

**EFFECT OF FORENSIC ACCOUNTING PRACTICES ON FINANCIAL
SUSTAINABILITY OF NON-PROFIT MAKING ORGANIZATIONS IN NAIROBI
COUNTY, KENYA**

BY

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MASTER OF SCIENCE IN COMMERCE

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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COMMERCE (FINANCE AND ACCOUNTING) TO THE SCHOOL OF BUSINESS AT
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NOVEMBER, 2024

DECLARATION

I declare that this dissertation is my original work that has never been previously published or submitted elsewhere for the award of a degree. I also declare that the dissertation contains no material written or published by others except where due reference is made, and the author is duly acknowledged.

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ABSTRACT

non-profit organizations play an indispensable role in tackling the multifaceted challenges faced by communities, spanning social, economic, and environmental domains. However, non-profit organizations in Nairobi County, like elsewhere, face numerous financial complexities stemming from diverse funding sources, donor expectations, and stringent regulatory frameworks. The intricacies of managing finances in this sector necessitate a closer examination of the role forensic accounting practices play in ensuring transparency, accountability, and overall financial health. The research aimed at investigating the effect of forensic accounting practices on financial sustainability of NGOs in Nairobi County, Kenya. The specific objectives were to; evaluate the effect of asset tracing on financial sustainability among non-profit making organizations in Nairobi County; establish the effect of fraud investigation on financial sustainability among non-profit making organizations in Nairobi County; evaluate the role of litigation support on financial sustainability among non-profit making organizations in Nairobi County, and to determine the effect of due diligence on financial sustainability among non-profit making organizations in Nairobi County. This study was anchored on the Routine Activities Theory, Fraud triangle Theory, Deterrence Theory and Agency Theory. The study used the descriptive research and cross-sectional survey designs to gather data for the research questions. The target population of the study was the 1388 NGOs operating in Nairobi County from which 93 were selected using simple random sampling technique. Primary data was collected using closed ended questionnaires which were issued through drop and pick. Data collected was analyzed using both descriptive and inferential statistics; and presented in form of tables. Ordinary Least Square method was used for estimation and Statistical Package for Social Sciences (SPSS) Version 24 was used to aid the analysis. Results show; asset tracing has a negative insignificant effect on financial sustainability ($\beta = -0.042$; $p = 0.121$), fraud investigation has a significant positive effect on financial sustainability ($\beta = 0.340$; $p = 0.029$); litigation support has a significant positive effect on financial sustainability, ($\beta = 0.235$; $p = 0.017$) and due diligence has a significant positive factor affecting financial sustainability ($\beta = 0.305$; $p = 0.001$). It is recommended policymakers leverage these insights to develop targeted interventions supporting NGOs in enhancing their financial resilience.

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ABBREVIATIONS AND ACRONYMS

EACC	Ethics and Anti-Corruption Commission
FTT	Fraud Triangle Theory
ICS	Internal Control System
NGO	Non-Governmental Organization
KLIF	Kenya Leadership Integrity Forum membership
KIP	Kenya Integrity Plan
OCB	Office of the Controller of Budget
PB	Participatory Budget
RAT	Routine Activities Theory
SID	Society for International Development
SPSS	Statistical Package for Social Sciences
VFM	Value for Money

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Forensic accounting has become an essential instrument in financial management, especially within the realm of non-profit organizations. As these organizations operate in a unique environment with distinct financial challenges, understanding the impact of forensic accounting practices on their financial sustainability becomes imperative. Nairobi County, as a hub for diverse non-profit entities, provides an ideal setting for exploring and comprehending the dynamics between forensic accounting and financial sustainability within this sector (Mugambi & Theuri, 2014).

Non-profit organizations in Nairobi County, like elsewhere, face numerous financial complexities stemming from diverse funding sources, donor expectations, and stringent regulatory frameworks. The intricacies of managing finances in this sector necessitate a closer examination of the role forensic accounting practices play in ensuring transparency, accountability, and overall financial health. This study seeks to delve into the specific challenges faced by non-profit organizations in Nairobi County and how forensic accounting strategies can mitigate these challenges (Adbi, 2022).

The unique nature of non-profit organizations requires a nuanced approach to financial management. Unlike for-profit entities, non-profits operate with a mission-driven focus, relying heavily on donations, grants, and other non-traditional revenue streams. Understanding how forensic accounting practices can align with and enhance the financial sustainability of these organizations is crucial for their long-term success (Ebenezer, Musah, & Ahmed, 2020). By

conducting this study, we aim to contribute valuable insights that can inform both practitioners and policymakers in the non-profit sector. The increasing scrutiny on the financial practices of non-profit organizations, coupled with the growing complexity of financial transactions in the modern landscape, underscores the need for effective forensic accounting measures. Nairobi County, as an economic and cultural hub, serves as an ideal microcosm to study the real-world implications of implementing forensic accounting practices in the non-profit sector. Exploring this intersection will shed light on best practices, potential challenges, and the overall impact on financial sustainability within this specific context.

Maintaining financial sustainability is critically important for non-profit organizations in today's globalized world. As the world becomes more interconnected and competitive, these organizations must secure reliable and sufficient funding to achieve their missions and remain operational (Ebenezer, Musah, & Ahmed, 2020). To address pressing global challenges such as poverty, inequality, and environmental issues, non-profits can enhance their resilience and long-term impact by prioritizing financial stability. This approach enables them to invest in sustainable solutions and drive lasting positive change (Adbi, 2022).

