

**INFLUENCE OF FORENSIC ACCOUNTING PRACTICES ON FRAUD MITIGATION  
AMONG PUBLIC SECONDARY SCHOOLS AT EMBU COUNTY IN KENYA**

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**A RESEARCH DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE  
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## DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for examination of a degree. Where materials have been written or published by another person, they have been appropriately used, and the author duly acknowledged and referred.

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## ABSTRACT

The link between forensic accounting practices and fraud mitigation has remained a paradox over the years. Some studies argued for a positive relationship, others for a negative one, and others argue that there is no apparent relationship. This study determined the influence of forensic accounting practices on fraud mitigation among public secondary schools in the Embu County government in Kenya. The specific objectives of this study were to determine the influence of fraud investigation on fraud mitigation among public secondary schools in Embu County, Kenya, and to evaluate the influence of dispute resolution on fraud mitigation among public secondary schools in Embu County, Kenya and to assess the influence of litigation support on fraud mitigation among public secondary schools in Embu County, Kenya. The researcher conducted a census in the 132 Public Secondary schools in Embu to collect data. A self-administered semi-structured questionnaire was used to collect data from 132 respondents. The survey collected data from one respondent per school. Consequently, the respondents were the departmental accountants from each school. The study used qualitative and quantitative data collected using questionnaires and analyzed using multiple linear regression and through SPSS software. Some theories that supported this research include; routine theory, deterrence theory, and rational choice theory. The research used a hypothesis test at a 95 percent level of confidence to obtain inferential data, including normality and multicollinearity tests. Moreover, the independent variables were the availability of fraud investigation systems, dispute resolutions, and litigation support. The conclusions were based on the research's findings and recommendations. The study established that forensic accounting practices can help in fraud mitigation among Public Secondary Schools in Embu County, Kenya. The researcher concluded that there was a strong relationship between forensic accounting practices such as fraud investigation, dispute resolution and litigation support and fraud mitigation among Public Secondary Schools in Embu County. Forensic accounting practices also accounts for 63.0% of the total variance. The study recommends that institutions should put in place the above measures, forensic accounting practices so as to help prevent and curb fraud. The limitation of the study was that the data that was required was sensitive hence not easy acquiring it and the researcher did not have control over the responses given. There is need for a similar study to be conducted among Private Secondary Schools as well as Public Secondary Schools in different counties so as do a comparison of the findings and get to understand how to help in curbing fraud.

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## **DEDICATION**

This dissertation paper is dedicated to my parents, Margaret Mwika and Esther Koome, whose unending love, support and encouragement have enriched my soul and inspired me to pursue and complete this research. Thank you for making me see this adventure through to the end.

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## **ABBREVIATIONS AND ACRONYMS**

**AML:** Anti-Money Laundering

**ANOVA:** Analysis of Variance

**ATM:** Automated Teller Machines

**BFID:** Banking Fraud Investigations Department

**FBI:** Federal Bureau of Investigations

**GDP:** Gross Domestic Product

**ICPAK:** Institute of Certified Public Accountants

**KES:** Kenya Shillings

**NSE:** Nairobi Securities Exchange

**PWC:** Price Warehouse Coopers

**PwC:** PricewaterhouseCoopers

**SACCO:** Savings and Credit Cooperative Organizations

**SASRA:** Sacco Societies Regulatory Authority

## OPERATIONAL DEFINITION OF TERMS

**Dispute Resolution:** Refers to Bringing together the views of opposing parties to develop a workable agreement by way of Arbitration or Mediation (Akelola, 2015).

The colluding parties may solve the fraud cases through dispute resolution.

**Fraud investigation:** employs accounting and investigative skills to determine whether criminal matters such as employee theft, securities fraud (including falsification of financial statements), insurance fraud, and identity theft have occurred (Ahmed, 2020).

**Fraud mitigation:** Involves applying various methods to prevent fraud in an institution. Similarly, it involves employing other mechanisms to deter fraud. Notably, qualified personnel are involved in exposing fraud (Beach & Schieffelin, 2014).

**Litigation Support:** In a litigation process, it helps handle a problem that is accounting in nature (Bhasin, 2015). It helps to quantify economic damages. Similarly, it helps calculate economic loss due to a breach of contract.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

Forensic accounting involves employing investigative skills and accounting to assess an individual or firm's finances. Current developments and changes have led to increased levels of economic and financial crimes which have necessitated the need for forensic accounting practices. The auditing process has been integrated into forensic accounting. Consequently, forensic accounting is helpful in legal proceedings due to its analytic behavior (Agnew, 2020). It is worth noting that accountants would dig deeper using forensic accounting to collate and examine the evidence. Similarly, accountants adopted forensic accounting and law and investigation skills to interpret and communicate findings and reviews (Bhasin, 2011). There are several forensic accounting methods—forensic investigation, document reviews, audit, and arbitration skills.

It is worth noting that fraud is attributed to economic stagnation in Kenya's public and private sectors. Hence, fraudulent activities are prevalent in entire sectors of the Kenyan economy. The operations of many organizations have been crippled by various management teams of key national corporations. Financial dishonesty is the leading cause. For instance, some key corporations, such as the National Bank in Kenya, collapsed and were sold to Chase Bank and Imperial Bank, which were established recently (Omondi, 2013). Consequently, many firms in Kenya, such as Bulk Medicated Limited and Computer Management Corporation (CMC) motors, are victims of financial dishonesty and deception, which had contributed significantly to their downfall.

Fraud cases have been witnessed in different countries, both developed and developing countries. The ACFE's (2014) report suggests that more than forty percent of professional fraud is recorded annually, significantly attributed to the loss of funds, (Behrend & Eulerich, 2019). In most cases, company workers, customers, rivals, and friends help witness fraud. Consequently, they are crucial in informing an instance of fraud. Establishing an appropriate anonymous reporting mechanism for fraud occurrences is vital since most employees hesitate to report them bravely (Bhasin, 2016). Hence, an institution would establish a secure website or hotline for employees to report fraudulent activities. A recent study about forensic accounting in public institutions in Kenya suggested that most organizations employing traditional accounting do not link information with intuition (Julius & Stanley, 2021). It was worth noting that forensic accounting has a higher chance of preventing fraud occurrence than traditional accounting. The main reason is that it integrates intuition during fraud investigation (Biegelman & Barlow, 2012). Forensic accounting establishes whether physical or electronic evidence exists. Hence, it contributed to the review process for office journals and other documents. For that reason, firms should adopt forensic accounting practices.

The United Kingdom is a perfect example of the adverse effects of fraud incidences. For instance, a recent study by the Audit Commission of the UK (2012) suggested that the national and devolved government units had greatly been affected by fraudulent activities (Bierstaker, Brody & Pacini, 2006). In other words, most of its sectors had lost a substantial amount of money annually to fraud. Similarly, major world entities such as Maxwell and WORLDCOM have also been victims of fraud. As a result, most professional accountants have been in a difficult position. Existing studies suggest that lack of appropriate policies on fraud is one of the leading causes of the rapid increase in fraud cases (Musalam & Kukreja, 2015). Consequently, these studies recommended implementing policies in organizations to control employee behavior.

It has been noted that a recent study focusing on the United Kingdom and other European countries finds few studies on fraud detection and mitigation in the African and East African regions (PricewaterhouseCoopers, 2011). Nonetheless, a survey on the banking sector conducted by PwC in Zambia, Uganda, Tanzania, and Kenya suggests severe fraud in the region.

Similarly, the existing literature has concentrated on the West African region (AbdulRasheed et al., 2012). In other words, few studies have focused on the different areas in Africa. Nonetheless, Kingsley (2012) surveyed the private sector and revealed that various factors contributed to fraud.

Dispute resolution helps resolve fraud disputes. Therefore, if an individual has been the target of fraud, the best way to recover funds is through accessing legal advice. Legal advice helps the individual know what they could do to seek compensation. Similarly, it ensures the future safety of an individual from fraud. On the other hand, Litigation support is crucial for an institution to win fraud cases. The main reason is that it helps these institutions to consolidate the evidence.

Additionally, Litigation support helps in translating complex financial problems. Consequently, incorporating litigation support increased the success rate in a prosecution since it allowed litigation support professionals to act as witnesses (PricewaterhouseCoopers, 2011). It has been noted that fraud investigation is necessary to understand what behavior occurs, the individual responsible and how it happened. In other words, institutions do fraud investigations to mitigate damage quickly and financial loss. Notably, fraud investigations could help prevent reputational damage to these institutions.

### **1.1.1 Forensic Accounting Practices**

Forensic accounting practices involves the whole process of carrying out forensic investigation, including preparing an expert's report or witness statement, and potentially acting

as an expert witness in legal proceedings. Fraud detection and prevention could be improved by implementing a comprehensive fraud investigation system (Choo, 2011).

The strategies used to get fraudsters in developing countries needed to keep evolving because fraudsters in these countries were becoming cleverer due to technological improvements (Clarke & Felson, 2017). For government occupation fraud, Kenya ranked first with a rate of 66%, double the global average of 34% (Ogutu and Ngahu, 2016). Organizations were covering up fraudulent activities for fear of losing their reputation had made it challenging to investigate, identify, and prevent fraud (Omondi, 2013).

Forensic accounting practices include data mining. Data mining is the practice of searching huge volumes of data to establish patterns (Wells & Joseph 2006). Data mining is used by forensic accountants to provide models of database so as to help in identifying trends and relationships among data. Data is very crucial in all organizations and can give crucial information when analyzed and interpreted by experts. Through data analysis, forensic accountants can be able to develop fraud profile from the existing patterns within the database and through such patterns fraudulent activities can be uncovered. Data mining also helps to detect any discrepancies in data that should be uniform (Ekeigwe, 2010).

Ratio analysis is also used by forensic accountants to examine data patterns. Ratio analysis helps to identify possible fraudulent activities and reveal anomalies in large volumes of data. Ratio analysis helps to detect specific transactions which may be differing from the trends that had been established previously.

Forensic accountants also use trend analysis to analyze movement of inventories. It helps to differentiate normal and abnormal transactions using the information gathered. The patterns observed can be used to make conclusions regarding the transactions. Any unusual transactions,

patterns or behavioral change attracts the attention of the forensic accountant. This technique helps to scrutinize critical data instead of wasting time reviewing the normal transactions. The technique can be used to follow and study behavior of suspected employees over time.

Digital Investigation Manager (DIM) is also a tool used in digital investigation. The tool is used to support and preserve digital evidence during computer forensic and incidence response operations (Accountant Search 2011). Digital investigation forensics helps to summarize all material information collected during investigations.

Encase tool is also used to analyze digital media such as hard drives, networks, database servers and flash disks during investigations. The tool has been used around the globe and is globally known as a world leader in digital forensics, cyber security and e-discovery (Oliver & Shanoi, 2006).

Fraud investigation involves the use of forensic techniques and tools to examine whether fraud has been perpetrated and collect factual evidence to support the findings (Silverstone, Horward & Michael, 2004). Forensic accounting practices employ various techniques of fraud investigation which include data mining and encase tool. Encase tool is a forensic accounting toolkit used to analyze digital media such as drives, database servers and flash discs during investigations. The tool is a world leader in digital forensics, cyber security and e-discovery (Oliver & Shanoi, 2006). Data mining can be defined as the practice of searching huge volumes of data to establish patterns (Wells & Joseph, 2006). The tool is used to trends and relationships among data. Data can give useful information about an organization when it is analyzed by experts. Out of the data analysis done, forensic accountants can develop fraud profiles from the existing database patterns hence the investigator can be able to uncover fraudulent activities. It can also help to show any red flags that can will detect discrepancies in data.

Litigation support refers to the process by which accountants familiar with the commercial disputes provide consultation and advice to lawyers or assist attorneys to prosecute or defend a case in a court of law (National Association of Academics Journal, 2009). Litigation support entails providing relevant information and documentation and evaluating the losses upon conclusion of a court case. It incorporates a variety of skills but ends by forensic accountant giving an opinion in a legal system as an expert on whether fraud has occurred. Omonyi (2004), stated that the purpose of an expert witness is to help the court to draw a conclusion on a matter on which the court on itself may not have required knowledge to decide. It also incorporates document examination so as to help determine any cases of forgeries and alterations on documents. On top of this, litigation support helps in; obtaining major documents to be used as evidence necessary in approving or disapproving a claim, evaluation of relevant documents in the initial review the case in order to determine possible areas of loss and to assist in negotiating settlement discussions and providing oral evidence during trial if the case must be determined in a court of law.

Dispute resolution refers to the process by which parties are encouraged to resolve their disputes without necessarily going through a trial (Fraud Examiners Manual, 2017). Dispute resolution has advantages over litigation support because it helps to protect the reputation of the business or the parties involved. It also provides an easier and less costly way to settle matters. Dispute resolution can use arbitration or mediation. Arbitration is the process where a dispute is placed before an independent third party (arbitrator) who determines the outcome, (The Fraud Examiners Manual, 2007). Mediation process emphasis that the use of experts is key to providing all parties with information to the best value in resolving their differences. The role of a forensic accountant in dispute resolution would involve identification of the various heads of loss and computation of the losses so as to help to reduce the differences in data which might hinder the parties from getting to an agreement.

