed that all the respondents strongly agreed that frequent Auditing has led to higher revenue collection. Moreover, the findings of the study indicated that majority 65.8% of the respondents strongly agreed that the target set for collection is realistic, those who indicated agree were 30.1% while only 4.1% of them neither agreed nor disagreed. In addition, results of the study showed that majority 45.2% of the respondents strongly agreed that Kenya Revenue Authority has been meeting its target, those who indicated agree were only 8.2% while those who neither agreed nor disagreed were 28.8% and those who strongly disagreed were 17.8%. Lastly, the results of the study indicated that 11% of the respondents strongly agreed that collection has improved over the year, majority 86.3% of them indicated agree while only 2.7% of them neither agreed nor disagreed.

On average, the results of the study revealed that most of the respondents agreed with the statements on fraud tax mitigation strategies and their influence on revenue collection at Kenya Revenue Authority over the last five years (Mean=4.39). The responses given by the respondents were less varied as indicated by a standard deviation of 0.64.

Table 4.2: Descriptive Statistics for Tax Fraud

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std Dev
There is an increase in revenue collection	0.0%	0.0%	17.8%	0.0%	82.2%	4.64	0.77
Frequent Auditing has led to higher revenue collection	0.0%	0.0%	0.0%	0.0%	100.0%	5.00	0.00
Target set for collection is realistic	0.0%	0.0%	4.1%	30.1%	65.8%	4.62	0.57
Kenya Revenue Authority has been meeting its target	17.8%	0.0%	28.8%	8.2%	45.2%	3.63	1.50
Collection has improved over the year	0.0%	0.0%	2.7%	86.3%	11.0%	4.08	0.36

4.5 Descriptive Findings and Analysis of the Study Variables

Descriptive findings were used to establish the percentages, mean and standard deviation of the responses based on Likert scales used in the study. A scale of 1 to five was used in the study. Quantification of Likert scale categories was done by assigning numerical values to the different categories so as to aid in statistical representation of data. The data was analyzed using SPSS version 21 using frequency and percentage tables. Descriptive findings were presented per objective.

4.5.1 Staff Training and Tax Fraud

The study sought to investigate the effect of staff training on tax fraud mitigation at Kenya Revenue Authority. The respondents were asked to indicate the extent to which they agree or disagree with the statements on staff training based on a Likert scale where 1= strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. The results of the study were as shown in table 4.3.

The findings of the study revealed that majority 82.2% of the respondents strongly agreed that Kenya Revenue Authority staff have adequate training while those who neither agreed nor disagreed were 17.8%. The results also indicated that all the respondents strongly agreed with the statement that training has enhanced the public level of understanding of various tax regimes of tax compliance. Moreover, results revealed that 16.4% of the respondents strongly agreed that Kenya Revenue Authority staff have know-how on the operation of *itax* systems, 24.7% of them indicated agree, 41.1% of them neither agreed nor disagreed while 8.2% of them indicated disagree and those who strongly disagreed were 9.6%. Additionally, the study revealed that 12.3% of the respondents strongly agreed that the organizations have qualified personnel with advanced technological skills to combat fraud, those who indicated agree were 30.1%, those who neither agreed nor disagreed were 23.3% while those who disagreed were 19.2% and only 15.1% of them strongly disagreed. Lastly, the findings of the study showed that 26% of the respondents strongly agreed with the statement that the organization have regular awareness seminars on tax

evasion and fraud, 23.3% of them indicated agree, 27.4% of them neither agreed nor disagreed while only 6.8% and 16.4% of them strongly disagreed.

These results imply that most of the respondents agreed with the statements on staff training as a fraud mitigation strategy and their influence on revenue collection at Kenya Revenue Authority (Mean=3.87). The responses given by the respondents were less varied as indicated by a standard deviation of 0.91. the results are consistent with the findings of a study by Akindele (2011) revealed that insufficient training, a break in communication and bad management skills are the root cause of fraud in the financial institutions.

Table 4.3: Staff Training and Tax Fraud

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std Dev
Kenya Revenue Authority staff have adequate training	0.0%	0.0%	17.8%	0.0%	82.2%	4.64	0.77
Training has enhanced the public level of understanding of various tax regimes of tax compliance	0.0%	0.0%	0.0%	0.0%	100.0%	5.00	0.00
Kenya Revenue Authority staff have know-how on the operation of I tax systems	9.6%	8.2%	41.1%	24.7%	16.4%	3.30	1.14
The organizations have qualified personnel with advanced technological skills to combat fraud	15.1%	19.2%	23.3%	30.1%	12.3%	3.05	1.27
The organization have regular awareness seminars on tax evasion and fraud	16.4%	6.8%	27.4%	23.3%	26.0%	3.36	1.38
Average						3.87	0.91

The bivariate linear regression model linking Staff Training and tax fraud is presented in table 4.4 below. The linear regression analysis shows that there is a relationship, $R = 0.267$ and $R^2 = 0.071$ which means that approximately 7.1% of the resultant changes in tax fraud among large taxpayers as indicated by a unit variation in staff training.

Table 4.4: Model Summary for Staff Training

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.267	0.071	0.058	0.396152

a Predictors: (Constant), Staff training

The bivariate linear model significance was evaluated using ANOVA. The findings of the study are presented in Table 4.5. Regression results indicate that the linear association between staff training and tax fraud has an F value of $F=5.45$ which is significant with p value $p=.022 < p=.05$ implying that the overall model is significant in forecasting the effect of staff training on mitigating tax fraud among large taxpayers.