Within a globalized landscape, financial stability, as highlighted by Fruk and Badurina (2021), equips non-profit organizations to seize financing opportunities abroad and collaborate with international partners to address formidable challenges. In a world characterized by interconnectedness and dynamism, prioritizing financial sustainability enables non-profits to extend their impact, enhance effectiveness, and broaden their reach. In essence, placing financial sustainability at the forefront empowers non-profit organizations to navigate the complexities of a linked global environment and maximize their contributions to addressing pressing global issues (Adua, 2022).

1.1.1 Forensic Accounting

Forensic accounting is an essential tool for addressing fraud within non-governmental organizations (NGOs). This form of accounting examines financial data to identify potential criminal activity. Forensic accountants utilize their expertise in accounting, investigation, and auditing to determine if an individual or entity has engaged in financial wrongdoing, such as fraud or theft. What sets forensic accounting apart is its incorporation of legal knowledge to assess the legality of financial actions, with evidence often presented in court. It involves providing investigative accounting and litigation support services, offering a comprehensive analysis for the court that can be used to guide discussions and resolve conflicts (Alshurafat et al., 2021). According to Dada et al. (2013), forensic accounting is a distinct accounting practice focused on real and anticipated litigation and disputes.

The practice of forensic accounting depends on scientific techniques, effective communication, and the interpretation of data obtained from financial records (Dada et al., 2013a). The study emphasized that forensic accounting involves using independent professional judgment to evaluate the status of inventories and accounts, which can assist in legal or administrative reviews. Adegbe et al. (2019) noted that forensic accounting employs quantitative methods, along with skills in accounting, finance, and auditing, to assess the true state of accounts and financial transactions. They pointed out that forensic accounting is crucial for dispute resolution, litigation, and administrative evaluations.

Forensic accounting is employed by a variety of organizations, including government bodies, law enforcement agencies, insurance firms, and banks. While some firms specialize solely in forensic accounting, many large accounting firms have dedicated forensic accounting divisions (Alshurafat

et al., 2021). The practice primarily focuses on gathering evidence related to economic transactions, aiding in valuations and accountability assessments. Mary-jo et al. (2006) emphasized that forensic accounting integrates investigative, accounting, and auditing techniques to gather evidence that supports legal or administrative proceedings.

1.1.2 Financial Sustainability

Kibaki (2021) defines financial sustainability in NGOs as their ability to maintain a strong financial standing and effectively manage resources over time. This requires balancing revenue generation, controlling expenses, and managing financial risks to ensure continued operations, growth, and long-term viability. Key aspects of financial sustainability in NGOs include generating revenue, managing costs, financial planning, access to financing, risk management, financial reporting, transparency, and investing in human resources. Adua (2022) similarly highlights the importance of financial sustainability in NGOs, describing it as the consistent ability to generate sufficient financial resources to support operations, fulfill financial obligations, and ensure long-term survival. This involves maintaining a balance between revenue, expenses, and investments while managing financial risks to ensure sustainable growth.

Klaus (2010) emphasizes the importance of sustainability in organizations, defining it as the ability to last over time while fulfilling their mission. Both internal and external factors, such as financial viability, implementation, liquidity, economic capacity, and external factors like government regulations, influence sustainability. Evaluating an organization's financial health involves assessing net income (the excess of revenue over expenses), liquidity (available funds to meet obligations), and solvency (the relationship between assets and liabilities) (USAID, 2019). Economic sustainability thus focuses on financial planning and control to guarantee the long-term survival of an organization. Sustainability refers to an organization's capacity to continue its

operations indefinitely, with economic and institutional sustainability being the most widely used concepts.

In Kenya, financial sustainability is crucial for NGOs for several reasons. It enables them to maintain and expand their impact on societal issues by addressing various social, economic, and environmental challenges. NGOs require reliable and consistent funding to effectively carry out their missions. Financial sustainability ensures uninterrupted project implementation, service delivery, and contribution to positive social change (Adua, 2022). Furthermore, financial sustainability grants NGOs greater independence, allowing them to set priorities, allocate resources strategically, and adapt to emerging needs without excessive reliance on external funding sources or conditions. Integrating forensic accounting with financial sustainability in NGOs is vital for ensuring responsible financial management, preventing fraud, and safeguarding the organization's long-term success.

1.1.3 Forensic Accounting Practices

Many scholars are increasingly interested in Forensic Accounting Techniques due to their effectiveness in promoting Financial Sustainability. This growing interest stems from the rising global incidence of fraud, the perceived limitations of statutory audits in preventing fraud, and the availability of methods designed to combat fraudulent activities. As a result, Forensic Accounting Techniques have been defined and conceptualized in various ways by different researchers and organizations.

The American Institute of Certified Public Accountants (AICPA) describes forensic accounting techniques as the use of Certified Public Accountants' (CPAs') specialized knowledge and investigative skills to gather, analyze, and assess evidence. These findings are then interpreted and

communicated in legal or regulatory settings, such as courtrooms or boardrooms. Apostolou, Hassell, and Webber (2000) define forensic accounting as the application of accounting, auditing, and analytical skills to assist the legal system.