### **1.1.2 Fraud mitigation**

An organization could reduce fraud by monitoring employee behavior. Consequently, the top-level management needed to understand employees by spending time with them. Hence, a change in employee behavior could be a warning sign (Feakes, 2017). Similarly, a firm could use it to identify internal issues. A change in an employee's demeanor could be one of the key elements to look out for. However, this would also help the company become a better workplace, with happier workers and less fraud.

Observing and listening to staff would also yield additional information. After talking to the employee, it came out that his brother lost his job and he was living with the employee and his family (Gilboa, 2012). It would send a warning indicator of impending fraud. Sadly, the perpetrator of the crime was frequently one of your employees. It was critical to get to know and converse with your staff (Mukoro, Yamusa & Faboyede, 2014). All employees were affected by awareness. Organizational members would be familiar with the policy's definitions and implications for different forms of fraud (Gilboa, 2012). Those contemplating fraud would be aware that management was keeping an eye on them, which would serve as a deterrent. Honest workers who weren't enticed to perpetrate fraud would also be alerted to symptoms of fraud or theft (Omondi, 2013). For your company's assets to be safeguarded, it meant accounting records were to be accurate, and to discourage and identify fraud and theft, you needed to have internal controls in place (Koh, Arokiasamy, & Suat, 2009). Internal control measures such as the segregation of tasks had been shown to decrease fraud.

Internal control procedures would be reviewed and updated regularly to remain relevant and thriving in the face of ever-evolving technology and other factors (Giles *et al.*, 2015). Engaging a professional with expertise in this area would be best if you didn't already have an

internal control system or fraud prevention program (Bédard, 1989). An expert would review the company's policies and processes to make recommendations and aid with implementation.

Establishing anti-fraud policies and processes would benefit significantly from the expertise of many of your company's employees, including Certified Fraud Examiners, Certified Public Accountants, and CPAs certified in Fraud Forensics (CFF) (Dastidar & Yano, 2021). While some of these specialists had the expertise and reputation for providing excellent service for the needs, not all were the right fit for you (Giles *et al.*, 2015). Accountants, fraud examiners, and other specialist experts who had access to sensitive corporate information, such as bank account numbers, had a reputation for providing excellent service and being trustworthy (Howell, 2017). A complete forensic investigation, audit, and essential financial counselling services would ensure that your confidential information was always protected.

### **1.1.3 Public secondary schools at Embu**

Public secondary schools in Embu suffered from fraud cases whereby funds allocated were misappropriated by the management and the staff. There were 132 public schools in Embu, most of which suffered fraud cases. Most fraud cases were usually held private due to a lack of forensic accountability (Joseph, Albert, & Byaruhanga, 2015). The school staffs and employees usually misused the school-allocated funds and made this a habit since the law did not punish them. Some public secondary schools in Embu lacked development in academics and school infrastructure due to misappropriation of the allocated funds.

In Kenya, it is noted that the Ethics and Anti-Corruption Commission (EACC) was formed as a government body responsible for conducting fraud investigations. It helped ensure various reforms were implemented to counter fraud across the country (EACC report, 2017/2018). Similarly, the agency has performed Corruption Risk Assessments (CRAs) in many public

secondary schools in Kenya. The main objective was to identify the risk of fraud in those county schools in order to implement strategies to mitigate it. Effective Declaration of Income, Assets, and Liabilities in the public secondary school's management in Embu County had been applied to curb fraud in public secondary schools in Embu. Still, it had not been effective (EACC Report, 2018).

## **1.2 Statement of the Problem**

The public sector in Kenya is characterized by extensive corruption and fraud over the years which costs a lot of taxpayers' money. According to the auditor general report fraud costs Kenya approximately 4 billion annually. In 2013, public sector players were victims of more than half the KSH. 4.1 billion Frauds in East Africa since technology has made crime easier (Omondi, 2013). This has led to decline in the performance of the public sector occasioned by porous financial systems and poor detection of fraud and fraud detection and mitigation. A lot of resources in terms of finances and time are used to develop government policies against fraud, implementing internal control mechanisms, risk management strategies and employee training to adhere to fraud detection and mitigation measures. The costs of fraud are passed to the citizens in terms of opportunity costs, high cost of goods and services and criminal activities which are funded by the proceedings of fraud. This study therefore seeks to establish the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya.

Scholars have had their focus on the impact of forensic accounting on the performance of organization (Gbegi & Habila, 2017; Mohamed *et al.*, 2019). Kolapo and Olaniyan (2018) focused on the effect of fraud investigation on performance of organizations. The study by Basse and Ahonkhai (2017) focused on the relationship between litigation support and the prevention of fraud in organizations. Abdullahi and Mansor (2018) conducted a study on the initiatives put in place by

organizations to prevent fraud. The study conducted by Gbegi and Habila (2017) determined the effects of the evidence forensic accounting on litigation services. These studies clearly depict a conceptual gap that this study sought to fill by establishing the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya.

Further, the empirical studies which have been done in Kenya on forensic accounting have focused on the strategies of fraud mitigation with limited link to forensic accounting practices (OGW, Kiragu, & Riro, 2019). The other studies have also focused on companies listed in the Nairobi Securities Exchange (Wahinya & Ondigo, 2017) which are members of different sectors in the economy. The international studies have focused on manufacturing industry (Okoye & Ndah, 2019), chemical, motor vehicles and machinery industries (Jabar Soosay, & Sant, 2011) and large and medium sized industries (Protogerou, Caloghirou, & Lioukas, 2011), leaving the secondary schools' sectoral contexts less researched. This study seeks to close this gap by conducting research on the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya

To add, most studies which have been conducted on fraud mitigation have used descriptive research design where they provided the mean and standard deviation and others have used correlational study designs. Nyaga (2016) on control mechanisms and their influence on risk mitigation used description of means and standard deviation. Omar *et al.* (2013) on mitigating fraudulent cases in public institutions used correlational design. Nwankwo (2013), in a study on fraud mitigation used descriptive of means and standard deviation. Bhasin (2016) conducted a study investigating the impact of forensic accounting skills in Asia and used correlational study design. This study seeks to close the gap by using regression analysis to test the hypothesis of the study.

A report released by the EACC in 2018 had highlighted high cases of fraud in 78 schools in Embu County. This report prompted the need to conduct this study to determine the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

The general objective of this study is to establish the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County government in Kenya.

#### **1.3.2 Specific Objectives**

1. To determine the influence of fraud investigation on fraud mitigation among public secondary schools in Embu County, Kenya
2. To assess the influence of dispute resolution on fraud mitigation among public secondary schools in Embu County, Kenya
3. To evaluate the influence of litigation support on fraud mitigation among public secondary schools in Embu County, Kenya.

### **1.4 Research Hypothesis**

1. Fraud investigation does not have a significant influence on fraud mitigation among public secondary schools in Embu County, Kenya
2. Dispute resolution does not have a substantial influence on fraud mitigation among public secondary schools in Embu County, Kenya

3. Litigation support does not have a significant influence on fraud mitigation among public secondary schools in Embu County, Kenya

### **1.5 Justification of the study**

The study is important because the findings derived from the study shall help Public Secondary Schools to adopt forensic accounting practices that can help in fraud detection and mitigation. It will give evidence on the impact of forensic accounting practices on fraud mitigation hence making it easier for adoption of the practices.

The study findings shall be used as researchers as a source of reference. It shall also form a basis and insights on more items for research.

### **1.6 Significance of the Study**

#### **1.6.1 County Governments**

This research aimed at identifying and poking holes in accounting departments that had failed to curb fraud in accounts departments. The study provides a great source of information to the county governments to curb loose internal controls and foster greater productivity.

#### **1.6.2 Public Secondary Schools**

This study is a great resource to the public secondary schools in providing mechanisms to minimize or close the existing loopholes regarding funds misappropriation. Similarly, it helps the schools reduce their financial problems, result in increased financial savings and provoked even more developments in terms of infrastructure in these schools.

#### **1.6.3 Researchers**

This research is significant for researchers planning to conduct forensic accounting research in different public schools in different counties, such as Nairobi, Mombasa, and Nyeri. Researchers

would not only get insights into the proposed areas for further research, but this also gave ideas for their future research topics. Researchers also find this study helpful in providing rich literature to support their research works.

### **1.7 Scope of the Study**

This study was limited to determining the influence of forensic accounting practices on fraud mitigation among public secondary schools. The independent variables were fraud investigation, dispute resolution, and litigation support. The study was conducted in the context of Public secondary schools in Embu County in Kenya.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter provides the existing literature on forensic accounting practices and fraud control. Similarly, the chapter presents a discussion on the theoretical review and empirical literature review. The discussions in those sections helped in developing a conceptual framework. Lastly, the chapter concludes with a summary of the literature review.

#### **2.2 Theoretical Review**

##### **2.2.1 The Theory of Routine Activities**

Felson and Cohen first published this theory in 1979. People who committed property crimes were the first to be targeted by Routine Activities Theory. Still, it had since been applied to various deviant behaviour, including fraud. Organizational diversity had made it impossible for fraudsters to avoid coming into contact with legitimate employees (Clarke & Felson, 2017). As a result, the theory had been critical in the fight against fraud, as it posited that everyday tasks conducted by employees served as a foundation for effective fraud prevention. Undoubtedly, fraud would occur if personnel were left unsupervised, and fraud deterrent mechanisms were ineffective without substantial barriers, according to the routine activities' hypothesis (Gilboa, 2012).

Falsehood happened when an incompetent guardian came into contact with a motivated criminal. Using the Routine Activities Theory, management would better comprehend the difficulties of fraud prevention and detection (Howell, 2017). A fraudster's traits were analyzed by identifying the actions that lead to fraud to develop measures to stop it. Thus, according to the

notion of routine activities, the likelihood of dishonest behaviors in an organization could be reduced if proper management was in place.

Numerous characteristics of fraudulent behavior were explained using Routine Activities Theory. Routine Activities Theory, for example, asserted that a company's many different job functions provided opportunities for fraud (Feakes, 2017). Another consideration was how employees' job duties and daily routines affected potential fraud in the firm.

Routine Activities Theory was an example of environmental theory, in which people's relationships were aligned with the place and time for fraud in County government schools (Clarke & Felson, 2017). As a result, fraud occurred if there was nothing to prevent it from occurring in the presence of fraud perpetrators who could do so. Fraud became more prevalent if safeguards against it were lacking.

The motivated offender was the second component of the Routine Activities Theory (Clarke & Felson, 2017). Rather than underestimating the fraudster's abilities, a motivated offender sought to discover numerous characteristics present in a fraud incident when fraud targets were present. Fraudsters committed the crime if they believed they had the best chance of succeeding. It was also possible that the fraudster was aware of the potential benefits or risks they would face when being detected. As a result, even if the law was on their side, a determined criminal would be persuaded to break the rules regardless of the circumstances.

Incompetence and greed of guardians, as well as the availability of fraud targets, caused inconsistencies in the ordinary tasks of an organization (Clarke & Felson, 2017). Fraud was more likely to occur if aspects of normal operations provided opportunities for fraud. It was also important to note the Routine Activity Theory's claimed that fraud was not a social problem. There was a good chance that fraudsters would discover a suitable target and avoid detection. As a result,

not everyone in society would be involved in fraud control, leaving institutions responsible for alleviating it.

The study examined the connection between routine activity theory and identity theft victimization using high school students in Embu's public secondary schools to increase their understanding of forensic accounting methodologies. Consequently, the study investigated the probability that high school students became a victim of identity theft in the future. The theory was ideal in this study in explaining how routing events by accountants were likely results in fraud and how forensic accounting practices therefore came into play to mitigate such fraudulent cases. The theory was used to explain fraud investigation.

### **2.2.2 Theory of Deterrence**

Two of the greatest philosophers of the 18th century, Bentham (1948) and Cesare (1963), were avid devotees of the deterrence theory (Schneider, 2019). They said people were self-centred and only cared about living stress-free lives. Initially, it was derived from criminology and applied to curb criminal activity. Fraud became a regular aspect of criminal activity as time went on. Individual fear of punishment would warn fraudsters that their actions were being scrutinized, and the repercussions could be dire following this notion.

As a result of these studies, it was proposed that fraud management policies were employed to counter employee fraud. Hence, it was difficult to determine whether fraud deterrence strategies had effectively reduced fraud, as Schneider (2019) pointed out in the study. Employees were better comprehending the implications of their behaviour if fraudsters were punished (Dastidar & Yano, 2021). There were a variety of conditions in which employees were or were not supporting or impeding fraud control. Failure to follow financial control measures lead to fraud in most firms (Dongho & Soojung, 2020). Fraud was alleviated if firms updated their policies on fraud control.