Table 4.5 Analysis of Variance for Staff Training

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.855	1	0.855	5.45	.022
	Residual	11.142	71	0.157		
	Total	11.998	72			

a Dependent Variable: Tax fraud
b Predictors: (Constant), Staff training

The regression coefficients for the model are presented in table 4.6. The test results revealed that the beta coefficient of the resulting regression model, the constant $\beta_0= 3.751$ is significant with p value $p= 0.022 < p=0.05$. The coefficient $\beta = 0.166$, has a p value, $p= .022$ which is less than $p= 0.05$. This implies that staff training as a mitigation strategy is significant in the regression model.

Table 4.6 Regression Coefficients for Staff Training

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.751	0.279		13.428	0.000
	Staff training	0.166	0.071	0.267	2.335	0.022

a Dependent Variable: Tax fraud

4.5.2 Technology Adoption and Tax Fraud

The study sought to assess the effect of technology adoption on tax fraud mitigation at Kenya Revenue Authority. The respondents were asked to indicate the extent to which they agree or disagree with the statements based on a Likert scale where 1= strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. The results of the study were as shown in table 4.7.

The results of the study showed that majority 54.8% of the respondents strongly agreed that the organization had adopted ICT using software's to detect and mitigate fraud, those who neither agreed nor disagreed were 24.7% while those who indicated disagree were 16.4% and only 4.1%

of them indicated strongly disagree. The findings also showed that 43.8% of the respondents strongly agreed that the organization uses forensic data analysis to assess and combat fraud, those who neither agreed nor disagreed were 19.2% while those who disagreed were 26% and only 11% of them indicated strongly disagree. Moreover, the findings of the study showed that majority 57.5% of the respondents strongly agreed that the organization uses digital analytical tools to detect and combat fraud, 11% of them indicated agree, 8.2% of them neither agreed nor disagreed while 15.1% of them indicated disagree and those who strongly disagreed were 8.2%. Furthermore, the study showed that 28.8% of the respondents strongly agreed that the organizations have fingerprint and cornea identification systems to combat fraud, those who indicated agree were 13.7%, those who neither agreed nor disagreed were 27.4% while those who disagreed and strongly disagreed were both 15.1%. Finally, results revealed that 13.7% of the respondents strongly agreed with the statement that there is use of ICT protection tools such as firewalls and computerized control systems, 39.7% of them indicated agree, 28.8% of them neither agreed nor disagreed while only 4.1% and 13.7% of them strongly disagreed.

These results imply that most of the respondents agreed with the statements on technology adoption as a fraud mitigation strategy and their influence on revenue collection at Kenya Revenue Authority (Mean= 3.56). The responses given by the respondents were varied as indicated by a standard deviation of 1.38. The findings agree with the results of a study by Dzumira (2014) which revealed that parastatals should overhaul their fraud mitigating policies by adopting frauds recognition exertions through innovative analytics with interrelated tools, applications and its software to attain better proficient oversight.

Table 4.7: Descriptive Results for Technology Adoption

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std Dev
The organization had adopted ICT using software's to detect and mitigate fraud	4.1%	16.4%	24.7%	0.0%	54.8%	3.85	1.35
The organization uses forensic data analysis to assess and combat fraud	11.0%	26.0%	19.2%	0.0%	43.8%	3.40	1.53
The organization uses digital analytical tools to detect and combat fraud	8.2%	15.1%	8.2%	11.0%	57.5%	3.95	1.42
The organizations have fingerprint and cornea identification systems to combat fraud	15.1%	15.1%	27.4%	13.7%	28.8%	3.26	1.41

There is use of ICT protection tools such as firewalls and computerized control systems	13.7%	4.1%	28.8%	39.7%	13.7%	3.36	1.19
Average						3.56	1.38

The bivariate linear regression model linking technology adoption and tax fraud is presented in table 4.8 below. The linear regression analysis shows that there is a relationship, $R = 0.233$ and $R^2 = 0.054$ which means that approximately 5.4% of the resultant changes in tax fraud among large taxpayers as indicated by a unit variation in technology adoption.

Table 4.8 Model Summary for Technology Adoption

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.233	0.054	0.041	0.399787

a Predictors: (Constant), Technology Adoption

The bivariate linear model significance was evaluated using ANOVA. The findings of the study are presented in Table 4.9. Regression results indicate that the linear association between technology adoption and tax fraud has an F value of $F = 4.066$ which is significant with p value $p = 0.048 < p = 0.05$ implying that the overall model is significant in forecasting the effect of technology adoption on mitigating tax fraud among large taxpayers.

Table 4.9 Analysis of Variance for Technology Adoption

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.65	1	0.65	4.066	.048b
	Residual	11.348	71	0.16		
	Total	11.998	72			

a Dependent Variable: Tax fraud
b Predictors: (Constant), Technology Adoption

The regression coefficients for the model are presented in table 4.10. The test results revealed that the beta coefficient of the resulting regression model, the constant $\beta_0 = 4.1$ is significant with p value $p = 0.048 < p = 0.05$. The coefficient $\beta = 0.083$, has a p value, $p = .048$ which is less than $p = 0.05$. This implies that technology adoption as a mitigation strategy is significant in the regression model.