Ngozi (2015) views forensic accounting methods as a specialized branch of accounting aimed at resolving current, potential, or anticipated disputes, making them suitable for legal evaluation and assurance. Dhar and Sarkar (2010) expand on forensic accounting techniques, describing them as the application of accounting knowledge to address legal issues within businesses. They suggest that the results of a confidential audit following a forensic accounting inspection could be accepted as evidence in court, particularly in cases involving extortion.

Koh, Arokiasamy, and Suat (2019) argue that forensic accounting techniques involve the application of accounting, financial, investigative, and analytical principles to issues related to dishonesty. Zia (2010) extends this definition by including the application of financial, accounting, tax, and auditing expertise to areas of civil law, criminal law, and other legal fields. The main goal is to uncover important information and offer expert opinions that support decision-making and serve various purposes, including legal support, due diligence, fraud investigations, and asset tracing, which are commonly used as anti-fraud measures.

Research by Saleh, Azhar, and Azeez (2020) in Iraq underscores the importance of forensic accounting techniques in detecting and addressing financial corruption worldwide. In China, the growing significance of forensic accounting in combating fraud and corruption has led to laws mandating the creation of internal audit units and the implementation of forensic audits by businesses (Wang, Chen, Zhang, & Yang, 2019). Walakumbura and Dharmarathna (2022)

emphasize the strong correlation between accounting expertise, forensic accounting knowledge, and the ability to identify fraudulent activities in Sri Lanka.

In Nigeria, Abiola and Omoniyi (2018) highlight that establishing effective channels for reporting fraud significantly reduces fraudulent incidents. Chinyamurindi and Verwey (2020) in South Africa emphasize the importance of forensic accountants maintaining their professional identity in the fight against fraud. In Ghana, forensic accountants are in high demand for investigating allegations of misconduct, auditing financial records, and implementing anti-fraud measures (Otu & Oppong, 2020). Ng'ang'a (2015) notes the role of forensic accounting in preventing fraud in Kenya, and Kipng'eno (2022) observes that the use of forensic accountants for investigations and the establishment of internal controls is gaining popularity in Kenya. Implementing forensic accounting effectively can help organizations uncover fraud, identify the perpetrators, and recover misappropriated assets (Karuti, 2020).

1.1.4 Non-Governmental Organizations in Nairobi County

In Nairobi City County, non-profit organizations play a vital role in addressing social challenges and providing essential services to the local population. As the country's capital, Nairobi hosts numerous non-profits working in various sectors, including healthcare, education, poverty reduction, environmental conservation, and human rights advocacy (Odhiambo & Njuguna, 2021). These organizations are dedicated to improving the lives of Nairobi's residents through innovative programs, advocacy, and community involvement. They frequently collaborate with government agencies, international bodies, and local communities to promote sustainable development and drive social change (Obegi & Kimutai, 2019). Despite facing challenges such as a complex legal framework, limited funding, and resource shortages, these non-profits remain committed to

enhancing the well-being and living standards of the diverse population in Nairobi City County (Claire, 2020).

Kituma (2022) highlights that the size, resources, and focus of each non-profit in Nairobi City County influence their budgeting processes. Larger, more established organizations tend to use more advanced budgeting techniques, focusing heavily on financial planning. These organizations typically engage in detailed budgeting procedures, including income forecasting, cost analysis, and continuous financial monitoring (Kanyaru & Musembi, 2023). They may establish finance committees, utilize budgeting software, and regularly review their budgets. Smaller, local non-profits, however, often struggle due to limited funding and capacity. These organizations may adopt simpler budgeting methods, primarily tracking income and expenses. Despite these challenges, there is an increasing awareness among non-profits in Nairobi City County of the importance of effective budgeting, and efforts are underway to improve financial management skills through training, access to resources, and collaboration with financial experts (Lavu & Maina, 2020).

In Nairobi County, NGOs face a variety of financial difficulties, which make the need for robust forensic accounting practices particularly important. The region's diverse and dynamic economy creates ample opportunities for financial misconduct and fraud (Lavu & Maina, 2020). Issues like embezzlement, fund misappropriation, and even collusion with external parties are not uncommon (Kanyaru & Musembi, 2023). In such an environment, forensic accounting is crucial to identify, investigate, and prevent financial irregularities. Additionally, Kenya's evolving regulatory environment, including in Nairobi County, presents ongoing compliance challenges for NGOs. Meeting stringent regulatory requirements and reporting standards demands careful financial management, and forensic accounting practices provide a structured approach to assessing

compliance, identifying discrepancies, and reducing the risks associated with non-compliance (Odhiambo & Njuguna, 2021).

1.2 Problem Statement

Ideally, non-profit organizations play an indispensable role in tackling the multifaceted challenges faced by communities, spanning social, economic, and environmental domains (Lavu & Maina, 2020). Their mission-driven initiatives often fill crucial gaps in services, advocating for marginalized groups, fostering economic empowerment, and promoting sustainable practices. These organizations serve as catalysts for positive change, mobilizing resources and expertise to address systemic issues and uplift the most vulnerable members of society (Odhiambo & Njuguna, 2021). As pillars of community resilience, their impact extends far beyond immediate aid, shaping the fabric of society and paving the way for a more equitable and sustainable future. It is therefore important that the NGOs are financially sustainable. Financial sustainability enhances the credibility and trustworthiness of NGOs and donors, partners, and the public are more likely to support organizations that demonstrate a capacity to manage their finances responsibly (Kituma, 2022).