The notion of deterrence stated that employees who received harsh punishment were less likely to engage in fraudulent behavior, which would be helpful in the fight against fraud. It was difficult to determine whether fraud deterrence strategies were effective in fraud control since they were tough to evaluate and monitor (Chukwugeku & Nkemjika, 2022). However, even with the help of forensic accountants, keeping tabs on staff could be time-consuming and expensive. For example, employees would become demoralized if they knew forensic accountants regularly monitored their actions. However, despite the difficulties in monitoring employee behavior, the principle of deterrence had been widely applied in many firms to prevent and detect fraud (Adelopo, 2010). Complexity and significant disparities in fraud control systems were to blame for this. Because of this, the most appropriate fraud control theory was deterrence.

Internal personnel who might have colluded with self-serving employees or other outside parties in the business were relevant in this study. The main reason was that fraud could not occur spontaneously; those within the organization planned it. Fraud prevention techniques could be built to eliminate various camouflaging patterns that encouraged business fraud using the Deterrence Theory, which was utilized to identify future fraudulent possibilities. Incorporating fraud deterrent methods would be a short-term solution, but they could help prevent future frauds (Adeniyi & Mieseigha, 2013). Fraud detection and deterrent were two distinct concepts in fraud prevention. Fraud detection, on the other hand, required a review of previous transactions to determine if any fraud happened (Adetiloye *et al.*, 2016). A thorough analysis of current controls was necessary to determine whether or not fraud would occur in the future, which served as the basis for the notion of deterrence.

This theory was useful in this study since using the deterrence Theory, institutions could gain insight into the contribution of litigation support and dispute resolution in fraud mitigation. Also,

the theory would be used as a foundation for incorporating fraud management strategies such as prevention, detection, investigation, and dispute resolution in Embu's public secondary schools to better understand forensic accounting methodologies. This theory was used to explain the role of litigation support in fraud mitigation.

### **2.2.3 Theory of Anomie**

Emile Durkheim first offered this theory in 1897. As a self-governed society advocate, Durkheim Emile pushed to devise various solutions to stop deviant behavior (Bernburg, 2019). According to Emile's concept of Anomie, there was fraud because there were insufficient resources to meet everyone's requirements. Fraud, according to him, was caused by an inability to satisfy one's current desire due to a lack of resources to do so (Agnew, 2020).

Fraud had been extensively studied by Ferson (1923), who pointed out how fraud contributed to society's moral deterioration. Dissatisfaction with the lack of equal and universal chances in society could lead to greed in an endeavor to control finite resources (Mabeya *et al.*, 2016). Inequality and Anomie took hold when societal needs and the means to obtain riches were at odds. In an anomic society, the communal responsibility for managing public resources was being eroded, leading to increasingly reckless behavior motivated by personal gain (Bentham, 2018). Unfortunately, social equality was still a concept that could only be read about in dictionaries due to unfavorable societal and economic situations (Bilbeisi & Brown, 2015).

Fake money was born because of inequality in the lower socioeconomic strata's desire to collect large sums of money in unconventional methods so that they would become even richer (Agnew, 2012). Four ways in which employees respond and adapt to anomic situations included: following the fraudsters' standards, creating new ways to commit fraud, making fraud a habit, and breaking the norms and regulations of the firm (Boateng *et al.*, 2010). It was possible that adopting

new ways of doing things could lead to a disregard for social norms. Similarly, it contributed to a rise in corruption and fraud that could undermine the qualities of stewardship and accountability (Caskey *et al.*, 2010).

The most prevalent sign of a false habit was behavioral change and the formation of odd behaviors (Ahmed, 2003). Exaggerated hopes resulted from a mismatch between personal desire and the possibilities visible to the naked eye causing anomic pressure and fraud offenses. Due to the widening gap between the rich and the poor, fraud was rising in the twenty-first century. As a result, it was possible to see corruption and fraud as the result of a tension between the "desire for wealth" and the "realization of that goal."

Forensic accounting was consequently the subject of the study to prevent anomic pressure (Ramos *et al.*, 2007). Notably, public servants with distinguished professions and experience had abused their positions of trust and leveraged their power to commit fraud and get away with it (Akelola, 2015). It was unclear how County Governments could develop ways to reduce anomic pressure.

Every government had regulations that defined acceptable behavior in the executive branch and local governments (Akelola 2012). Individuals, however, would adopt the 'perceived values' inherent in the public service, which would be contradictory to the expectation of good governance, and engage in fraud due to their daily interactions (Alabdullah *et al.*, 2013). Norms for fraud control would not be acknowledged by everyone in a culture where "everything appeared normal," which could lead to normlessness or "anomie."

Because most public secondary school personnel in Embu believed that fraudulently collecting riches is usual in government institutions, the anomie theory was relevant in this study. Anomie may lead some employees to resort to deception to close the pay gap they perceived between their actual needs and their monthly paycheck (Omondi, 2013). A solution for Anomie,

as Durkheim suggests, is forensic accounting, which resulted from the government's inability to handle fraud and the public sector glorifying fraud (Bologna & Lindsquist, 1993). Anomic pressure would be reduced if forensic accounting techniques were used, as employees would know that forensic accountants monitor their every move.

This theory was useful in this study as it helped to investigate how specific social structures pressure the staff and employees cause fraud. Consequently, the study adopted the theory to investigate how the accounting staff in Embu's public secondary schools were influenced to engage in an unlawful manner leading to fraud and thereby explaining possible solutions to the same in a bid to mitigate fraud. This theory helps to understand the role of dispute resolution in fraud mitigation.

#### **2.2.4 Rational Choice Theory**

Cesare Beccaria first offered this theory in 1764. The theory argued that white-collar crime was a form of balancing choices. Consequently, Cesare Beccaria explained that the choice was balanced to get the best out of them (Bolton & Hand, 2002). Hence, the choice with the best reward is (Gilboa, 2012). While creating this theory, Beccaria argued that if a crime was severe, it had a low probability of being repeated. Consequently, a crime would likely repeat itself if its benefits outweigh the costs. Hence, the rational choice theory was based on the utilitarianism philosophy premises. Similarly, using the rational choice theory, institutions could gain insight into the contribution of litigation support and dispute resolution in fraud mitigation.

Fundamentally, all individuals were rational decision-makers (Bolton, 2008). Hence, the theory argued that they were calculative in their actions to avoid facing the consequences of their actions. Therefore, a criminal act was more appealing if its benefits were anticipated to outdo the losses. Therefore, if institutions could employ quick and severe actions toward crime offenders, it

was more likely that the penalties would reduce the number of criminal activities. In other words, an institution could mitigate fraud depending on its punitive measures. Therefore, these institutions created fear of consequences to reduce fraud and communicate it effectively.

Most personnel in the public secondary schools in Embu were corrupt and engaged in white-collar crime (Amadeo, 2007). For instance, the school personnel could decide to skim money from the school accounts and hide the loss. Consequently, only a few people could have benefited from the funds to support their lavish lifestyle (Bonita *et al.*, 2017). Hence, personnel weigh the options of their choices. In particular, it was the leading cause of corruption in educational institutions. The main reason was that they decide that the personal benefit of their fraudulent activities outweighs any chance of them being caught (Brown *et al.*, 2013). Consequently, concerning fraud mitigation, the personnel could consider the available options, and the most attractive choice (Anand *et al.*, 2015). For that reason, the rational choice theory helped understand individual and collective behaviors.

The theory was useful in this study as it helped postulate a reasonable explanation of how repeated behavior could be reduced by enhanced stiff punishment. Further, the theory was valuable and multifaceted since it assessed a wide selection of criminal activity in the Embu secondary schools at an individual, group, and society level. The theory was of help in explaining fraud investigation and how it helps to mitigate fraud.

#### **2.2.5. Fraud Triangle Theory**

This theory was advanced by Cressey (1953) while he studied the fraudsters' behavior. He implied that the following factors have to be in place for fraud to happen. These include; pressure, opportunity and rationalization. In his theory, he asserted that for fraud to happen, the fraudsters

have to have an opportunity to commit the fraud. The fraudsters should have pressure to commit the fraud and they should be able to justify or provide a rationale for their actions.

Pressure is defined as factors that push people to bad behavior. All parties to fraud activities are under pressure either external or personal to commit the uncouth behavior. All perpetrators of fraud face some degree of pressure to commit unethical behavior (Mansor & Abdullahi, 2015). Opportunities occur when organization's internal controls are not effective enabling individuals to commit fraud. Hartley and Kelly (2010) stated that individuals will take advantage of loopholes or system weakness to commit fraud. Rationalization occurs when the fraudster is able to come up with a justification which is acceptable and moral for conducting fraud. The individuals who cannot justify their actions are less likely to commit fraud.

This theory is relevant to the study since it implies that motivation, opportunity and rationalization should be minimized among employees in order to reduce the fraud cases and secure the finances in the education sector particularly among secondary schools. The theory helps to explain fraud mitigation practices.

## **2.3 Empirical Review**

### **2.3.1 Fraud investigation**

Omar et al. (2013) evaluated the impact of forensic accounting practices on fraud mitigation for Institutions in Malaysia through investigative skills. Consequently, the study collected data from 50 respondents through well-structured questionnaires. A survey was conducted in the selected states. For instance, a fraud investigation was conducted by the ministry of education in the Klang Valley. The study findings explained that forensic accounting practice was a critical factor that helped the country mitigate fraud and reduce the crime rate. However,

due to the different geographical scopes and legal entities, it was challenging to employ the study in Kenyan education institutions.

Islam, Rahman and Hossan's (2021) researched on forensic accounting as a tool for detecting fraud and corruption in Bangladesh. It applied fraud investigation tools to detect and prevent fraud. The study evaluated the rate of corruption and deception in the country using structured questionnaires from 100 respondents. The study concluded that the rate of corruption and exploitation could significantly be reduced by adopting investigative accounting provided by forensic accounting practices.

Julius and Stanley (2021) conducted a study on the relevance of forensic accounting for detecting and preventing fraud in emerging economies. The study focused on the context of Nigeria to and was done through a descriptive research design. In addition, the study collected primary data from 250 respondents through a well-structured questionnaire. The study findings suggested that fraud could be mitigated significantly by focusing on forensic accounting practices. Also, the study argued that forensic accounting could ensure that traits such as relevance and transparency were incorporated. Fraud investigation supported by the forensic accounting practices was found to have a positive impact on detecting economic and financial irregularities in the Nigerian sectors.

In Kenya, Omondi (2013) studies on the Impact of forensic accounting services on fraud detection and prevention. Investigative skills were adopted to detect and prevent fraud among commercial banks in Kenya. The study adopted a descriptive research design methodology and with primary data from 47 respondents thereby analyzing data using inferential statistics. The study findings suggested that corruption and crime rates, especially fraudulent expense claims

were significantly reduced by implementing forensic accounting practices. The study reflected a significant gap in audit requirements in Kenya.

Kyalo, Kalio, and Ngahu (2014) conducted a survey study on the role of fraud prevention in enhancing effective financial reporting in Country Governments in Nakuru County, Kenya. The study focused on optimizing financial reports through investigative skills. Consequently, the study adopted a descriptive research methodology. A structured questionnaire was used to collect data from 106 respondents. The respondents consisted of procurement officers and accountants. The study findings suggested that enhancing financial statements contributed to fraud detection and prevention.

Waihinya and Ondigo (2017) researched on the effect of forensic accounting services among listed firms in the Nairobi Securities Exchange. The study focused on assessing the application of forensic accounting through investigative skills to mitigate fraud. Data was collected from the 61 listed NSE firms by administering a simple questionnaire. The study findings suggested that solid internal controls were useful in optimizing fraud mitigation mechanisms. Similarly, the study pointed out that periodic monitoring of the internal control results in fraud risk since fraudsters can identify and exploit them. Even though the study findings were conducted in Kenyan Commercial banks, they can still be applied to public institutions. The main reason was that they both work with people's valuable asset, money.

### **2.3.2 Dispute Resolution**

Okolo and Okwor (2019) conducted a study on dispute resolution techniques and fraud prevention in the Nigerian Banking Sector. The study focused on the arbitrations and mediation methods of dispute resolution techniques of forensic accounting practices. Notably, the study adopted a survey research design. The study findings suggested that the dispute resolution

technique significantly minimized fraud cases in the banking sector. The study recommended that the excess bank resources could be redirected to fund weaker sectors.

Mbugua's (2020) study determined the effect of dispute resolution in Kenya through descriptive and cross-sectional survey research design. A census method was used to gather data from 42 SACCOs in Nairobi County. Additionally, a well-structured questionnaire was used, along with inferential and descriptive statistics. The study concluded that dispute resolution was indispensable. The study findings were that dispute resolution helped optimize the disclosure of facts that could help detect and mitigate fraud.

Okeke (2021) conducted a study on the impact of alternative dispute resolution in solving criminal disputes in Nigeria. The study adopted qualitative research method and purposeful sampling technique. The study findings suggested that employing alternative dispute resolution had a positive impact on dispensing justice. The study found alternate dispute resolution to be effective in time and cost. Similarly, the study explained that adopting alternate dispute resolution would strengthen social stability. However, the study generalized fraud cases as criminal activities. It did not provide detailed analysis on the impact of dispute resolution on controlling fraud cases.