Table 4.10 Regression Coefficients for Technology Adoption

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.1	0.153		26.751	0.000
	Technology Adoption	0.083	0.041	0.233	2.016	0.048

a Dependent Variable: Tax fraud

4.5.3 System surveillance and Tax Fraud

The study sought to investigate the effect of system surveillance on tax fraud mitigation at Kenya Revenue Authority. The respondents were asked to indicate the extent to which they agree or disagree with the statements based on a Likert scale where 1= strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. The results of the study were as shown in table 4.11.

The results of the study showed that majority 52.1% of the respondents strongly agreed that supervision and job rotation are practiced in the LTO section, those who indicated agree were 16.4%, those who neither agreed nor disagreed were 20.5% while those who indicated disagree were 2.7% and 8.2% of them strongly disagreed. The results also showed that 64.4% of the respondents strongly agreed that the organization uses neural networks in the prevention of electronic funds transfer fraud, those who indicated agree were 24.7% while those who neither agreed nor disagreed were 5.5% and 2.7% of them both indicated disagree and strongly disagree. Moreover, the findings of the study revealed that 15.1% of the respondents strongly agreed that the organization have a 24 hour surveillance system of their operations and Restriction of access to valuable information, majority 64.4% of them indicated agree, 4.1% of them neither agreed nor disagreed while 9.6% of them indicated disagree and those who strongly disagreed were 6.8%. Additionally, the study revealed that 43.8% of the respondents strongly agreed that the organization have close circuit vision for monitoring, those who indicated agree were 30.1%, those who neither agreed nor disagreed were 8.2% while those who disagreed were 15.1% and only 2.7% of them strongly disagreed. Lastly, the findings of the study showed that 52.1% of the respondents strongly agreed with the statement that there are proper monitoring and prevention measures, 16.4% of them indicated agree, 20.5% of them neither agreed nor disagreed while only 2.7% and 8.2% of them strongly disagreed.

These results imply that most of the respondents agreed with the statements on system surveillance as a fraud mitigation strategy and their influence on revenue collection at Kenya Revenue Authority (Mean=4.03). The responses given by the respondents were less varied as indicated by a standard deviation of 1.14. The findings agree with the results of a study by Van Rhoda (2011) indicated that integrated fraud recording and observation has considerably decreased plastic card fraud.

Table 4.11: Descriptive Results for System surveillance

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std Dev
Supervision and job rotation are practiced in the LTO Section	8.2%	2.7%	20.5%	16.4%	52.1%	4.01	1.26
The organization uses neural networks in the prevention of electronic funds transfer fraud	2.7%	2.7%	5.5%	24.7%	64.4%	4.45	0.93
The organization have a 24 hour surveillance system of their operations and Restriction of access to valuable information	6.8%	9.6%	4.1%	64.4%	15.1%	3.71	1.06
The organization have close circuit vision for monitoring	2.7%	15.1%	8.2%	30.1%	43.8%	3.97	1.18
There are proper monitoring and prevention measures	8.2%	2.7%	20.5%	16.4%	52.1%	4.01	1.26
Average						4.03	1.14

The bivariate linear regression model linking System Surveillance and tax fraud is presented in table 4.12 below. The linear regression analysis shows that there is a relationship, $R = 0.464$ and $R^2 = 0.215$ which means that approximately 21.5% of the resultant changes in tax fraud among large taxpayers as indicated by a unit variation in System Surveillance.

Table 4.12 Model Summary for System Surveillance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.464	0.215	0.204	0.36418

a Predictors: (Constant), System surveillance

The bivariate linear model significance was evaluated using ANOVA. The findings of the study are presented in Table 4.13. Regression results indicate that the linear association between

System Surveillance and tax fraud has an F value of $F= 19.463$ which is significant with p value $p=.000 < p=.05$ implying that the overall model is significant in forecasting the effect of System Surveillance on mitigating tax fraud among large taxpayers.

Table 4.13 Analysis of Variance for System Surveillance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.581	1	2.581	19.463	.000
	Residual	9.417	71	0.133		
	Total	11.998	72			

a Dependent Variable: Tax fraud
b Predictors: (Constant), System surveillance

The regression coefficients for the model are presented in table 4.14. The test results revealed that the beta coefficient of the resulting regression model, the constant $\beta_0= 3.592$ is significant with p value $p= 0.000 < p=0.05$. The coefficient $\beta = 0.199$, has a p value, $p= .000$ which is less than $p= 0.05$. This implies that System Surveillance as a mitigation strategy is significant in the regression model.

Table 4.14 Regression Coefficients for System Surveillance

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.592	0.187		19.228	0.000
	System surveillance	0.199	0.045	0.464	4.412	0.000

a Dependent Variable: Tax fraud

4.4.4 Forensic Auditing of internal Controls and Tax Fraud

The study sought to investigate the effect of forensic auditing on tax fraud mitigation at Kenya Revenue Authority. The respondents were asked to indicate the extent to which they agree or disagree with the statements based on a Likert scale where 1= strongly disagree, 2= disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. The results of the study were as shown in table 4.15.

The results of the study showed that majority 82.2% of the respondents strongly agreed that the organization occasionally evaluates financial statements to ensure that records are fair and accurate while those who indicated agree were only 17.8%. The findings of the study also revealed that 79.5% of the respondents strongly agreed that the organization conducts pro-active auditing to search for any cases of corruption while only 20.5% of them indicated agree.