NGOs in Kenya and especially those in Nairobi County face various economic challenges, including fluctuations in donor funding, economic downturns, and unforeseen emergencies (Adua, 2022). According to Nzioka (2022), there is evidence to show that the NGOs in Nairobi County have recurring budget deficits or persistent cash flow shortages may indicate an imbalance between revenue and expenditure, signaling financial instability. Additionally, audit reports reveal irregularities or discrepancies in financial records, such as unexplained expenditures or discrepancies in asset valuation, which points to potential financial mismanagement or fraud. Additionally, declining donor support or a shrinking donor base over time may suggest waning

confidence in the organization's financial stewardship or program effectiveness. There is also the inability to meet programmatic targets or maintain service delivery due to resource constraints may highlight the broader impact of financial unsustainability on the organization's mission and beneficiaries (Lavu & Maina, 2020).

Several studies have explored the impact of forensic accounting practices on financial sustainability. He (2011) and Akankunda (2019) both conducted research on forensic accounting using a mixed research methodology, while Zhou (2012) utilized a conceptual research approach. Some studies have employed mixed research methodologies, while others have used single-method approaches. Previous research has applied various methodologies and examined different variables to assess the relationship between forensic accounting and the performance of firms and industries. Nzioka (2022) studied the impact of forensic accounting on financial accountability in Machakos County, using fraud investigation, prevention, and examination as explanatory variables. This research addresses the gap in methodology and variables by focusing on how asset tracing, fraud investigation, litigation support, and due diligence influence the financial sustainability of non-profit organizations in Nairobi County.

1.3 Research Objectives

1.3.1 General Objective

The general objective of the present study was to establish the effect of forensic accounting practices on financial sustainability among non-profit making organizations in Nairobi County.

1.3.2 Specific Objectives

- (i) Evaluate the effect of asset tracing on financial sustainability among non-profit making organizations in Nairobi County.

- (ii) Establish the effect of fraud investigation on financial sustainability among non-profit making organizations in Nairobi County.
- (iii) Evaluate the effect of litigation support on financial sustainability among non-profit making organizations in Nairobi County.
- (iv) Determine the effect of due diligence on financial sustainability among non-profit making organizations in Nairobi County.

1.4 Research Questions

The following research questions guided the study

- (i) How does asset tracing affect financial sustainability among non-profit making organizations in Nairobi County?
- (ii) How does fraud investigation affect financial sustainability among non-profit making organizations in Nairobi County?
- (iii) Does litigation support significantly affect financial sustainability among non-profit making organizations in Nairobi County?
- (iv) How does due diligence affect financial sustainability among non-profit making organizations in Nairobi County?

1.5 Justification of the Study

The study aimed at examining the effect of forensic accounting practices on financial sustainability among non-profit organizations in Nairobi County holds considerable value for various stakeholders in the non-profit sector. Primarily, the results of this research would offer essential insights for NGOs in Nairobi County, enabling them to understand how incorporating forensic accounting practices into their financial management can impact their operations. NGOs can use this knowledge to strengthen their financial sustainability strategies, ensuring efficient use of

resources and reducing potential fraud risks. By adopting robust forensic accounting practices, NGOs can build stronger financial foundations, enhancing their long-term viability.

For regulatory bodies and policymakers, the study's findings would provide crucial information to guide the creation or improvement of regulations and guidelines that govern financial management in non-profits. A deeper understanding of the connection between forensic accounting and financial sustainability could aid in developing policies that promote best practices, fostering transparency, accountability, and overall stability in the non-profit sector.

Moreover, the results would be valuable to donors and funding agencies. Donors typically want assurance that their funds are being used effectively and that the organizations they support are financially sustainable. Understanding the positive impact of forensic accounting practices can increase donors' confidence, potentially leading to greater financial backing for NGOs in Nairobi County. This support can enhance the organizations' ability to fulfill their missions and create a more substantial impact in their communities. Additionally, the research could serve as a valuable resource for academics and researchers studying the intersection of forensic accounting and financial sustainability in non-profits. It could inspire further studies, discussions, and the development of best practices tailored to address the unique financial challenges faced by non-profit organizations.

1.6 Study Scope

The research aimed to determine how forensic accounting could serve as a tool for detecting, controlling, and preventing fraud among NGOs in Nairobi County. The study explored how forensic accounting practices, such as asset tracing, fraud investigation, litigation support, and due diligence, can prevent fraud by identifying or controlling it, safeguarding money and assets from individuals with personal motives, thus preventing theft within NGOs. The study specifically

focused on theories related to these forensic accounting practices and their impact on financial performance. It was conducted in Nairobi County's NGOs using a descriptive research design, and data collection took place in March 2024.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter two offers a review of previous studies that explored fraud detection, control, and prevention, and their connection to forensic accounting. Specifically, it includes the theoretical review in subsection two, the empirical literature review in subsection three, a summary of the literature review in subsection four, and the conceptual framework that guided this research in subsection five.