Kaunda (2021) assessed the effect of dispute resolution on fraud mitigation. The study applied descriptive survey research method with structured questionnaires. The study findings suggest that proactive measures need to be implemented to detect and mitigate fraud. In particular, the study established that adopting litigation processes and alternative dispute resolution mechanisms would strengthen investigative skills in the forensic accounting practices. Hence, alternative dispute resolution was found to be crucial in enhancing recovery of the lost funds.

### **2.3.3 Litigation Support**

Oyedokun's (2013) research assessed role of forensic accountants in litigation support services in Nigeria. The research focused on the Nigerian public institutions, specifically the chartered institute of taxation. The study adopted the content analysis method to collect data. The professionals in the related field were used to elicit the responses. Notably, there were limited studies related to this field. Consequently, the study adopts explanatory research. The study findings suggested that professional accountancy training was inefficient. Therefore, it would be improved by offering advanced training in forensic accounting to control the deficiency and risk of fraudulent activities in an institution.

Mukoro, Yamusa, and Faboyede (2014) conducted a survey study on the role of forensic accounting in fraud detection and national security on the impact of corruption in the public sector in Nigeria. The study applied forensic skills along with forensic accounting practice. The study combined litigation support services, documentation and reporting with investigative skills. Similarly, the SPSS tool was used to analyze the data. Consequently, it helped determine the effects on the variables. In addition, primary data was collected by administering questionnaires. The research was conducted in Nigerian public sectors in Lagos town. The study findings suggested that financial accounting practices effectively prevented fraud in the public sector through litigation support services. The main reason the industry successfully curbed corruption and deception was by establishing a mechanism to instil integrity.

Chepngeno and Fred (2020) studied the effect of litigation support services on fraud mitigation in firms listed at the Nairobi Securities Exchange, Kenya. The data was collected from all NSE firms using the purposive sampling method for forensic accounting services. The study employed descriptive and inferential statistics. Similarly, the SPSS tool was used to analyze the

data. The study findings suggest that litigation support services significantly correlate with fraud prevention.

Mbugua (2020) researched on the impact of forensic accounting practices on fraud detection and prevention among deposit taking SACCOs in Nairobi County. The study adopted a descriptive and cross-sectional survey research design. A census method was used to gather data from 42 SACCOs in Nairobi County. Additionally, a well-structured questionnaire was used, along with inferential and descriptive statistics. The study findings suggest that litigation support services correlate with fraud detection and mitigation.

Ng'ang'a (2015) conducted a survey study on the effect of litigation services on fraud prevention in insurance companies of Kenya. The study adopted a structured questionnaire to collect data from the 49 institutions. The study findings suggested that adopting financial accounting practices can significantly reduce crime rates by applying forensic accounting services. The main limitation of the study was that it did not provide mechanisms that could be used to mitigate fraud.

## 2.4 Empirical Gaps

<b>Author and Year</b>	<b>Title</b>	<b>Variables</b>	<b>Methodology</b>	<b>Findings and Gaps</b>
Mukoro, Yamusa, and Faboyede (2014)	The Role of Forensic Accounting in Fraud Detection and National Security	Fraud mitigation, Fraud Investigation, Forensic Accounting Practices.	Descriptive research design.	<p>Financial accounting practices effectively prevented fraud in the public sector.</p> <p>The study focuses on behavioural perspective. Hence, it does little to increase understanding on the technical details of fraudulent activities.</p>
Oyedokun (2013)	An Assessment of the Role of Forensic Accountants in Litigation Support Services (An explanatory approach)	Litigation support services, Forensic accounting Practices.	Explanatory research design.	<p>Professional accountancy training is inefficient. Therefore, it should be improved by offering advanced training in forensic accounting to control the deficiency and risk of fraudulent activities in an institution.</p> <p>The study does not expand the scope of the research to organizational and societal level.</p>

Okolo & Okwor (2019)	Dispute Resolution Technique in Fraud Prevention in the Nigerian Banking Sector	Dispute resolution, Forensic accounting practices.	Survey research design.	Dispute resolution technique significantly minimizes fraud cases in the banking sector. Consequently, excess bank resources can be redirected to fund weaker sectors.
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The study does not address the gap between forensic accounting practices and the internet fraud topics.

Omar et al. (2013)	The Relevance of Forensic Accounting in Public Sector	Fraud detection and Mitigation, and Fraud Investigation.	Survey research design.	Forensic accounting practice is a critical factor that helped the country mitigate fraud and reduce the crime rate.
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However, due to the different geographical scopes and legal entities, it is challenging to employ the study in Kenyan education institutions.

Islam, Rahman & Hossan's (2021)	Forensic Accounting as a Tool for Detecting Fraud and Corruption: An Empirical Study in Bangladesh	Fraud Investigation, Fraud detection and mitigation.	Empirical research design.	<p>The study concluded that the rate of corruption and exploitation could significantly be reduced by adopting forensic accounting practices.</p> <p>However, the study does not effectively address the data driven fraud detection methods.</p>
Julius and Stanley (2021)	The Relevance of Forensic Accounting for Detecting and Preventing Fraud in Emerging Economy like Nigeria	Fraud Investigation, Fraud detection using forensic accounting practices and fraud prevention.	Descriptive research design.	<p>Fraud can be mitigated significantly by focusing on forensic accounting practices.</p> <p>The study focuses more on forensic accounting practices as a preventive mechanism and less as an investigation tool.</p>
Omondi (2013)	The Impact of Forensic Accounting Services on Fraud Detection and Prevention among Commercial Banks in Kenya	Fraud detection and mitigation.	Descriptive research design.	<p>Corruption and crime rates are significantly reduced by implementing forensic accounting practices.</p> <p>The study did not utilize tools such as fraud audits and strengthening internal control in detecting fraud.</p>

Chepngeno & Fred (2020)	Effect of Litigation Support Services on Fraud Mitigation in Firms Listed at the Nairobi Securities Exchange, Kenya	Litigation support services, fraud detection and prevention.	Descriptive research design.	The study findings suggest that litigation support services significantly correlate with fraud prevention.
				The study does not provide many instances of litigation support professionals offering expert witness in courts of law.
Kyalo, Kalio, and Ngahu (2014)	The role of fraud prevention in enhancing effective financial reporting in Country Governments in Kenya'	Fraud detection and Prevention, Fraud Investigation.	Descriptive research methodology	Enhancing financial statements contributes to fraud detection and prevention.
				The main reason is that the study is specific to Nakuru County. Hence, they are more effective in Nakuru County.
Waihinya and Ondigo (2017)	The Effect of Forensic Accounting Services among Listed Firms in the Nairobi Securities Exchange	Fraud Investigation, fraud detection and mitigation.	Descriptive research design.	The study pointed out that periodic monitoring of the internal control results in fraud risk since fraudsters can identify and exploit them
				The study focuses more on forensic accounting practices as a preventive mechanism and less as an investigation tool.

Ng'ang'a (2015)	The Effect of Forensic Accounting Services on Fraud Prevention in Insurance Companies of Kenya	Fraud detection and mitigation.	Descriptive design methodology	Adopting financial accounting practices can significantly reduce crime rates.  The study does not adequately address the influence of governance in fraud detection and mitigation.
Kaunda (2021)	Effect of Forensic Accounting Practices On Fraud Mitigation Among Commercial Banks In Kenya	Litigation support services and Dispute resolution	Descriptive survey research method	Adopting litigation processes and alternative dispute resolution mechanisms strengthens investigative skills in the forensic accounting practices.  However, the study does not illustrate the significance of alternate dispute resolution and litigation processes.

## 2.5 The Conceptual Framework

This model sought to determine how forensic accounting practice impacted fraud mitigation among public secondary schools in Embu County in Kenya.

### Independent Variables

### Dependent Variable

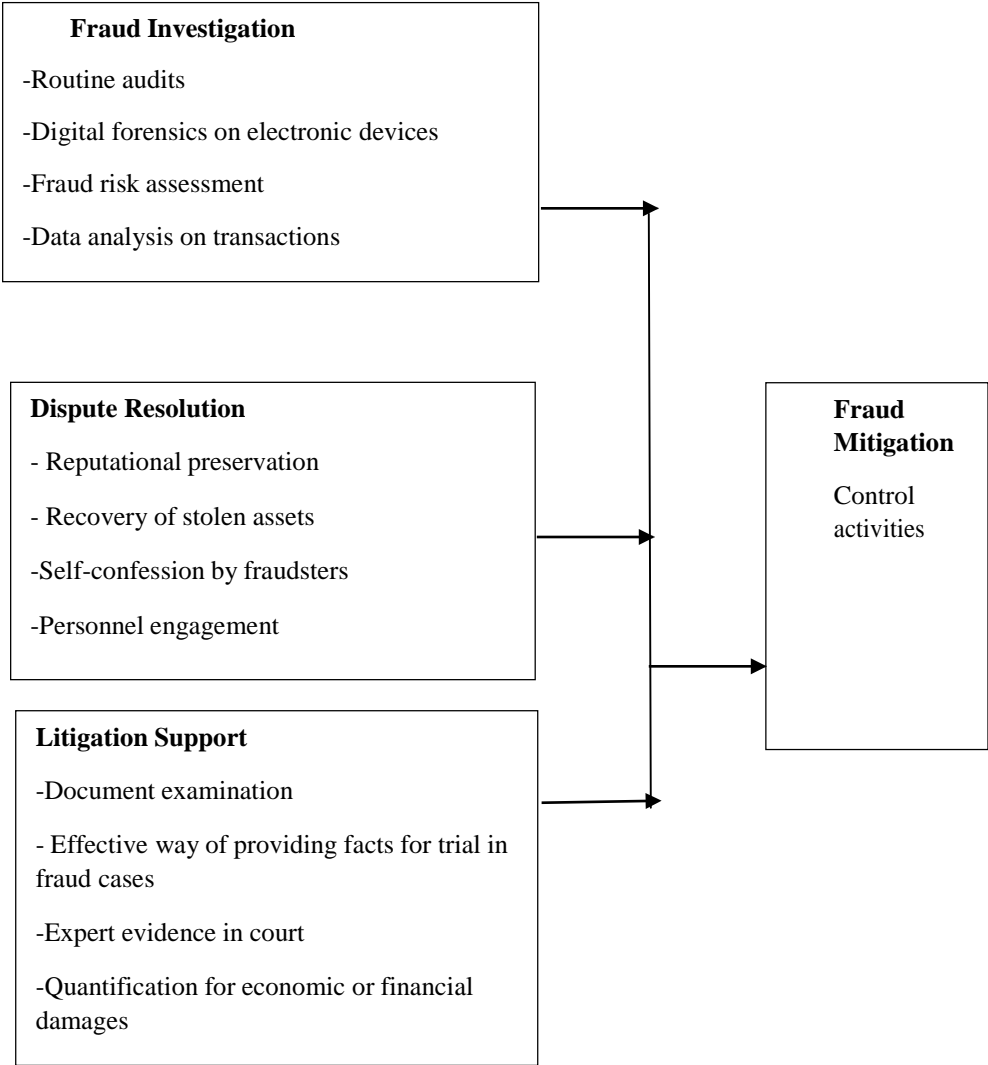


Figure 2. 1: Conceptual Framework

## 2.6 Operationalization of Variables

**Table 2. 1** Operationalization of Variables

<b>Variable Set</b>	<b>Variable</b>	<b>Indicators</b>	<b>Measurement</b>
Independent Variable	Fraud Investigation	-Routine audits -Digital forensics -Electronic devices -Fraud risk assessment -Transactions data	Five point Likert scale.
Independent Variable	Dispute Resolution	- Reputational preservation - Recovery of stolen assets -Self-confession -Personnel engagement	Five point Likert scale.
Independent Variable	Litigation Support	-Document examination - Facts for trials -Expert evidence in court -Quantification for economic damages -Quantification for financial damages	Five point Likert scale.
Dependent Variable	Fraud Mitigation	-Effective reporting, e.g., hotlines -Effective management oversight -Staff training on anti-staff regulations -proactive audit procedures -Background checks for new and existing staff	Five point Likert scale.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter covers how data is collected, analyzed and presented for conclusion and recommendation purposes. The chapter comprises the research design, the target population, sampling, data collection, validity, reliability, data analysis, and diagnostic tests.

#### **3.2 Research Design**

As part of the research, both qualitative and quantitative data were gathered through closed and open-ended questionnaires, respectively. A descriptive research design was adopted since it allowed thorough investigation of the background of the research problem. Descriptive design was used to identify characteristics and frequencies of study variables. A descriptive design was helpful since it provided an accurate and systematic description of the population, situation, or phenomena. Similarly, it was adopted in this study since it offered a variety of research methods to investigate multiple variables. Notably, descriptive analysis's outcomes were dependent on the study's goals and involved looking at demographic data.