Moreover, the results of the study showed that majority 58.9% of the respondents strongly agreed that auditors also have an independent line and report directly to the audit committee to allow them to be able to express any of their concerns about management while 41.1% of them indicated agree. Further, the study showed that 58.9% of the respondents strongly agreed that auditing done in the organization has helped promote effective communication with the organizations top managements, those who indicated agree were 20.6% while those who neither agreed nor disagreed with the statement were 20.5%. Finally, the results of the study revealed that 41.1% of the respondents strongly agreed with the statement that auditing activities in the organization have helped reduce fraudulent cases while majority 58.9% of them indicated agree.

These results imply that Forensic Auditing of internal Controls as a mitigation strategy has an effect on tax fraud among large taxpayers (Mean=4.56). The responses given by the respondents were less varied (standard deviation=0.60). The findings are consistent with the results of a study by Naibei, Momanyi and Oginda (2012) which showed that there was a higher VAT compliance level on those firms which had undergone a tax audit by Kenya Revenue Authority.

Table 4.15 Descriptive Statistics for Forensic Auditing of internal Controls

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std Dev
The organization occasionally evaluates financial statements to ensure that records are fair and accurate	0.0%	0.0%	17.8%	0.0%	82.2%	4.64	0.77
The organization conducts pro-active auditing to search for any cases of corruption	0.0%	0.0%	0.0%	20.5%	79.5%	4.79	0.41
Auditors also have an independent line and report directly to the audit committee to allow them to be able to express any of their concerns about management	0.0%	0.0%	0.0%	41.1%	58.9%	4.59	0.50
Auditing done in the organization has helped promote effective communication with the organizations top managements	0.0%	0.0%	20.5%	20.6%	58.9%	4.38	0.81
Auditing activities in the organization have helped reduce fraudulent cases	0.0%	0.0%	0.0%	58.9%	41.1%	4.41	0.50
Average						4.56	0.60

The bivariate linear regression model linking Forensic Auditing of internal Controls and tax fraud is presented in table 4.16 below. The linear regression analysis shows that there is a positive relationship, $R = 0.492$ and $R^2 = 0.242$ which means that approximately 24.2% of the resultant changes in tax fraud among large taxpayers as indicated by a unit variation in Forensic Auditing of internal Controls.

Table 4.16 Model Summary for Forensic Auditing of internal Controls

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492	0.242	0.232	0.357825

a Predictors: (Constant), Forensic Auditing

The bivariate linear model significance was evaluated using ANOVA. The findings of the study are presented in Table 4.17. Regression results indicate that the linear association between Forensic Auditing of internal Controls and tax fraud has an F value of $F=22.705$ which is significant with p value $p=.000 < p=.05$ implying that the overall model is significant in forecasting the effect of Forensic Auditing of internal Controls on mitigating tax fraud among large taxpayers.

Table 4.17 Analysis of Variance for Forensic Auditing of internal Controls

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.907	1	2.907	22.705	.000
	Residual	9.091	71	0.128		
	Total	11.998	72			

a Dependent Variable: Tax fraud
b Predictors: (Constant), Forensic Auditing

The regression coefficients for the model are presented in table 4.18. The test results revealed that the beta coefficient of the resulting regression model, the constant $\beta_0 = 1.775$ is significant with p value $p = 0.002 < p = 0.05$. The coefficient $\beta = 0.574$, has a p value, $p = .002$ which is less than $p = 0.05$. This implies that Forensic Auditing of internal Controls as a mitigation strategy is significant in the regression model.

Table 4.18 Regression Coefficients for Forensic Auditing of internal Controls

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.775	0.551		3.22	0.002
	Forensic Auditing	0.574	0.12	0.492	4.765	0

a Dependent Variable: Tax fraud

4.6 Diagnostic Tests

The study conducted diagnostic tests to establish whether the data was suitable to run an ordinary least square regression model. The tests of Autocorrelation, Multicollinearity and normality were conducted before running the regression model.

4.6.1 Multicollinearity Test for Study Variables

Multicollinearity is said to exist when the independent variables are highly correlated with a correlation above 0.8. The presence of Multicollinearity produces spurious standard errors and gives false prediction. This study used a variance inflation factor (VIF) method to test for Multicollinearity of the study variables. The results as shown in Table 4.19 revealed that there was no presence of Multicollinearity since all the values of VIF were below 10. This implies that the use of OLS in estimating the effect of fraud mitigation strategies on tax fraud among large taxpayers would not give spurious results.

Table 4.19 Variance Inflation Factor Test of Multicollinearity

	Tolerance	VIF
Staff Training	0.803	1.245
Technology Adoption	0.814	1.228
System Surveillance	0.773	1.294
Forensic Audit of Internal Controls	0.827	1.21

4.6.2 Test of Autocorrelation/Independence for Study Variables

The study sought to establish whether the error term of the OLS regression model was auto correlated. One of the assumptions of OLS is that the error term should not be auto correlated

over time. The study used Durbin-Watson test to establish the presence of Autocorrelation. A value of 2 reveals absence of autocorrelation, a value less than 2 reveals positive autocorrelation while a value greater than 2 reveals presence of negative autocorrelation. The findings in Table 4.20 revealed the presence of negative autocorrelation

Table 4.20 Durbin Watson Test of Autocorrelation

Test	Statistic
Durbin Watson	2.677

4.6.3 Test of Normality for the Study Variables

The Gaussian test results are presented in table 21. The table shows that normality test statistics computed for tax fraud using both Kolmogorov-Smirnov (K-S) and Shapiro-Wilk tests are significant with p-value of .000 and .000 respectively, both was less than 0.05 in both measures. The results in the figure indicate that the residuals are normally distributed.