2.2 Theoretical Review

Several theories can help explain fraud. This section explores the theories that form the foundation of the study, including the Routine Activities Theory, the Fraud Triangle Theory, the Deterrence Theory, and the Agency Theory.

2.2.1 Routine Activities Theory

In 1979, Marcus Felson and Lawrence Cohen introduced the Routine Activities Theory (RAT) to better understand crime control. The theory was used to analyze crime trends in the U.S. from 1947 to 1974 (Cohen & Felson, 1979). Its flexible assumptions made it suitable for studying variations in crime rates after World War II (Brady et al., 2015). The theory has significantly advanced the understanding of dishonest behavior, shedding light on various characteristics of fraudsters that are crucial in combating fraudulent activities (Sasse, 2005). The RAT model, a key concept in fraud theory, examines the relationship between individuals and the places where fraud occurs, offering an explanation for why crimes like fraud take place (Samonas, 2013). Rather than viewing a fraudster's actions as occurring over time, the theory provides an understanding of why fraud occurs in particular circumstances.

Originally developed to address property crimes, the RAT model is now widely applied to other harmful behaviors, such as fraud. The numerous activities within organizations create opportunities for fraudsters to engage with employees, complicating fraud control (Sasse, 2005). Routine employee behaviors often serve as the basis for fraud prevention in organizations, and the theory has played a crucial role in reducing fraud. According to the theory, fraud is more likely to happen when individuals are unsupervised, and no effective measures are in place to prevent it. Forde and Kennedy (1997) argued that fraud occurs when motivated offenders encounter suitable targets without competent guardians. The RAT model helps management identify potential fraud risks by highlighting barriers to effective financial sustainability. Tilley et al. (2015) suggested that the model should be used to analyze the traits of fraudsters and understand the behaviors that lead to fraud. Thus, the theory indicates that fraudulent activities in businesses can be reduced through effective case management.

This study applied the RAT model to describe the traits of fraudsters within Kenyan NGOs. Key areas such as the technical division, treasury, and procurement division are seen as "appropriate fraud targets" in the public sector, where fraudulent contract awards may occur. A "motivated offender" refers to an employee or a third party who conspires with others to commit fraud. The absence of a "capable guardian," which can be exacerbated by a lack of appropriate fraud controls like forensic accounting, can worsen the situation. According to the theory, fraud occurs when all three elements—motivated offenders, suitable targets, and a lack of guardianship—intersect.

2.2.2 Fraud Triangle Theory

Donald Cressey, a renowned criminologist, introduced the Fraud Triangle Theory (FTT) in 1950, asserting that white-collar crime cannot occur without three key elements: pressure, opportunity, and justification (Muritala et al., 2017). Cressey's goal was to understand the reasons behind

fraudulent behavior. Pressure refers to the forces that influence or motivate individuals to engage in unethical actions. Fraudsters often experience various forms of peer pressure to act dishonestly (Muritala et al., 2017), and pressure has been identified as the primary driver of fraud (Abdullahi & Mansor, 2015). There are three types of pressure: personal, internal, and external.

Opportunity is another crucial factor that facilitates fraud. Opportunities for fraud arise when an organization's internal controls and governance systems are weak, allowing individuals to exploit these weaknesses (Wolfe & Hermanson, 2004). According to the opportunity theory, fraud is more likely to occur when individuals take advantage of these gaps in control. Fraud is also more likely when the risk of being caught is minimal (McClurg & Butler, 2006). Khanna and Arora (2009) noted that fraud opportunities within organizations can arise due to factors like employee negligence, failure to adhere to policies, and the absence of consequences for misconduct. Wolfe and Hermanson (2004) explained that opportunity refers to the ability to bypass safeguards designed to prevent fraud.

Rationalization occurs when a fraudster justifies their immoral behavior, creating an explanation that makes their actions seem acceptable. Even when the opportunity to commit fraud exists, a fraudster must devise methods to conceal their actions. Abdullahi and Mansor (2015) highlighted that factors such as personality, coercion, strain, status, deception, and intelligence can further enable fraud.

The FTT model has been instrumental in understanding the motivations behind fraudulent actions, which can be financial, non-financial, social, or political, helping to address them proactively and prevent further fraud. Additionally, it has demonstrated the types of opportunities that may exist within NGOs and how the adoption of forensic accounting practices can prevent fraud. The model also sheds light on how NGO officials rationalize their fraudulent behavior and justify unethical

actions. The fraud pentagon model, which expands on the Fraud Triangle, incorporates other factors, particularly strain, as a crucial element in fraud. Forensic accounting practices are vital in addressing weaknesses within the model, and combining various fraud management systems can strengthen these measures.

2.2.3 Deterrence Theory

Tombs and Whyte (2013) pointed out that the deterrence theory, developed in the 18th century by philosophers Jeremy Bentham and Cesare Beccaria, suggests that individuals are inherently self-interested and aim to avoid stress and discomfort. According to Piquero et al. (2011), this theory, originally from criminology, was employed to regulate criminal behavior. Over time, fraud became recognized as a form of crime, and the theory argues that the fear of punishment can lead individuals to believe they are being monitored, with the potential consequences being severe (Piquero et al., 2011). Tombs and Whyte's study supported the notion that the deterrence theory could be valuable in developing fraud management policies that help prevent fraud and its associated risks. However, Siponen and Vance (2010) cautioned that monitoring employee behavior can be expensive and difficult, making it hard to assess whether fraud deterrence methods are effectively controlling fraud.