#### **3.3 The target population**

The term population refers to the entire data set that was used to narrow down the scope of a study's inquiry (Anazodo, Igbokwe-Ibeto, & Nkah, 2015). The survey collected data from one respondent per school. Consequently, the respondents were the departmental accountants from the 132 public secondary schools in Embu County in which case, one accountant was picked per school.

### **3.4 Sampling Technique and Sample Size**

Since the target population was small, the study conducted a census of the 132 respondents. Census studies were preferred because they assist in the elimination of the sampling errors and enabled generalization of findings without bias (Orodho, 2014).

### **3.5 Data and Data collection**

This study used primary data, which was collected using both open-ended and closed-ended questions a survey; concurrent design collected data (Anandarajah, 2001). The quantitative data was gathered using a standardized closed-ended questionnaire. Qualitative data was gathered using semi-structured questionnaires that was issued to the accountants of the 132 public secondary schools in Embu County.

### **3.6 Pilot Testing**

#### **3.6.1 Reliability test**

A test's reliability distinguishes between respondents when tested under the same conditions twice (Baesens *et al.*, 2015). The reliability and accuracy of the data collected was tested using Cronbach Alpha, whereby the Cronbach value above 0.7 is considered reliable. Accurate data was collected from the accountants in regards to the influence of forensic accounting practices on fraud investigation was reliable because the test results were consistent. Passing this test on collected data gives the researcher an upper hand when drawing conclusions about the study (Henry *et al.*, 2007).

#### **3.6.2 Validity test**

Validity test refers to the degree to which a test measures what it claimed to measure. Test validity was also the extent to which inferences, conclusions and decisions were made on the basis of test scores were appropriate, meaningful and reliable for actions to be taken to the identified flaw. A

pilot study was used to evaluate the feasibility and improve the study design before conducting a full-scale research project. Ideally, an adequate size of 10% from the main study is appropriate to examine the reliability and validity of the assessment tool (Chiang *et al.*, 2015). Consequently, a pre-test was done with twelve public secondary schools in Embu to establish the questionnaire's validity and reliability. To enhance validity, the questionnaire was vetted checked by the supervisor to confirm their validity before administration to ensure that the data collected had substantial feedback to support the study.

**3.7 Data Analysis and Presentation**

Analyzing data means transforming raw data into facts that would be used to make informed decisions by removing faulty materials, correcting mistakes, and deleting neglected data (Henry *et al.*, 2007). Using this method, researchers gather data from quantitative and qualitative viewpoints on a wide range of subjects. All dependent variables' means were compared using descriptive statistics. At the same time, multiple analyses of variance were employed to reveal statistical differences.

Descriptive and inferential analyses was conducted using numerous regressions in this study. It was necessary to use SPSS version 20 to improve precision and accuracy. Tables and figures were used to display the results of the descriptive analysis. The mean and standard deviation were the most critical metrics of central tendency in the context of the investigation. The study used multiple regression model to analyze data as shown below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \dots \dots \dots \text{equation i}$$

Whereby;

Y= fraud control in public secondary schools in Embu

$\beta_0$  = intercept constant

$\beta_1$ - $\beta_4$  = Regression coefficients

X<sub>1</sub> = application of forensic accounting and fraud investigations

X<sub>2</sub> = dispute resolutions

X<sub>3</sub> =Litigation support

€ is the error term

The regression model was used to measure financial statement fraud by examining material misstatement. The model was used to achieve fraud detection and mitigation in financial statements as a whole. Further, the study used exploratory factor analysis to compress the various indicators for each variable into one that could fit in the multi-linear regression equation.

### **3.8 Diagnostic Tests**

This section aimed at detecting specific learning deficiencies. Hence, it addresses the various forms of bias in the study. Consequently, this section assesses the accuracy of diagnostic tests.

#### **3.8.1 Normality Test**

The difference between projected and received response variables, which must be broadly distributed about the distributed dependent variable scores, is tested for normality (Cooper & Schindler, 2011). The study employed the Shapiro-Wilk Test to test the normality. The data was regarded regularly distributed if the significant value (p-value) was less than 0.05, and the null hypothesis was rejected, implying that the data was normally distributed.

### **3.8.2 Homoscedasticity**

The assumption that the dependent variable has comparable amounts of variation across the range of values for an independent variable is known as homoscedasticity (Babbie, 2011). Homoscedasticity is a condition in which there is uniformity of the variance of error terms. The study applied the Levene's test of equality of error variances in testing the homoscedasticity. A homoscedasticity of 1.5 and below is considered.

### **3.8.3: Heteroscedasticity**

Heteroscedasticity refers to regression disturbances whose variances are not constant across observations (Greene, 2008). Heteroscedasticity arises in numerous applications, in both cross-section and time-series data thus causing the estimation results to be inefficient (Baltagi, 2005). The study used Breusch-Pagan Test in order to test for heteroscedasticity.

### **3.8.4 Multicollinearity**

To ascertain whether independent variables had resemblance with each other, Multicollinearity was carried out. If the independent variables were comparable in any manner, there was a very strong link (Kothari &Garg, 2014). According to Kumari (2008) the existence of a linear relationship among the independent variables is called multicollinearity. The usage of variation inflation factors was used to test for multicollinearity (VIF). A VIF number of 1-10 indicates the absence of Multicollinearity problem.

## **CHAPTER FOUR**

### **RESEARCH FINDINGS**

#### **4.1 Introduction**

The main objective of the study was to assess the effects of forensic accounting practices on fraud mitigation among selected 132 secondary schools in Embu County. Data collected by physical questionnaire was subjected to descriptive analysis while the study employed SPSS Version 20 to analyse the findings. This chapter presents therefore the study's findings, their interpretation and discussion.

#### **4.2 Response Rate**

One hundred and thirty-two (132) questionnaires were administered with only 120 being returned fully filled. This data was collected from 120 accountants working for different secondary schools in Embu County as listed in the appendix. This represented 90.91% return rate of the issued questionnaires. The response rate was considered sufficient for analysis since Hennink et al. (2020) asserted that a response rate of 50% was adequate for analysis. The high success rate was attributed to the administration of the questionnaire with many follow up calls to clarify on any unclear questions thus enhancing the high response rate.

### 4.3 Reliability Test

In order to find out whether the questionnaire measures what it purports to measure, this study undertook a test of reliability using a Cronbach's Alpha co-efficient. This test requires alpha values of Cronbach to be at least 0.7. The study found out that the questionnaires had an average Cronbach's Alpha co-efficient of 0.7273. This evidenced the consistency in the questionnaires hence they could be used to determine the influence of forensic accounting practices in fraud mitigation in Public Secondary Schools at Embu County in Kenya. The findings are illustrated in table 4.1:

**Table 4.1: Summarized Cronbach's Coefficients**

	<b>Cronbach's Alpha</b>	<b>Conclusion</b>
Fraud Investigation	0.736	scale reliable
Dispute Resolution	0.713	scale reliable
Litigation Support	0.749	scale reliable
Fraud Mitigation	0.711	scale reliable
<b>Overall</b>	<b>0.727</b>	<b>Instrument reliable</b>

### 4.4 Findings on the Background of the Respondent

This section presents findings on the demographic characteristics of respondents and which encompass: gender, age and the highest level of education.

#### 4.4.1 Respondents Gender

This study sought to determine the gender distribution of the respondents. It was found out that 62 out of the 120 respondents were female. This represented 51.7% of the respondents. The

percentage of male respondents was 48.3%. This finding imply that the respondents were of both gender incorporated in this study and hence the study is not gender biased. The findings for the gender of respondents is illustrated by table 4.2:

**Table 4.2: Gender of Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	62	51.7	51.7	51.7
Valid Male	58	48.3	48.3	100.0
Total	120	100.0	100.0	

**4.4.2 Respondents Age**

The study found out that accountants within the bracket Of 35-44 years were the majority with a percentage of 47.5% followed by 25-34 years with a 25.0%. This may be attributed to the fact that these age groups form the majority of the citizens in the country according to the Kenya National Bureau of Statistics report of 2019. The findings on the age of respondents imply that both age groups were represented in this study and hence the study was not biased towards any single age group. The findings are illustrated in the table 4.3:

**Table 4.2: Age of Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
18-24 years	5	4.2	4.2	4.2
25-34 years	30	25.0	25.0	29.2
Valid 35-44 years	57	47.5	47.5	76.7
55 years & Above	28	23.3	23.3	100.0
Total	120	100.0	100.0	

#### **4.4.3 Respondents Highest Level of Education**

It was noted that 94.2% of the respondents had cleared their high school diplomas. This might have been attributed to the availability of subsidized education initiatives by the government of Kenya encouraging a higher transition from high school to universities and colleges. The findings are illustrated in the table 4.4:

**Table 4.4: Respondents Highest Level of Education**

	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor's	50	41.7	41.7	41.7
High School Diploma	32	26.7	26.7	68.3
Valid Less than high school.	7	5.8	5.8	74.2
Master's Degree	31	25.8	25.8	100.0
Total	120	100.0	100.0	

#### **4.4.4 Respondent's Duration of Service**

This study sought to establish the duration of service that an accountant has worked with a school and evaluate fraudulent activities occurrences and mitigation procedures used. The study results showed that 46.7% of the respondents had served for more than three years. This may have been attributed to the implementation of better fraud mitigation methods. These finding imply that the respondents were experienced to respond to the study questions. The findings are as illustrated as per the table 4.5

**Table 4.5: Respondent's Duration of Service**

	Frequency	Percent	Valid Percent	Cumulative Percent
1-2 years	22	18.3	18.3	18.3
2-3 years	31	25.8	25.8	44.2
Valid				
Less than 1 year	11	9.2	9.2	53.3
More than 3 years	56	46.7	46.7	100.0
Total	120	100.0	100.0	

#### **4.5 Fraud Experience in Schools**

This study aimed at identifying how many schools had fallen victims of fraudulent activities. 57.5% of the recipients indicated that they had never experienced accounting fraud. This may be attributed to the use of manual systems to keep financial data. Without technology, the risk of exposure to digital fraud increases vigorously. Lack of qualified personnel to help evaluate the documents so as to be able to detect risks could also be a probable reason. The cost implication for engaging in forensic audit that helps to detect fraud may be considered too high by most schools hence they fail to engage it in their activities, this denies them a chance to evaluate whether there could be fraudulent cases underneath. The findings imply that fraud cases in secondary schools' despite being rampant, they have not been directly mitigated or experienced by many school accountants. The findings are illustrated in figure 4.1:



**Figure 4.1: Fraud Experience in Schools**

#### **4.4.5 Employment of Forensic Measures and Fraud Mitigation**

The study aimed at determining the employability of forensic measures on fraud mitigation among secondary schools in the study area. According to the collected data, 63.3% said that they had not installed forensic accounting methods. Possibly, this resulted to lack of proper knowledge about these systems or the lack of enough resources to install the systems. With lack of forensic systems in place, the respondents included that they used internal controls, management oversight, monitoring, review of financial statements and financial auditing to curb and reduce fraudulent activities. The finding implies that there is need for more sensitization on the importance of forensic accounting measures in curbing crime. The findings are presented in table 4.6

**Table 4.6: Employed Forensic Accounting Methods**

	Frequency	Percent	Valid Percent	Cumulative Percent
No	76	63.3	63.3	63.3
Valid Yes	44	36.7	36.7	100.0
Total	120	100.0	100.0	

## 4.5 Findings on Diagnostic Tests

### 4.5.1 Normality test

A Shapiro Wilk test was conducted to establish whether the independent variables have a normal distribution. If the p value is greater than 0.05, the variables are normally distributed. However, if the p value is less than 0.05, the reject the hypothesis of normal distribution. Thode (2011) explains that in most cases, the test for normality has been proven to be the most effective test. It's the ratio of two normal distribution variance estimates based on a random sample of n observations. The numerator is proportional to the square of the standard deviation's best linear estimator. The sum of squares of the observations around the sample mean is the denominator.

The results from table 4.7 showed results from Shapiro-Wilk table, with fraud investigation having a p-value  $.086 > 0.05$  concluding that fraud investigation is normally distributed, dispute resolution had a p value of  $0.552 > 0.05$  showing that firm dispute resolution was normally distributed. Litigation support had p value of  $.0802 > 0.05$  hence litigation support is normally distributed and fraud mitigation had a p value of  $0.655 > 0.05$  showing that operational efficiency is also normally distributed. When the independent variables are normally distributed, it also confirms the linearity of the variables in a study.

**Table 4.7 Normality test**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Fraud Investigation	.245	3	.091	.864	3	.086
Dispute Resolution	.325	3	.024	.624	3	.552
Litigation support	.150	3	.200	.961	3	.802
Fraud Mitigation	.345	3	.321	.654	3	.655

a. Lilliefors Significance Correction

#### **4.5.2 Homoscedasticity**

The assumption that the dependent variable has comparable amounts of variation across the range of values for an independent variable is known as homoscedasticity (Babbie, 2011). Homoscedasticity is a condition in which there is uniformity of the variance of error terms. The study applied the Levene's test of equality of error variances in testing the homoscedasticity. A homoscedasticity of 1.5 and below is considered. In table 4.8 the homoscedasticity test produced a p-value is .000 which shows the error variance of the dependent variable is equal across groups and therefore the condition was satisfied. The error term ( $\epsilon$ ) constant variance and identically distributed.