Table 4.21: Test for Normality for Study Variables

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Tax fraud	.259	73	.000	.780	73	.000

a. Lilliefors Significance Correction

4.5 Correlation Analysis for the Study Variables

The study used a correlation analysis to establish the association among the variables used in the study. A Pearson correlation was used since the data was discrete. Correlation indicates the direction in one variable if another variable changes. A negative Pearson correlation value indicates negative correlation while a positive Pearson correlation value indicates a positive correlation. The strength of the association increases as the value approaches either negative 1 or positive 1. The correlation findings are presented in Table 4.22.

Table 4.22: Correlation Results for the Study Variables

Correlations		Staff training	Advanced technology	System surveillance	Forensic Auditing	Tax fraud
Staff training	Pearson Correlation	1				
	Sig. (2-tailed)					
Advanced technology	Pearson Correlation	-.316**	1			
	Sig. (2-tailed)	0.006				
System surveillance	Pearson Correlation	-0.184	-0.154	1		
	Sig. (2-tailed)	0.12	0.194			
Forensic Auditing	Pearson Correlation	0.081	0.082	.335**	1	
	Sig. (2-tailed)	0.494	0.49	0.004		
Tax fraud	Pearson Correlation	.267*	.233*	.464**	.492**	1
	Sig. (2-tailed)	0.022	0.048	0.000	0.000	
	N	73	73	73	73	73

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The results of the study revealed that Staff training has a positive and significant effect on Tax fraud among large tax payers in KRA as shown by a Pearson coefficient of 0.267 and significance level of 0.022. This shows that an increase in the provision of adequate training to staff, increase in the know-how on the operation of *I* tax systems, use of qualified personnel to advance technology to combat fraud and holding regular awareness seminars on tax evasion and fraud leads to a positive and significant impact on tax fraud among large taxpayers in KRA. The study findings are consistent with the findings of a study by Akindele (2011) revealed that insufficient training, a break in communication and bad management skills are the root cause of fraud in the financial institutions.

The findings of the study also indicated that there was a positive and significant correlation between technology adoption and tax fraud among large taxpayers in KRA as shown by a Pearson coefficient of 0.233 and significance level of 0.048. This implies that technology adoption practices such as adoption of ICT software's to detect and mitigate fraud, using forensic data analysis to assess and combat fraud, using digital analytical tools to detect and combat fraud, using fingerprint and cornea identification systems to combat fraud and the use of ICT

protection tools such as firewalls and computerized control systems leads to a positive and significant influence on tax fraud among large taxpayers in KRA. The study findings are consistent with the findings of a study by Mhamane and lobo (2012) which indicated that using forensic technology such as the use of analytical tools, ICT protection tools, firewalls and digital computerized control systems.

Furthermore, the results of the study indicated that there was a positive and significant association between system surveillance and tax fraud among large taxpayers in KRA as shown by a Pearson coefficient of 0.464 and significance level of 0.000. This implies that system surveillance practices such as practicing supervision and rotating in the LTO Section, use of neural networks in the prevention of electronic funds transfer fraud, presence of 24 hour surveillance system to monitor operations and restrict access to valuable information, use of close circuit vision for monitoring and presence of proper monitoring and prevention measures leads to a positive and significant influence on tax fraud among large taxpayers in KRA. The study findings are consistent with the findings of a study by Van Rhoda (2011) indicated that integrated fraud recording and observation has considerably decreased plastic card fraud.

Lastly, the results showed that there was a positive and significant relationship between forensic auditing of internal controls and tax fraud among large taxpayers in KRA as shown by a Pearson correlation value of 0.492 and a significance level of 0.000. This implies that an increase in forensic auditing of internal controls practices such as occasional evaluation of financial statements to ensure that records are fair and accurate, conducting pro-active auditing to search for any cases of corruption, availability of an independent line for auditors to report directly to the audit committee to allow them to be able to express any of their concerns about management, conducting auditing in organization to promote effective communication with the organizations top managements and the use of auditing activities in the organization to reduce fraudulent cases leads to a positive and significant influence on tax fraud among large taxpayers in KRA. The findings are consistent with the results of a study by Naibei, Momanyi and Oginda (2012) which showed that there was a higher VAT compliance level on those firms which had undergone a tax audit by Kenya Revenue Authority.

4.6.2 Regression Results for the Study Variables

The study used a multivariate regression model to so as to establish the effect of fraud mitigation strategies on tax fraud among large taxpayers in KRA. The overall regression model of the study was $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ Where; Y= Tax fraud, X_1 = staff training, X_2 = technology adoption, X_3 = system surveillance, X_4 = forensic auditing of internal controls, and ε = Error term. The results for model summary are presented in Table 4.24.

The results of the study showed that staff training, technology adoption, system surveillance and forensic auditing of internal controls all account for 60.4% of the variation in on tax fraud among large taxpayers in KRA. This is shown by a by an R-square value of 0.604. The regression results show that R was 0.777 which indicates that the association between the independent variables and the dependent variable is positive.

Table 4.24 Model Summary for the Study Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777	0.604	0.581	0.264325

a Predictors: (Constant), Forensic Auditing, Staff training, Advanced technology, System surveillance

The findings of the study also revealed that the overall regression model linking staff training, technology adoption, system surveillance, forensic auditing of internal controls and their influence on tax fraud among large tax payers in KRA was significant as indicated by a significant F (4, 68) statistic as indicated by (0.000) significance level which was less than 0.05 at 5% level of significance. F calculated is 25.93 while f critical is 2.507. F calculated is greater than the F critical (25.93 >2.507), this showed that the overall model was statistically significant at 5% significance level. The results of the study are as shown in table 4.25.