Punishing fraudsters can make employees aware of the consequences of their actions, which may reduce fraudulent behavior. Deterrence can predict how employees will act in various situations, as their behavior can either support or hinder the fight against fraud (D'Arcy & Herath, 2011). Herath and Rao (2009) found that failing to follow financial controls often leads to fraud in organizations, indicating the need for updated fraud management policies. According to the theory, severe penalties will discourage employees from committing fraud, providing a solution to the issue (Herath & Rao, 2009). D'Arcy and Herath (2011) argued that deterrent strategies allow

individuals to assess the risk of being caught and understand the potential consequences before acting. However, monitoring individuals is often difficult for organizations, making it hard to conclude whether fraud deterrence strategies are truly effective. Even with forensic accountants, monitoring employees can be costly and challenging. For instance, continuous forensic accounting checks might harm employee morale if they realize their actions are under scrutiny (D'Arcy & Herath, 2011). Nevertheless, despite the challenges in observing employee behavior, deterrence theory is widely applied to combat and control fraud (Herath & Rao, 2009). The various fraud control systems in many organizations differ significantly, but deterrence theory remains the most widely used approach to controlling fraud.

The theory was useful for this study because it emphasized that fraud is not accidental; it is planned by internal staff, possibly in collaboration with external parties or self-interested individuals. The deterrence theory was applied to develop procedures that address hidden patterns that may promote fraud in public organizations. It aids in identifying potential future fraud opportunities. While fraud deterrence may only offer a temporary solution, implementing deterrent measures could help prevent fraud in the future. A key distinction between fraud deterrence and detection is that detection involves reviewing past transactions to identify fraud that has already occurred, whereas deterrence involves assessing current controls to predict potential future fraud, forming the basis for using forensic accounting in fraud prevention.

The theory remains relevant in preventing fraud and continues to be a solid foundation for managing unethical behavior. It was well-suited for this investigation because using fraud control systems can significantly reduce fraud. The theory also provided a framework for implementing fraud management tools and enhancing understanding of forensic accounting procedures.

However, forensic accounting may not have fully achieved the desired level of fraud control at the county level.

2.2.4 Agency Theory

Agency theory, introduced by Jensen and Meckling in 1975, addresses the conflicts of interest between debt financiers, shareholders, and managers, forming the basis of corporate governance (Panda & Leepsa, 2017). These groups have differing goals and interests. The term "agency relationship" refers to the arrangement where the owners (principals) appoint managers (agents) to run the business on their behalf. In this structure, the owners grant managers decision-making authority, expecting them to act in the owners' best interests.

In non-profit organizations, managers also act as agents for the principals, which may lead to further conflicts of interest. The primary stakeholders in this relationship are the donors and financiers, who are likely focused on ensuring that their contributions are effectively used. However, determining whether a non-profit is truly providing value for money is challenging. The principals in this case are a diverse group with varying views on what constitutes value. Management is tasked with deciding how to allocate resources in a way that aligns with the organization's mission and benefits the target group. If donors are dissatisfied with how these decisions are made, they can remove the management or withdraw funding. Another challenge in public sector organizations is defining strategic goals and measuring progress toward them (Shapiro, 2005). Typically, public sector organizations undergo limited audits to ensure financial integrity, but these audits often do not assess the effectiveness or performance of the organizations (Afe Babolala University, 2017).

In this study, agency theory was applicable as it facilitated the evaluation of the financial performance of non-profit organizations in Nairobi County, particularly regarding the transparency of their financial transactions.

2.3 Empirical Literature Review

Numerous studies have explored the link between forensic accounting expertise and the prevention of fraud. Most of this research has been carried out in developed economies such as the USA, UK, and Canada, offering valuable insights into how forensic accounting skills contribute to fraud detection and prevention.

2.3.1 Asset Tracing and Financial Sustainability

Okoye (2017) conducted a study to evaluate the effectiveness of forensic accounting in detecting and preventing fraud. The research utilized both primary and secondary data, distributing 370 questionnaires to five randomly selected ministries in the Kiambu region. The data was analyzed using tables and percentages, and hypotheses were tested using analysis of variance (ANOVA). The study found that the application of forensic accounting techniques, particularly auditing methods, significantly reduced fraud in the public sector. While Okoye's (2017) study focused mainly on fraud detection, the current study concentrates on financial sustainability.

In Nigeria, Okunbor and Obaretin (2010) examined the effectiveness of forensic accounting in combating fraud across ten organizations in five industries listed on the Nigerian Stock Exchange. The study, which involved 140 respondents, employed descriptive statistics and a simple regression model. The findings suggested that forensic accounting procedures had a minimal effect on preventing fraud in Nigerian-listed companies, with respondents largely agreeing that forensic accounting was ineffective based on disagreement frequency scores.