**Table 4.8: Levene's Test of Equality of Error Variances<sup>a</sup>**

		<b>Levene</b>			
		<b>Statistic</b>	<b>df1</b>	<b>df2</b>	<b>Sig.</b>
Fraud Mitigation	Based on Mean	5.423	21	28	.000
	Based on Median	1.207	21	28	.316
	Based on Median and with adjusted df	1.207	21	4.949	.457
	Based on trimmed mean	4.934	21	28	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

### **4.5.3: Heteroscedasticity**

Heteroscedasticity refers to regression disturbances whose variances are not constant across observations (Greene, 2008). Heteroscedasticity arises in numerous applications, in both cross-section and time-series data thus causing the estimation results to be inefficient (Baltagi, 2005). The study used Breusch-Pagan Test to test for heteroscedasticity. Based on the result obtained the sig. value of .217 suggesting that there was no Heteroscedasticity problem as the significance value was above 0.05. Results are presented in table 4.9 below;

**Table 4.9: Breusch-Pagan Test for Heteroscedasticity**

<b>Chi-Square</b>	<b>Df</b>	<b>Sig.</b>
1.525	1	.217

#### **4.5.4 Multicollinearity Tests**

Multicollinearity was used to determine whether independent variables were similar to one another. According to Kumari (2008) the existence of a linear relationship among the independent variables is called multicollinearity. Multicollinearity can cause large forecasting error and make it difficult to assess the relative importance of individual variables in the model. This study opted for both the Variance Inflation Factor (VIF) and Tolerance to test for multicollinearity. The results are presented in table 4.10 below;

**Table 4.10: Multicollinearity Tests**

		<b>Collinearity Statistics</b>	
<b>Model</b>		<b>Tolerance</b>	<b>VIF</b>
1	Fraud Investigation	.998	1.002
	Dispute Resolution	.990	1.010
	Litigation Support	.992	1.008

a. Dependent Variable: Fraud Mitigation

As per the results in table 4.10, VIF of all values for the variables were less than 5 which shows that the variables did not have collinearity. The VIF were fraud investigation (1.002), dispute

resolution (1.010), and litigation support (1.008). The outcome agrees with Lai and Kwok (2015) who states that the rule of the thumb indicates that a VIF of 1 indicates presence of no collinearity and 5 indicates that the variable with high collinearity.

## **4.6 Findings on Study Variables**

### **4.6.1 Fraud Investigation and Fraud Mitigation**

This section aimed at finding out whether activities such as regular investigations of any red flags identified during routine audits, schools maintaining risk assessment register, conducting digital forensics on electronic devices, conducting proactive audits on high risk areas and data analysis on transactions to identify any abnormal trends would help in mitigating fraud among public secondary schools at Embu County in Kenya. Respondents were provided with statements on the listed procedures and were expected to give an answer based on to what extent they agreed with the statement on fraud investigation. They were to use 1 for “strongly disagree”, 2 for “disagree”, 3 for “neither agree nor disagree”, 4 for “agree” and 5 for “strongly agree”. The tables below illustrate the findings observed on the collected data. Table 4.11 was used to analyze and illustrate the findings from different procedures carried out.

**TABLE 4.11: Fraud Investigation**

	Mean	Std. Deviation	N
Regular Investigation on Red Flags	4.0000	1.06116	120
Schools maintains a risk register	3.2417	1.24344	120
School Conducts Digital Forensics	2.9833	1.47804	120
School Conducts Proactive Fraud Audits	3.5667	1.20037	120
School Analyzes Data on transactions to identify Anomalies	4.1083	1.03547	120

It was clear that from the analyzed data collected from the 120 respondents, 67.5% agreed and strongly agreed that their schools conducted regular investigations on any red flags identified during their routine audits. A respondent representation of 10.8% seemed not to agree or disagree that regular investigations were conducted in case red flags were detected. The table 4.11 illustrates the results of the findings

The mean of all responses given in the subject above was 3.24 out of 5.00 giving high levels of confidence that the most of the schools kept a fraud risk assessment register.

In this section, 44.2 % of respondents disagreed and strongly disagreed that their institutions conducted digital forensics on electronic devices. This could have been attributed by the manual finance systems being used. 13.3% of the respondents were neutral neither agreeing nor

disagreeing. The mean for the collected responses was 2.98/5.00 which was slightly above average. Confidence level of the findings isn't dependable in approving or disapproving conduction of digital forensics on financial systems.

Proactive auditing is performed on financial systems in case fraud risks are detected rather than waiting for a fraudulent activity to occur which would cost the organization its assets and also make them start the full auditing process. From the collected data illustrated in the histogram below, most of the schools performed proactive audits in advance to ensure that their systems are not crippled down by fraudulent activities. The mean for the collected responses was 3.57 out of 5.00.

Transaction analysis is a major way of identifying abnormal trends in financial data that can be attributed to by fraudulent activities. Analyzing the transaction gives a chance to identify the perpetrators who may held to account. 94 respondents out of the 120 agreed and strongly agreed that their schools conducted data analysis on transactions to identify any abnormal trends. This represents 78.3% of the respondents. These statistics confirm the performance of data analysis in the zeal to unearth abnormal trends that would lead to fraudulent activities on financial data.

Employee recruitment is a key step into ensuring that individuals with high levels of integrity are employed into the school. The standard recruitment criterion involves advertising to make the general public aware of posted vacancies, the general public applies for the jobs, shortlisting is done, interviews are then carried out and results issued. This brings on board all qualified employees. 48 respondents indicated that this process was followed. 52 others indicated that the recruitment criterion involved interviewing. The two groups give a cumulative percentage of 83.3%. This implies that most of the schools followed the right criteria to employ people.

This study revealed that most schools carried out forensic accounting practices but still there were several fraud cases. Hence the study disagrees with Nwankwo (2013), a study on fraud mitigation that established that forensic accounting practices could mitigate fraud among public institutions. At the same time, it agrees with Gilboa (2012), that change of employee behavior may be a red flag for an impending crime.

#### **4.6.2 Dispute Resolution and Fraud Mitigation**

This section sought to identify the respondents view on the influence of dispute resolution in forensic accounting practices on fraud mitigation among selected public secondary schools in Embu County. Respondents were provided with different statements and were expected to give an answer based on to what extent they agreed with the statement on dispute resolution. They were to use 1 for “strongly disagree”, 2 for “disagree”, 3 for “neither agree nor disagree”, 4 for “agree” and 5 for “strongly agree”. Table 4.12 illustrates the findings observed on the collected data.

**TABLE 4.12: Dispute Resolution**

	Mean	Std. Deviation	N
Dispute resolution helps in preservation of the reputation	4.0500	.96884	120
Dispute resolution has the ability to recover stolen assets	4.0167	.93470	120
Dispute resolution helps in resolving disputes outside the litigation process	4.0417	.94732	120
Helps in confession of their crimes.	4.0083	.96577	120
Dispute resolution fosters personnel engagement	4.1667	1.01529	120
Explanation on how the school uses dispute resolution as a tool for self-confession	1.2750	.44839	120
Steps to ensure that dispute resolution gives high possibility of recovering lost assets.	1.3417	.47626	120

The first area of interest was to determine to what extent dispute resolution helped in preserving the reputation of litigants in the schools. The mean for the responses given was 4.0500 out of 5 which gave high confidence levels of more than 80% to the data. Those who agreed and strongly agreed to the statement formed 64.2% of the total number of respondents.

Secondly, dispute resolution has the ability to push people return stolen assets to institutions. The analyzed data indicated that 73.3% of the total respondents agreed and strongly agreed that proper dispute resolution had the ability to recover stolen items from litigants. This gave an average mean of 4.0167 out of 5.

It was also revealed that dispute resolution contributed significantly in resolving conflicts outside the litigation process. A mean of 4.0417 of the responses was realized. Many respondents agreed that resolution of disputes contributed significantly in resolving disputes outside the litigation process.

The other area of concentration was on identifying whether fraudster confession of their crimes and issuance of more information helped in strengthening internal controls reducing the number of fraudulent activities committed. Based on the collected data, it was clearly evident that it helped with 91 respondents representing 75.8% agreeing and strongly agreeing to the statement. The mean for these responses was 4.0083 out of 5.

The last statement sought to establish whether dispute resolution fostered personnel engagement. From the analysis, it is evident that to a great extent, the respondents believed in the ability for personnel engagement in dispute resolution. 97 respondents agreed and strongly agreed to this statement giving a cumulative percentage of 80.83%.

Proper dispute resolution mechanisms help institutions in recovering lost assets through self-confession from the litigants if proper dispute channels are followed. The expected process that

schools follow in dispute resolution includes evidence collection, calling fraudsters and addressing issues in a friendly way. 87 out of the 120 respondents wrote that their schools used the correct and expected process leading to self-confession. This represented a cumulative percentage of 72.5%.

Schools need to put in place proper dispute resolution mechanisms to increase chances of recovering lost assets. If proper dispute resolution strategies are put in place, there is a high likelihood of recovering lost assets from litigants. The most standard dispute resolution process that leads to asset recovery includes; promising high levels of confidentiality to litigants on data provided, litigant confession to have the lost assets and commission to return them. This helps schools to recover lost assets. From the collected and analyzed data, it is clear that 79 respondents agreed that their schools conformed to the above-described process. This represents 65.8% of respondents. These findings give a high confidence on the ability to recover lost assets through proper dispute resolution mechanisms.

This study revealed that dispute resolution helped recovering lost assets and funds as well as solving fraudulent cases outside litigation process. The study agrees with Kaunda (2021) whose study revealed that dispute resolution helps in enhancing recovery of assets and funds lost through fraudulent activities and Mbugua (2020) a study that revealed dispute resolution helped to optimize facts disclosure which could help detect and mitigate fraud outside the litigation process.

#### **4.6.3 Litigation Support and Fraud Mitigation**

Litigation involves use of legal frameworks such different litigation support services such as law firms and lawyers to curb fraud. This study sought to identify the influence of forensic accounting

practices on fraud mitigation in the selected secondary schools.4.6.3.1 Effects of Litigation Support in Fraud Mitigation.

Respondents were provided with different statements and were expected to give an answer based on to what extend they agreed with the statement on fraud mitigation. They were to use 1 for “strongly disagree”, 2 for “disagree”, 3 for “neither agree nor disagree”, 4 for “agree” and 5 for “strongly agree”. Table 4.13 illustrates the findings

**TABLE 4.13: Litigation Support**

	Mean	Std. Deviation	N
Litigation helps curbing fraud.	4.1667	.89192	120
Uses document examination to determine forgeries	4.2000	.81581	120
Litigation provides effective ways to provide facts for trial in fraud cases	4.3083	.77564	120
Litigation support helps with problems	4.1167	.89989	120
Litigation support helps in obtaining evidence and testimony in court.	4.2750	.97844	120
Has your school incorporated forensic accounting policies	1.6083	.52334	120
Have legal practices help reduce fraud cases in school?	1.4000	.58554	120
Effective reporting reduces fraud levels	4.3917	.92850	120
Effective management oversight promotes fraud mitigation.	4.4500	.77622	120
We usually do background checks for new & existing staffs	4.0833	.95779	120
Strict legal laws can help mitigate fraud cases	4.1167	.97173	120
Our school has proactive audit procedures	4.0250	.98273	120
Staff and employees sensitization on the anti-fraud policy	3.9000	1.21198	120
measures to counter fraudulent activities	1.2750	.63461	120

According to the analysis, many respondents agreed and strongly agreed to all the different questions on the Likert scale. The questions included; the ability for litigation support helping in curbing fraud, using document examination to determine forgeries, litigation support provision of effective ways to provide facts for fraud case trials, litigation support helping with problems having accounting nature concerning fraudulent activities & its ability to obtain evidence and testimony in court. These five questions, the respondents strongly agreed and agreed to them giving means of 4.1667, 4.2000, 4.3083, 4.1167 and 4.2750 respectively. All standard deviations were greater than 0.77564 since this was the lowest. All others had a standard deviation greater than 8.0. Mean identifies the central value in the distribution. Two of the questions had a mode of 5 from the responses collected implying high confidence in litigation services helping in curbing fraudulent activities. Mode refers to the value that appears most often in a set of data values in a distribution.

Incorporation of forensic accounting policies is a contingency planning method that helps in curbing the occurrence of fraudulent activities. Respondents seemed to have trusted dispute resolution and other internal controls to curb fraud. This resulted to 57.5% of them asserting that their schools had not implemented these forensic accounting policies. 40.8% agreed to have put these measures in place while two respondents representing 1.7% seemed not to have understood the question clearly giving varying responses.