Table 4.25 Analysis of Variance for the Study Variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.247	4	1.812	25.93	.000
	Residual	4.751	68	0.07		
	Total	11.998	72			

a Dependent Variable: Tax fraud

b Predictors: (Constant), Forensic Auditing, Staff training, Advanced technology, System surveillance

To examine the association between the dependent variables on the dependent variable, regression coefficients were generated as shown in table 4.26 below.

Table 4.26 Regression coefficients for the Study Variables

Model	Coefficients	B	Std. Error	Beta	t	Sig.
1	(Constant)	0.459	0.455		1.008	0.317
	Staff training	0.306	0.053	0.491	5.772	0.000
	Advanced technology	0.161	0.03	0.453	5.356	0.000
	System surveillance	0.234	0.037	0.546	6.287	0.000
	Forensic Auditing	0.271	0.098	0.232	2.764	0.007

a Dependent Variable: Tax fraud

Therefore, optimal multivariate Regression Model for the study is as shown below

$$\text{Tax Fraud} = 0.459 + 0.306 \text{ Staff training} + 0.161 \text{ Advanced technology} + 0.234 \text{ System surveillance} + 0.271 \text{ Forensic Auditing of internal control}$$

The summary results of the regression coefficients revealed that staff training had a positive and significant influence on tax fraud among large taxpayers at KRA ($\beta = 0.306$, Sig = 0.000). This implies that an increase in the provision of adequate training to staff, increase in the know-how on the operation of *I* tax systems, use of qualified personnel to advance technology to combat fraud and holding regular awareness seminars on tax evasion and fraud leads to 0.306 unit effect on tax fraud among large taxpayers at KRA. The findings agree with the findings of a study by Akindele (2011) which revealed that insufficient training, a break in communication and bad management skills are the root cause of fraud in the financial institutions.

Moreover, the findings of the study also indicate that advanced technology had a positive and significant influence on tax fraud among large taxpayers at KRA ($\beta = 0.161$, Sig = 0.000). This implies that an increase in the adoption of ICT software's to detect and mitigate fraud, using forensic data analysis to assess and combat fraud, using digital analytical tools to detect and combat fraud, using fingerprint and cornea identification systems to combat fraud and the use of ICT protection tools such as firewalls and computerized control systems leads to 0.161 unit effect on tax fraud among large taxpayers at KRA. The findings agree with the findings of a study by Mararia (2014) which showed that penalties and fines had a positive significant

association with tax compliance. This resulted to an overall increase in collections as penalties and fined deterred tax evasion by taxpayers.

In addition, the findings of the study also showed that system surveillance had a positive and significant influence on tax fraud among large taxpayers at KRA ($\beta = 0.234$, Sig = 0.000). This implies that practicing supervision and rotating in the LTO Section, use of neural networks in the prevention of electronic funds transfer fraud, presence of 24 hour surveillance system to monitor operations and restrict access to valuable information, use of close circuit vision for monitoring and presence of proper monitoring and prevention measures leads to 0.234 unit effect on tax fraud among large taxpayers at KRA. The findings agree with the findings of a study by Mohd (2010) which showed that compliance of tax was predisposed by possibility of being appraised, monitoring government expenditures, fines, individual funding challenges.

Finally, the findings of the study also showed that forensic auditing had a positive and significant influence on tax fraud among large taxpayers at KRA ($\beta = 0.271$, Sig = 0.007). This implies that an increase in use of occasional evaluation of financial statements to ensure that records are fair and accurate, conducting pro-active auditing to search for any cases of corruption, availability of an independent line for auditors to report directly to the audit committee to allow them to be able to express any of their concerns about management, conducting auditing in organization to promote effective communication with the organizations top managements and the use of auditing activities in the organization to reduce fraudulent cases leads to 0.271 unit effect on tax fraud among large taxpayers at KRA. The findings agree with the findings of a study by Naibei, Momanyi and Oginda (2012) which showed that there was a higher VAT compliance level on those firms which had undergone a tax audit by Kenya Revenue Authority.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section of the study presents a summary of the findings, recommendations, conclusions and areas for further studies that the study identified. The summary of the findings was done according to each research objective. The conclusions were also presented per objective.

5.2 Summary of Findings

This part details a summary of the findings according to each study objective for the descriptive, correlation and regression findings. From the summary of the findings, conclusions were presented.

5.2.1 Staff Training

The findings showed that training of staff as a tax mitigation strategy for example the provision of adequate training to staff, increase in the staff know-how on the operation of *I* tax systems, use of qualified personnel to advance technology to combat fraud and holding regular awareness seminars on tax evasion and fraud greatly impacts on tax fraud among large taxpayers at KRA. The correlation findings indicated that an increase in staff training practices leads to an increase in the mitigation of tax fraud among large taxpayers at KRA. The correlation is positive and significant.

The regression results also showed that the impact of staff training on the mitigation of tax fraud was significant. A unit increase in the staff training activities leads to a 0.306 unit increase in the mitigation of tax fraud among large taxpayers at Kenya Revenue Authority.