Ebimobowei (2016) explored the impact of forensic accounting expertise on fraud detection in 24 banks in Port Harcourt, Nigeria. Using various statistical methods, the study revealed that financial institutions could greatly benefit from applying forensic accounting skills, especially in auditing. While these studies focused on Nigeria, they did not include NGOs or Savings and Credit Cooperative Societies (SACCOs) and mainly centered on government institutions. In Bangladesh, Islam, Rahman, and Hossan (2018) investigated forensic accounting's role in detecting fraud, underscoring its importance in addressing different forms of misconduct. Another study by Gottschalk (2017) surveyed 517 respondents in Bangladesh, emphasizing the significance of controls, ethical standards, and other factors in detecting and managing fraud.

Muthusamy (2010) carried out research in Malaysia using the Partial Least Square (PLS) method to examine the impact of forensic accountants' auditing skills on business performance. The study, involving 305 respondents from Malaysia's largest companies, confirmed that forensic accountants and their auditing expertise contributed positively to business performance. Njanike et al. (2019) conducted a study in Zimbabwe, focusing on forensic auditing, and identified challenges such as a lack of tools, insufficient expertise, management interference, and poor public acceptance. These challenges need to be addressed to improve the effectiveness of forensic auditing in Africa.

Boritz et al. (2008) investigated the role of forensic accountants and auditors in the planning phase to detect fraud. Their findings indicated that involving fraud specialists in risk assessments leads to better results. The study emphasized that forensic accounting techniques, including investigative accounting and litigation support, improve organizational performance. Di Gabriele (2010) conducted an empirical study on perceptions of transparency in expert testimony among forensic accountants, attorneys, and academic professionals in accounting. The study revealed differences

in opinions among these groups and concluded that there is an increasing demand for forensic accounting education and specialization, recommending the inclusion of forensic accounting training in accounting curricula.

2.3.2 Fraud Investigation and Financial Sustainability

Onuorah and Bimobowei (2015) conducted a study to evaluate the effectiveness of forensic accounting techniques in detecting fraud in Nigeria. Primary data were collected using a structured, three-part questionnaire, supplemented by secondary data sources. The survey was conducted in twenty-four banks in Port Harcourt, a major city in Rivers State, Nigeria. The data were analyzed using descriptive statistics, the modified Dickey-Fuller test, ordinary least squares, and the Granger causality test. The research aimed to assess the impact of forensic accounting services on the frequency of fraudulent activities in the banking sector. The findings revealed a direct correlation between the use of forensic accounting services and the occurrence of fraud, suggesting that the investigative expertise of forensic accountants provides banks with valuable tools to enhance their financial sustainability.

In a related study, Jonathan and Osasumwen (2010) investigated the role of forensic accounting services in reducing fraudulent activities in Nigeria. This research incorporated in-depth interviews and customized surveys to gather opinions from Nigerians, focusing on companies in the banking, insurance, petroleum, food and beverage, and brewing sectors listed on the Nigerian Stock Exchange. A basic random sampling method was used for sample selection, and the simple regression model (SRM) was applied for statistical analysis. However, the study did not find a statistically significant relationship between forensic auditing skills, including investigation expertise, and business outcomes.

Boritz et al. (2018) assessed the potential for improving audit efficiency by integrating fraud specialists into the audit planning process. The study, which gathered insights from forensic accountants and auditors, concluded that involving fraud experts in the risk assessment process, beyond basic summaries, significantly enhances the overall quality of risk assessments. The research focused on public perceptions of forensic accounting's role in combating fraud, emphasizing its primary goal of improving the ability to detect and prevent accounting fraud. The study found that forensic accounting functions, such as litigation support and investigative accounting, contribute to greater organizational efficiency.

Koh, Arokiasamy, and Suat (2019) examined public awareness of fraud detection and forensic accounting in Malaysia, exploring the public's knowledge and attitudes toward forensic accounting. The study revealed that a lack of knowledge and experience in accounting contributed to undetected fraud, but the average Malaysian acknowledged the value of forensic accounting in examining financial records and detecting fraudulent activities. The study concluded that forensic accounting tasks like investigations and litigation support are crucial for the ongoing success and growth of businesses. The researchers stressed the importance of all businesses adopting forensic accounting practices to promote transparency, reliability, and accountability.

In a similar study on forensic accounting techniques for fraud detection in Turkey, Kaya (2005) emphasized the significance of professional training in forensic accounting and legal expertise to prevent financial losses resulting from fraud and corruption. Additionally, Stoel, Havelka, and Merhout (2009) explored the increasing importance of information technology in accounting audits, particularly focusing on data mining techniques used by forensic accountants to address corruption issues linked to technological advancements. The study also highlighted the challenges in combating corruption driven by the use of emerging technologies.

2.3.3 Fraud Litigation Support and Financial Sustainability

Numerous studies have explored the link between forensic accounting techniques and the detection and prevention of fraud. While much of this research has focused on developed nations such as the United States and Europe, scholars in Africa have also investigated the relationship between forensic accounting and fraud detection. One such example is Kasum's (2009) study in Nigeria, which aimed to assess the effectiveness of forensic accounting in addressing corruption and financial crimes. The study compared the demand for forensic accountants in the public and private sectors, evaluating the frequency of legal cases involving financial misconduct. The results indicated that the inclusion of forensic accountants in Nigeria could play a significant role in fighting corruption and financial crimes.