The respondents were provided with different statements and were expected to give an answer based on to what extend they agreed with the statement on fraud mitigation. They were to use 1 for “strongly disagree”, 2 for “disagree”, 3 for “neither agree nor disagree”, 4 for “agree” and 5 for “strongly agree”. In all the questions, the means were greater than 4.0 / 5.0 implying that the respondents agreed and strongly agreed to the statements. Three out of five questions had a mode of 5 giving high confidence to the findings that can now form a basis for decision making.

Fraud countermeasures are put in place to reduce the chances of a fraudulent activity occurring. As per the frequency distribution below, 82.5% of the respondents said that their schools used internal controls, auditing, evaluation of financial statements and management oversight as their counter measures. 7.5% suggested that they used record inspection, monitoring, authorization and segregation of duties. 12 respondents representing 10.0% said that none of these counter measures were in place in their schools.

When asked of their awareness on fraud, 73 respondents representing 60.8% confirmed to be aware while 47 of them representing 39.2% said that they were not aware of fraud. From the 60.8% of respondents, 80.8% asserted that their schools used sensitization through meetings and workshops as the main tool to create an awareness on fraud to the stakeholders.

From the collected responses, it was clear that only 11.7% of the schools had employed forensic accounting experts. 88.3% had not employed these experts implying low internal utilization of forensic accounting practices in these institutions. Outsourcing of the forensic accounting experts was an option for 38.3% of the respondents while 61.7% did not outsource these experts.

The researcher found out that most of the respondents agreed and strongly agreed that forensic accounting services such as litigation support could help to reduce fraud. A study by Oyedokun (2013) suggested that forensic accounting could help in fraud control because most fraudulent activities were happening due to accountancy inefficiency. Training on forensic accounting practices would equip them with skills to help detect and control fraudulent activities. A study by Chepngeno and Fred (2020) revealed that litigation support services were significant in fraud prevention.

#### 4.7 Co-efficient of correlation

This section depicts the correlation coefficient for the independent and dependent variables.

Pearson correlation coefficient was used to show the degree of correlation between the variables.

Table 4.28: **Pearson correlation coefficients**

		<b>Correlations</b>			
		X1	X2	X3	Y
	Pearson Correlation	1	.089	-.002	-.036
X1	Sig. (2-tailed)		.334	.980	.695
	N	120	120	120	120
	Pearson Correlation	.089	1	-.054	.006
X2	Sig. (2-tailed)	.334		.558	.951
	N	120	120	120	120
	Pearson Correlation	-.002	-.054	1	.115
X3	Sig. (2-tailed)	.980	.558		.211
	N	120	120	120	120
	Pearson Correlation	-.036	.006	.115	1
Y	Sig. (2-tailed)	.695	.951	.211	
	N	120	120	120	120

Table 4.28 above shows that there is a weak negative correlation (-0.036) between the fraud investigation (X1) and fraud mitigation (Y). The findings indicated that there is no correlation (0.006) between dispute resolution (X2) and fraud mitigation (Y). The findings indicated that there is a weak positive correlation (0.115) between litigation support (X3) and fraud mitigation (Y).

The findings further indicated that there is strong positive correlation (0.089) between fraud investigation (X1) and dispute resolution (X2). The findings also indicated that there is a weak negative correlation (-0.002) between fraud investigation (X1) and litigation support (X3). The study findings indicated that there is a strong negative correlation (-0.54) between dispute resolution (X2) and litigation support (X3).

#### 4.8 Analysis of Variance

Table 29: ANOVA

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	.932	3	.311	.580	.0630 <sup>b</sup>
1	Residual	62.175	116	.536		
	Total	63.107	119			

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

The Anova table was used to show the significance of the model. The Analysis of Variance had a p-value of 0.063. This shows that the model had a significance level of 0.63% hence the model cannot be relied on since the P value is greater than 0.05, the model is insignificant in explaining the variables. The generally accepted p-value should be less than 0.05.

## 4.9 Regression

This section describes the model of the study and gives the model of study, the multiple regression model.

### 4.6.1. Model summary

**Table 30: Model summary of the study**

<b>Model Summary</b>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.122 <sup>a</sup>	.015	-.011	.7321169	.015	.580	3	116	.630

a. Predictors: (Constant), X3, X1, X2

The table 4.30 indicates that the adjusted R squared is -0.011. This implies that -1.1% of fraud mitigation is explained by fraud investigation, dispute resolution and litigation support. Since the P value is grater that 0.05, the model is insignificant in explaining the variables.

**Table 4.31: Aggregated research model**

Model	Coefficients <sup>a</sup>								
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			
	B	Std. Error	Beta			Zero-order	Partial	Part	
1	(Constant)	3.665	.640		5.723	.000			
	X1	-.029	.072	-.037	-.403	.688	-.036	-.037	-.037
	X2	.016	.098	.015	.165	.870	.006	.015	.015
	X3	.127	.101	.116	1.255	.212	.115	.116	.116

a. Dependent Variable: Y

The table 4.30 above shows the aggregated model as shown below. Since the p value is greater than 0.05, it indicates that the model is insignificant in explaining the variables. We then fail to reject the null hypothesis and conclude that fraud investigation, dispute resolution and litigation support are not significant factors in fraud mitigation.

The multiple regression model is given by  $Y = 3.665 - 0.029X_1 + 0.016X_2 + 0.127X_3$

Where:

Y-Fraud Mitigation (Dependent variable)

X1-Fraud Investigation

X2-Dispute Resolution

X3-Litigation Support

This implies that fraud mitigation is explained by 3.665 when fraud investigation, dispute resolution and litigation support is held constant. A unit increase in fraud investigation decreases fraud mitigation by 0.029 units. A unit increase in dispute resolution increases fraud mitigation by 0.016 units while a unit increase in litigation support increases fraud mitigation by 0.127 units.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter summarized the findings of the study as analyzed in the previous chapter. It also included conclusions drawn from the study and recommendations to reduce fraudulent activities in the Public Secondary schools in Embu County.

#### **5.2 Summary of the study**

The general objective of the study was to determine the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County government in Kenya. Fraudulent transactions led to instability of financial records that would have led to a great extent of even losing different institutional assets to litigants. It was noted that adoption of forensic accounting practices would help reduce this kind of corruption and exploitation of institutional assets. On fraud detection, it was evident that necessary measures were put in place to ensure that before any action was taken, close scrutiny was done before victimization, action taking and litigation measures implementation.

##### **5.2.1 Fraud Investigation**

Fraud detection in the accounting sector led to close inquiry to collect evidence to be used in addressing the issue. A risk assessment register was maintained for close monitoring so as to help reduce the effects of the threats by having control measures in place. An above average respondents' percentage confirmed that digital forensics were conducted on electronic devices to detect any attempt to execute fraudulent activities on financial systems or manipulate them.

It was also observed that proactive auditing was carried out in case fraudulent behaviors were noted so that they could be acted upon on time. It was noted that transaction analysis was a key move when transaction anomalies were detected at early stages before it became critical. Data analysis was also conducted on transactions so as to do verifications and ensure accuracy. Lastly, for the schools to reduce chances of having fraudulent transactions that may have very devastating effects on financial systems, proper employee scrutiny during recruitments process had to be followed.

### **5.2.2 Dispute Resolution**

After a fraudulent activity, dispute existed between the administration and the litigant. This means dispute resolution measures had to be undertaken to contain the issue and restore normalcy that would even help institutions recover their lost assets. From the analyzed data, it was evident that dispute resolution helped in preserving reputation of the litigants in schools as well as helped to strengthen their social stability. It also had the ability to help recover stolen assets and proper dispute resolution contributed significantly to dispute resolution outside the legal process.

It was also clear from the study that with clear dispute resolution measures from an institution, an encouragement to the fraudsters to confess their crime gave the management data which helped to reveal loopholes in the instilled systems hence helping the management to strengthen their internal controls as well as enhance their procedures. It was a correctional method that fostered personnel engagement, an art that helps to make employees feel free and ready to share more information that can be of help to the management.

### **5.2.3 Litigation Support**

Litigation measures were also ideal in fraudulent activities handling. Litigation was the best take which was confirmed by the findings of the conducted study. The study confirmed that litigation measures helped curb fraud using document examination. Litigation support also provided

advisory on how facts can be provided in case of trials involving fraudulent activities. It also helped to obtain evidences and testimony that could be used in court in the instance of a fraudulent activity. The litigation process offered an effective way to provide facts and evidence against litigants in a court of law for trial in fraudulent cases.

Fraudulent Activity counter measures were also realized to be becoming popular in schools. Schools had put up contingency plans to reduce the chances of fraudulent activities through implementation of strong internal controls, organizing surprise and routine audits, evaluation of financial statements. Lastly, creating fraud awareness workshops and meetings could help in reducing chances of fraudulent activities that may have devastating effects on a school. These kinds of workshops help to enlighten people and create awareness or sensitization on fraud hence minimizing cases of falling into the fraudulent activities trap.

### **5.3 Conclusions of the study**

In conclusion, proper fraud detection measures should be put in place, a mechanism to resolve disputes for the good of the school and its staff as well as to help recover lost assets and if these channel fail, the litigation process could be an option to lean on. These fraud detection measures would include; conducting numerous surprise and routine audits, evaluation of financial statements, strong internal controls, proper employee vetting and following the right channels in procurement and payments.

The study shows that fraud investigation can help to prevent fraudulent activities since it is a forensic accounting practice. Dispute resolution can help Public Secondary schools to solve cases outside litigation process and also help in recovering lost assets and funds. Litigation support uses document examination with an aim of detecting any red flags or inconsistencies. It can also help in gathering information to be used in a court case.

#### **5.4 Recommendations of the study**

The study found out that curbing fraudulent activities in secondary schools required proper fraud detection and management procedures. These measures would promise high data confidentiality levels to litigants to siphon all required information that could help in implementation and strengthening of internal controls to reduce chances of fraudulent activities being perpetrated.

Secondly, the study recommends institutions to put in place well-structured dispute resolution mechanisms that could help reserve the institutional and litigant image as well as maintain a healthy relationship with fraudster and help in restoring their behavior. This could result into self-confession by the litigant as well as helping institutions recover their lost assets through written commitments by the litigants to return the assets.

Thirdly, if the above measures failed, the legal process could help in handling the fraudulent activities. Litigation measures were also ideal in fraudulent activities handling which included incorporation of legal frameworks such as law firms, lawyers and courts in resolution. The supreme art of war was to subdue the enemy or fraudulent activity perpetrator without fighting. If this fails, litigation was the best take since it would help instill integrity in the litigant which was confirmed by the findings of the conducted study.

Lastly, it was recommended that institutions put in place control measures that would help them curb fraudulent activities. These counter measures included; internal control measures such as the segregation of duties which had been shown its ability to help decrease fraud. These internal control procedures would be reviewed and updated regularly to remain relevant and thriving in the face of ever-evolving technology and other factors. Engaging a professional with expertise in this area would be best if they didn't already have an internal control system or fraud prevention

program. In case all these fail, engagement of an independent external audit services could be of help.

### **5.5 Limitations of the study**

School accounting department is always a busy and sensitive department with very confidential data that cannot be easily shared out. However, the researcher made every effort through follow up calls and mails as well as physical visits to ensure that most of the questionnaires were filled. This helped to achieve a response rate of 90.91%.

Despite the fact that the researcher was able to achieve this response rate, the researcher did not have control over the kind of responses that were shared by the respondents. The researcher tried to explain the questions as much as possible to the respondents as well as seek clarity on some of the responses.

### **5.6 Areas for Further Research**

The researcher only focused on the role of forensic accounting practices on Public Secondary Schools at Embu County in Kenya. There is need for similar research to be carried out in other counties as well as in Private Secondary Schools also. This shall help to compare different fraud mitigation practices and forensic accounting practices applied in both Public and Private Secondary schools and in different counties in Kenya.

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## Appendix 1: Questionnaires

### EFFECTS OF FORENSIC ACCOUNTING PRACTICES ON FRAUD MITIGATION AMONG PUBLIC SECONDARY SCHOOLS IN EMBU COUNTY.

Please fill out the Questionnaires below

#### Section I: General Information

1. What is your gender?
  - A. Male
  - B. Female
2. What is your age range?
  - A. 18-24 years
  - B. 25-34 years
  - C. 35-54 years
  - D. 55years and above
3. How long have you been working in this school?
  - A. Less than one year
  - B.1-2 years
  - C.2-3 years
  - D. More than 3 years
4. What is your highest level of education?
  - A. Less than a high school diploma
  - B. High school diploma
  - C. Bachelor's degree

- D. Master's degree
  - E. Doctorate
  - F. Other
5. Have you ever experienced accounting fraud cases in your school?
- A. Yes
  - B. No
6. Have you employed forensic accounting methods in your school?
- A. Yes
  - B. No
7. Which of these measures have you applied to mitigate fraud?
- A. Monitoring
  - B. Evaluating financial statements
  - C. Detecting and exposing fraudulent
  - D. Others

## **Section II: Independent Variables**

### **A) Fraud Investigation**

8. To what extent do you agree with the following statement on Fraud Investigation concerning the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya?