5.2.2 Technology Adoption

The descriptive results indicated that the adoption of technology as a tax mitigation strategy such as the adoption of ICT software's to detect and mitigate fraud, using forensic data analysis to assess and combat fraud, using digital analytical tools to detect and combat fraud, using fingerprint and cornea identification systems to combat fraud and the use of ICT protection tools such as firewalls and computerized control systems leads to an increase in the mitigation of tax fraud among large taxpayers at KRA. The correlation is positive and significant.

The regression results also revealed that the influence of technology adoption on the mitigation of tax fraud was significant. A unit increase in technological adoption activities leads to a 0.161 unit increase in the mitigation of tax fraud among large taxpayers at Kenya Revenue Authority.

5.2.3 System surveillance

The descriptive results revealed that the use of system surveillance as a tax mitigation strategy like practicing of supervision and rotation in the LTO Section, use of neural networks in the prevention of electronic funds transfer fraud, presence of 24 hour surveillance system to monitor operations and restrict access to valuable information, use of close circuit vision for monitoring and presence of proper monitoring and prevention measures leads to an increase in the mitigation of tax fraud among large taxpayers at KRA. Correlation results showed that the association between system surveillance tax frauds is positive and significant.

The regression results also revealed that the influence of system surveillance on the mitigation of tax fraud was significant. A unit increase in system surveillance activities leads to a 0.234 unit increase in the mitigation of tax fraud among large taxpayers at Kenya Revenue Authority.

5.2.4 Forensic Auditing of internal Controls

The descriptive results revealed that the use of Forensic Auditing of internal Controls as a tax mitigation strategy such as occasional evaluation of financial statements to ensure that records are fair and accurate, conducting pro-active auditing to search for any cases of corruption, availability of an independent line for auditors to report directly to the audit committee to allow them to be able to express any of their concerns about management, conducting auditing in organization to promote effective communication with the organizations top managements and the use of auditing activities in the organization to reduce fraudulent cases leads to an increase in the mitigation of tax fraud among large taxpayers at KRA. Correlation results showed that the association between Forensic Auditing of internal Controls and tax fraud mitigation is positive and significant.

The regression results also revealed that the influence Forensic Auditing of internal Controls on the mitigation of tax fraud was significant. A unit increase in Forensic Auditing of internal Controls activities leads to a 0.271 unit increase in the mitigation of tax fraud among large taxpayers at Kenya Revenue Authority.

5.3 Conclusion of the Study

The study made conclusions per objective based on the summary findings. The conclusions enabled the study to come up with the recommendations.

5.3.1 Staff Training

The study concluded that the effect of Staff Training as a tax fraud mitigation strategy among large taxpayers at KRA was positive and significant. The study established that an increase in staff training practices in the combating of tax fraud for instance provision of adequate training to staff, increase in the staff know-how on the operation of *I-tax* systems, use of qualified personnel to advance technology to combat fraud and holding regular awareness seminars on tax evasion and fraud has a positive and significant effect on the mitigation of tax fraud among large taxpayers at KRA.

5.3.2 Technology Adoption

The study established that Technology Adoption has a positive and significant effect in the mitigation of tax fraud at KRA. The study concluded that an increase in adoption of ICT software's to detect and mitigate fraud, using forensic data analysis to assess and combat fraud, using digital analytical tools to detect and combat fraud, using fingerprint and cornea identification systems to combat fraud and the use of ICT protection tools such as firewalls and computerized control systems positively and significantly impacts on the mitigation of tax fraud among large taxpayers at KRA.

5.3.3 System surveillance

The study concluded that System surveillance has a positive and significant effect in the mitigation of tax fraud at KRA. The study also established that an increase in System surveillance practices in the combating of tax fraud like practicing of supervision and rotation in the LTO Section, use of neural networks in the prevention of electronic funds transfer fraud, presence of 24 hour surveillance system to monitor operations and restrict access to valuable information, use of close circuit vision for monitoring and presence of proper monitoring and prevention measures positively and significantly impacts on the mitigation of tax fraud among large taxpayers at KRA.

5.3.4 Forensic Auditing of internal Controls

The study concluded that Forensic Auditing of internal Controls has a positive and significant effect in the mitigation of tax fraud at KRA. The study also established that an increase in Forensic Auditing of internal Controls practices in the combating of tax fraud such as occasional evaluation of financial statements to ensure that records are fair and accurate, conducting proactive auditing to search for any cases of corruption, availability of an independent line for auditors to report directly to the audit committee to allow them to be able to express any of their concerns about management, conducting auditing in organization to promote effective communication with the organizations top managements and the use of auditing activities in the organization to reduce fraudulent cases positively and significantly impacts on the mitigation of tax fraud among large taxpayers at KRA.

5.4 Recommendations

The study recommends the management of Kenya Revenue Authority to regularly hold awareness seminars on tax evasion and fraud. The management should also provide adequate training to their staff so as to ensure they have know-how on the operation of *I-tax* systems. There is also a need to have qualified personnel with advance technological skills to combat fraud since it will lead to a significant mitigation on tax fraud.

The study also recommends the management of KRA to increase the adoption of ICT software to detect and mitigate fraud. There is also need for the management to ensure that forensic data analysis using digital analytical tools to detect and combat fraud. The study further recommends for the adoption of fingerprint and cornea identification systems as well as the use of ICT protection tools such as firewalls and computerized control systems to combat fraud.

Moreover, the study recommends the administration of KRA to put in place proper monitoring and prevention measures to supervise and ensure there is job rotation in the LTO Section to promote the effectiveness of the workers. The study recommends the administration of KRA to adopt neural networks to aid in the prevention of electronic funds transfer fraud. There is also need to ensure that a 24 hour surveillance system is in place to monitor operations and restrict access to valuable information. The organization should adopt the use of close circuit vision for monitoring.

Lastly, the study recommends for occasional evaluation of financial statements to ensure that records are fair and accurate. There is need to conduct auditing pro-actively to search for any cases of corruption. The study further, recommends the management of Kenya Revenue Authority to ensure there is an independent line for auditors to report directly to the audit committee so as to enable to express any of their concerns about management.

5.5 Areas for Further Research

The study recommends future studies to find out other factors that influence the mitigation of tax fraud among large tax payers at KRA since staff training, technology adoption, system surveillance and forensic auditing of internal controls all account for 60.4% of the variation in effective mitigation of tax fraud among large taxpayers in Kenya. Since this study focused on only large taxpayers, there is a need to focus on smaller contextual scope such as SMEs so as to compare the findings.

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APPENDICES

Appendix I: Introduction Letter

Dear Participants,

I am a student of Dedan Kimathi University of Technology. I am conducting a research to *examine the effect of tax fraud mitigation strategies on revenue collection among large tax payers in Kenya Revenue Authority*. Kindly fill up this information and return. Any information obtained for this purpose will be kept strictly confidential and will only be used for academic purpose. Your cooperation will be highly appreciated in this regard.

Thank in advance.

Yours truly

Irungu John Mwangi

Research Student

Appendix II: Questionnaire

This questionnaire is designed to gather information so as to investigate the effect of tax fraud mitigation strategies among large tax payers in Kenya Revenue Authority. The information you give shall be used for study purposes only. Please do not indicate your name. Respond to each item as honestly and correctly as possible by putting a tick or filling in blank spaces where applicable.

SECTION A: RESPONDENTS DEMOGRAPHIC INFORMATION

1. Please indicate your age bracket

- a) Below 30 years
- b) Between 31 and 35 years
- c) Between 36 and 40 years
- d) Between 41 and 45 years
- e) Over 45 years

2. What is your level of education?

- a) College level
- b) University level
- c) Post graduate

3. For how long have you been working at Kenya Revenue Authority?

- a) less than 2 year
- b) Between 2 to 5 years
- c) Between 6 to 10 years
- d) Over 10 years

SECTION B: Staff Training

1. For each of the following statement about staff training as a mitigation strategy, please indicate by ticking the extent to which you agree with the statements.

No.	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Kenya Revenue Authority staff have adequate training					
2	Training has enhanced the public level of understanding of various tax regimes of tax compliance					
3	Kenya Revenue Authority staff have know-how on the operation of I tax systems					
4	The organizations have qualified personnel to used advanced technology to combat fraud.					
5	The organization have regular awareness seminars on tax evasion and fraud					

SECTION C: Advanced Technology

1. For each of the following statement about advanced technology as a mitigation strategy, please indicate by ticking the extent to which you agree with the statements.

No.	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	The organization had adopted ICT using software's to detect and mitigate fraud.					
2	The organization uses forensic data analysis to assess and combat fraud.					
3	The organization uses digital analytical tools to detect and combat fraud.					
4	The organizations have fingerprint and cornea identification systems to combat fraud					
5	There is use of ICT protection tools such as firewalls and computerized control systems.					

SECTION D: System Surveillance

1. For each of the following statement about Surveillance as a mitigation strategy, please indicate by ticking the extent to which you agree with the statements.

No.	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Supervision and job rotation assist are practiced in the LTO Section					
2	The organization uses neural networks in the prevention of electronic funds transfer fraud					
3	The organization have a 24 hour surveillance system of their operations and Restriction of access to valuable information					
4	The organization have close circuit vision for monitoring					
5	There are proper monitoring and prevention measures					

SECTION E: Forensic Auditing of Internal Controls

1. For each of the following statement about Auditing of internal controls as a mitigation strategy, please indicate by ticking the extent to which you agree with the statements.

No.	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	The organization occasionally evaluates financial statements to ensure that records are fair and accurate.					
2	The organization conducts pro-active auditing to search for any cases of corruption.					
3	Auditors also have an independent line and					

No.	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	report directly to the audit committee to allow them to be able to express any of their concerns about management					
4	Auditing done in the organization has helped promote effective communication with the organizations top managements.					
5	Auditing activities in the organization have helped reduce fraudulent cases.					

SECTION F: Amount of Tax Fraud Detected

1. Kindly indicate the approximate yearly amount of Tax Fraud detected in the organization between the years 2012 and 2016

Amount in KShs/Year	Below 750M	750 M-1 Bn	1.5Bn-2 Bn	Above 2 Bn
2012				
2013				
2014				
2015				

2. How often do tax fraud cases occur in your group organization of Tax payers in a year?
 - i. Between 1 and 3
 - ii. Between 3 and 5
 - iii. Over 5 times
3. Kindly indicate the approximate number of reported tax fraud cases in your organization per year.
 - a. Below 20 reported cases

b. Between 21 and 35 reported cases

c. Above 35 reported cases

4. Please indicate extent to which you agree with the statements on the effects of fraud tax mitigation strategies on revenue collection at Kenya Revenue Authority for the last five years.

No	Statement	Very low extent	Low extent	Moderate extent	High extent	Very high extent
1	There is an increase in revenue collection					
2	Frequent Auditing has led to higher revenue collection					
3	Target set for collection is realistic					
4	Kenya Revenue Authority has been meeting its target					
5	Collection has improved over the year					

Thank you for your participation!