Please select one option from the Likert scale questions below.

Use 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree

Activity	1	2	3	4	5
Our school conducts a regular investigation of any red flags identified during routine audits					
Our school maintains a fraud risk assessment register					
Our school conducts digital forensics on electronic devices					
Our school conducts proactive fraud audits on high risk areas					
Our school conducts data analysis on transactions to identify any abnormal trends					

9. Briefly elaborate on the criterion of recruiting employees in your school.....

.....

10. Is there any case of fraud that has been detected in your school?  
.....

**B) Dispute Resolution**

11. To what extent do you agree with the following statement on Dispute Resolution concerning the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya?

Please select one option from the Likert scale questions below.

Use 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree

Activity	1	2	3	4	5
Dispute resolution helps in preservation of the reputation of litigants in our school					
Dispute resolution has the ability to recover stolen assets					
Dispute resolution contributes significantly in resolving disputes outside the litigation process.					
Dispute resolution encourages fraudsters to confess their crime and leak other information useful in strengthening internal controls					
Dispute resolution fosters personnel engagement					

12. Briefly explain how your school uses dispute resolution as a tool to encourage self-confession by fraudsters.....  
 .....  
 .....

13. What steps has your school taken to ensure that the dispute resolution established a high possibility of recovering the lost assets  
 .....  
 .....  
 .....

.....  
.....

**C) Litigation Support**

14. To what extent do you agree with the following statement on Litigation Support concerning the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya?

**Please select one option from the Linkert scale questions below.**

**Use 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree**

<b>Activity</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Litigation support can be used to curb fraud in public secondary schools in Embu					
Litigation support uses document examination to determine forgeries and alterations					
Litigation support provides an advisory on effective way of providing facts for trial in fraud cases					
Litigation support helps with problems that have an accounting nature in matters concerning fraudulent activities.					
Litigation support helps in obtaining evidence and testimony in court.					

15. Has your school incorporated forensic accounting policies in the mainstream policy guidelines to prevent and deter the perpetration of fraud? .....

.....

16. Have legal practices such as punishment to offenders helped to mitigate fraud cases in your school? .....

.....

**Section III: Dependent Variable (Fraud Mitigation)**

16. To what extent do you agree with the following statement on Fraud Mitigation concerning the influence of forensic accounting practices on fraud mitigation among public secondary schools at Embu County in Kenya?

**Please select one option from the Linkert scale questions below.**

**Use 1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, 5-strongly agree**

<b>Activity</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Effective reporting of fraudulent activities reduces the level of fraud in schools					
Effective management oversight promotes fraud mitigation in schools					
We usually do background checks for new and existing staff					
Strict legal laws can help mitigate fraud cases in public secondary schools in Embu					
Our school has proactive audit procedures					
The staff and employees are sensitized and trained on anti-fraud policy.					

17. What measures have you put in place to counter fraudulent activities

.....  
.....  
.....  
.....

18. Do you believe employees, the community, and other stakeholders in the school are aware of fraud? What steps have you taken to ensure that all the stakeholders are sensitized?

.....  
.....

19. Has your school employed experts in forensic accounting? If not, briefly explain whether they outsource these experts.

.....  
.....

20. What action has the management taken to prevent fraud cases in the future?

.....  
.....

**Thank you for participating in the study.**

## **Appendix 2: List of public secondary schools in Embu County**

### **List of Secondary Schools in Embu County with their KCSE Index Numbers**

1. Kangaru School – Boys Boarding – 14303101
2. St. Marys Kiangima Secondary School – Girls Boarding – 14303102
3. Kangaru Girls School – Girls Boarding – 14303104
4. Kirimari Secondary School – Boys Boarding – 14303105
5. Itabua Secondary School – Mixed Day – 14303107
6. Gatunduri Mixed Day Secondary – Mixed Day – 14303108
7. Embu County Mixed Secondary School – Mixed Day – 14303110
8. Kamiu Day Secondary School – Mixed Day – 14303111
9. Gatondo Secondary School – Mixed Day – 14303112
10. Nthambo Day Secondary School – Mixed Day – 14303116
11. Kimangaru Secondary School – Mixed Day – 14303117
12. St Paul's High School Kevote – Boys Boarding – 14303201
13. St. Joseph's Secondary School-Mtetu – Boys Boarding – 14303202
14. St Teresa's Girl' – Kithimu – Girls Boarding – 14303203
15. Kithegi Mixed Secondary School – Mixed Day – 14303205
16. St Christopher Mixed Day Secondary School – Mixed Day – 14303206
17. St. Luke's Day Secondary School-Karurina – Mixed Day – 14303207
18. St Francis Ngoire Secondary School – Mixed Day – 14303208
19. St Benedict's Day Secondary School – Mixed Day – 14303209
20. St. Michael Mixed Day School – Mixed Day – 14303210
21. Rukira Day Secondary School – Mixed Day – 14303211
22. Siakago Boys High School – Boys Boarding – 14312101

23. Siakago Girls' Secondary School – Girls Boarding – 14312103
24. Gangara Secondary School – Mixed Day – 14312104
25. Kiambere School Complex– Mixed Boarding – 14312105
26. ACK Riandu Secondary School – Mixed Day – 14312106
27. Gitibure Secondary School – Mixed Day – 14312107
28. Siakago Mixed Day Secondary School – Mixed Day – 14312108
29. Itiira Secondary School – Mixed Day – 14312109
30. Kivue Day Mixed Secondary School – Mixed Day – 14312111
31. St John the Baptist – Kirie Secondary School – Mixed Day – 14312112
32. Kanyuambora Secondary School – Boys Boarding – 14312301
33. Kigwambiti Secondary School – Mixed Day – 14312303
34. Karangare Secondary School – Mixed Day and Boarding – 14312304
35. Kathigagaceru Secondary School – Mixed Day – 14312305
36. ACK St. Barnabas-Kavengero – Mixed Day – 14312306
37. Gitii A.C.K. Secondary School – Mixed Day- 14312307
38. Kamarandi Secondary School – Mixed Day – 14312308
39. St. Lukes Secondary School – Kamwaa – Mixed Day – 14312309
40. St. Rita Secondary School – Ngunyumu – Mixed Day – 14312310
41. St. John XXIII Gwakaithi Secondary School – Mixed Day – 14312311
42. St. Michael Secondary School Kyenire – Mixed Day – 14312312
43. St. Timothy's Kianjeru Secondary School – Mixed Day – 14312313
44. St. Catherine Nthagaiya Girls Secondary School – Girls Boarding – 14333102
45. Thigingi Girls Secondary School – Girls Boarding – 14333103
46. Kanja Technical Secondary School – Mixed Day and Boarding – 14333104

47. Gichiche Secondary School – Girls Boarding – 14333105
48. Gitare Mixed Secondary School – Mixed Day and Boarding – 14333106
49. St Mark's Ena Secondary School – Mixed Day – 14333107
50. S.A Gikuuri Secondary School – Mixed Day – 14333108
51. Macumo Day Secondary School – Mixed Day – 14333109
52. Mugui Secondary School – Mixed Day – 14333110
53. St. Marys Kigaa Mixed Day Secondary School – Mixed Day – 14333111
54. St John Kathande – Mixed Day – 14333112
55. Ugweri Day Secondary School – Mixed Day – 14333113
56. ACK. Kagaari Mixed Day Secondary School – Mixed Day – 14333114
57. Muragari Secondary School – Mixed Day – 14333115
58. Kithunguthia Mixed Day School – Mixed Day – 14333116
59. St. Thomas Aquinas Day Secondary School – Mixed Day – 14333117
60. ACK Ndumari Day Secondary School – Mixed Day – 14333118
61. St John Fishers Secondary School Mbui Njeru – Mixed Day – 14333119
62. S.A Nduuri Secondary School – Mixed Day – 14333120
63. Kyeni Girls' High School – Girls Boarding – 14333201
64. Kegonge Boys High School – Boys Boarding – 14333202
65. St Agnes Kiaganari Girls Secondary School – Girls Boarding – 14333203
66. S.A Kyeni Girls Secondary School – Girls Boarding – 14333204
67. St. Mary Goretti Girls' Secondary School – Rukurir – Girls Boarding – 14333205
68. St John Kathunguri Secondary School – Mixed Day and Boarding – 14333206
69. St. Getrude Secondary School – Mixed Day – 14333207
70. Kiangungi Secondary School – Mixed Day and Boarding – 14333208

71. Ciamanda Mixed Day Secondary School – Mixed Day – 14333209
72. Mufu Secondary School – Mixed Day – 14333210
73. St Jude Karurumo Secondary School – Mixed Day – 14333211
74. St Barnabas Kathari Secondary School – Mixed Day – 14333212
75. S.A Mukuria Secondary School – Mixed Day – 14333213
76. EAPC Kariru Mixed Day Secondary School – Mixed Day- 14333214
77. St Anthony Kivuria Day Secondary School – Mixed Day – 14333215
78. A.C.K Nyagari Mixed Day Secondary School – Mixed Day – 14333216
79. Mayori – Mixed Boarding – 14341101
80. Kiambere Mixed Secondary School – Mixed Boarding – 14341103
81. Mariari Girls Secondary School – Girls Boarding – 14341104
82. St Thomas Igumori – Mixed Boarding – 14341105
83. Machang'a Mixed Secondary School – Mixed Boarding – 14341106
84. Kerwa Mixed Secondary School – Mixed Boarding – 14341107
85. Mutuobare Secondary School – Mixed Boarding – 14341108
86. Kabuguri Secondary School – Mixed Boarding – 14341109
87. Nyangwa Boys' High School – Boys Boarding – 14341201
88. Ngenge Secondary School – Mixed Boarding – 14341202
89. Kiamuringa Secondary School – Mixed Boarding – 14341203
90. St. Clare Girls Kangeta – Girls Boarding – 14341204
91. Yoder Karwigi Mixed Secondary School – Mixed Boarding – 14341205
92. Kirima Mixed Secondary School – Mixed Boarding – 14341206
93. Gikiiro Secondary School – Mixed Boarding – 14341207
94. Mbita Secondary School – Mixed Boarding- 14341208

95. St. Mary's Gataka Mixed Secondary School – Mixed Boarding – 14341209
96. Mbondoni Secondary School – Mixed Boarding – 14341301
97. Makima Secondary School – Mixed Boarding – 14341302
98. Kanyonga Secondary School – Mixed
97. Makima Secondary School – Mixed Boarding – 14341302
98. Kanyonga Secondary School – Mixed Boarding – 14341303
99. Mashamba Secondary School – Mixed Boarding – 14341304
100. Karaba Boys Secondary School – Boys Boarding – 14341401
101. Stephen Kisilu Secondary School Riakanau – Mixed Boarding – 14341402
102. Gategi Girls Secondary School – Girls Boarding – 14341403
103. Joseph Allamano – Wachoro Secondary – Boys Boarding – 14341404
104. Gitaraka Girls Secondary School – Girls Boarding – 14341405
105. Kianjokoma Mixed Day Secondary School – Mixed Day – 14355114
106. Iria Itune Secondary School – Mixed Boarding – 14341407
107. A.C.K Malikini Secondary School – Mixed Boarding – 14341409
108. Wango AIC Secondary School – Mixed Boarding – 14341410
109. Kamama Secondary School – Boys Boarding – 14355101
110. Kiriari Girls High School – Girls Boarding – 14355102
111. Gituri Secondary School – Mixed Day – 14355103
112. St. Martha Day Mixed Secondary – Mixed Day – 14355104
113. Kithunguriri Secondary School – Mixed Day – 14355105
114. D.E.B Kairuri Mixed Day Secondary School – Mixed Day – 14355107
115. All Saints Kigari Day Secondary School – Mixed Day – 14355108
116. St Marys Makangu – Mixed Day – 14355109

117. Kamviu Secondary School – Mixed Day – 14355110
118. Kiriari Day Secondary School – Mixed Day – 14355111
119. Kavutiti Boys Secondary School – Boys Boarding – 14355112
120. St John Kianjuki – Girls Boarding – 14355113
121. Kianjokoma Mixed Day Secondary School-Mixed Day-14355114
122. Kavutiri Day Secondary School-Mixed Day-14355115
123. S.A Manyatta Secondary School-Mixed Day-14355116
124. Kirigi Day Secondary School-Mixed Day- 14355131
125. Nguviu Boys High School- Boys Boarding- 14355201
126. Nguviu Girls Secondary School-Girls Boarding-14355202
127. St Peter’s Kathakwa Secondary-Girls Boarding-14355203
128. Kagumori Secondary School- Mixed Day-14355204
129. Muvandori Mixed Day Secondary School-Mixed Dya-14355205
130. St. Alphonse Mixed Secondary School-Mixed Day-14355206
131. St.Joseph the worker Day Secondary School-Mixed Day-14355207
132. St. Benedicts Secondary School- Mixed Day- 14355208

**Source;** Ministry of Education, Kenya