In another study in Kogi state, Nigeria, Gbegi and Okoli (2003) explored the use of forensic accounting to detect and prevent fraud in government agencies. The research found a notable decrease in government fraud following the introduction of forensic accounting practices, underscoring the importance of these services in uncovering and preventing fraud within the public sector. Similarly, Kaya (2015) conducted research in Turkey to assess the effectiveness of forensic accountants in identifying fraudulent activities. The study suggested that employing staff with forensic accounting and legal expertise could lead to potential cost savings for companies. Stoel, Havelka, and Merhout (2019) examined the growing significance of information technology in accounting audits, particularly highlighting how forensic accountants utilize data mining techniques to address the increasing fraud enabled by technological misuse.

Singleton et al. (2010) emphasized the importance of forensic accounting and fraud auditing in their study, which covered various aspects of Financial Sustainability, including auditor responsibilities, fraud detection, prevention, control, and the role of forensic accounting in

providing expert evidence. In a similar study, Rose et al. (2017) investigated the cognitive frameworks of fraud specialists and auditors using visual representations of fraud indicators. The findings revealed different categorization approaches between auditors and fraud specialists, suggesting that auditors could benefit from adopting the fraud specialists' perspective when assessing risks.

Kasum (2019) employed both bibliometric and empirical approaches to assess the need for forensic accountants in the public and private sectors of developing nations, focusing on combating financial crimes. The study highlighted the urgent need for forensic accountants in the public sector to tackle financial crimes. Di Gabriele (2010) conducted an empirical study to understand the views of forensic accountants, lawyers, and accounting professors regarding the need for transparency in expert evidence. The research gathered opinions from 85 professors, 87 forensic accountants, and 86 attorneys, revealing varied responses across the groups. The study emphasized the growing demand for specialized forensic accounting skills and suggested integrating forensic accounting training into accounting curricula to meet this demand and improve the credibility of expert testimony.

Mbugua (2020) focused on how forensic accounting techniques helped Nairobi NGOs, specifically Deposit Taking Savings and Credit Cooperative Societies, in detecting and preventing fraud. The study utilized theoretical frameworks such as the Fraud Triangle theory, Rational Choice Theory, and Routine Activity Theory. The findings indicated a moderately positive effect of forensic accounting approaches on fraud detection and prevention in NGOs in Nairobi County. However, the use of a census method in the study may have led to some data duplication among respondents.

2.3.4 Due Diligence and Financial Sustainability

Ramaswamy (2017) highlighted a growing demand for forensic accountants, driven by increased public expectations for transparency, objectivity, and honesty in corporate financial reporting. The study pointed out the knowledge gap between forensic accountants and traditional finance and audit professionals. The author emphasized the need for educational institutions to develop specialized training programs to address the anticipated future demand for skilled forensic accountants.

In a study on the causes of the audit expectation gap among Kenyan limited companies, Kamau (2013) used a mixed-methods approach, conducting a survey with 110 participants. The study examined factors contributing to the audit expectation gap, including audit effort, auditor skills, independence, structure, public awareness, and audit scope. Questionnaires were the main tool for collecting primary data from audit firms across Kenya. In a similar vein, Di Gabriele (2010) conducted an empirical study that compared responses from 85 professors, 87 forensic accountants, and 86 attorneys. The study explored current practices, future trends, and the role of accounting education, revealing differing perspectives among forensic accountants, lawyers, and academics. It also highlighted the growing need for specialized forensic accounting skills and recommended the inclusion of forensic accounting in accounting curricula to strengthen expert evidence credibility.

Okoye (2011) assessed the effectiveness of forensic accounting techniques in improving fraud detection and prevention by distributing 370 questionnaires to employees in five ministries in Kiambu. Using tables, simple percentages, and Analysis of Variance (ANOVA), the study showed that applying forensic accounting methods, particularly auditing skills, significantly reduced fraudulent activities in the public sector. In Nigeria, Okunbor and Obaretin's (2010) study of 140

respondents from ten organizations, using a simple regression model, questioned the effectiveness of forensic accounting techniques, particularly auditing skills, in preventing financial crimes. Ebimobowei (2011) examined the impact of forensic accounting skills on fraud detection in 24 banks in Port Harcourt and found a significant effect on the prevalence of fraud.

Islam, Rahman, and Hossan (2011) studied the state of forensic accounting in Bangladesh, emphasizing its role in combating fraud and corruption. Gottschalk's (2010) study in Bangladesh focused on control measures to prevent fraud. Muthusamy (2010) in Malaysia used Partial Least Square analysis, revealing that perceived benefits and risks significantly affected attitudes, with auditing skills playing a crucial role in fraud prevention. Njanike et al. (2009) conducted a study in Zimbabwe, using questionnaires to evaluate forensic auditing, and highlighted challenges faced by forensic audit departments, such as shortages of resources, lack of technical expertise, management resistance, and unclear professional recognition.

2.4 Conceptual Framework

A conceptual framework acts as a theoretical foundation for research, encompassing interconnected beliefs, assumptions, and expectations. According to Kothari (2014), it is a theoretical model that outlines variables and their relationships. In this context, forensic accounting techniques such as asset tracking, fraud investigation, litigation support, and due diligence are considered independent variables. Asset tracing, a method employed by forensic accountants, helps achieve organizational objectives such as protecting assets, improving efficiency, maintaining precise financial records, and enforcing management practices.

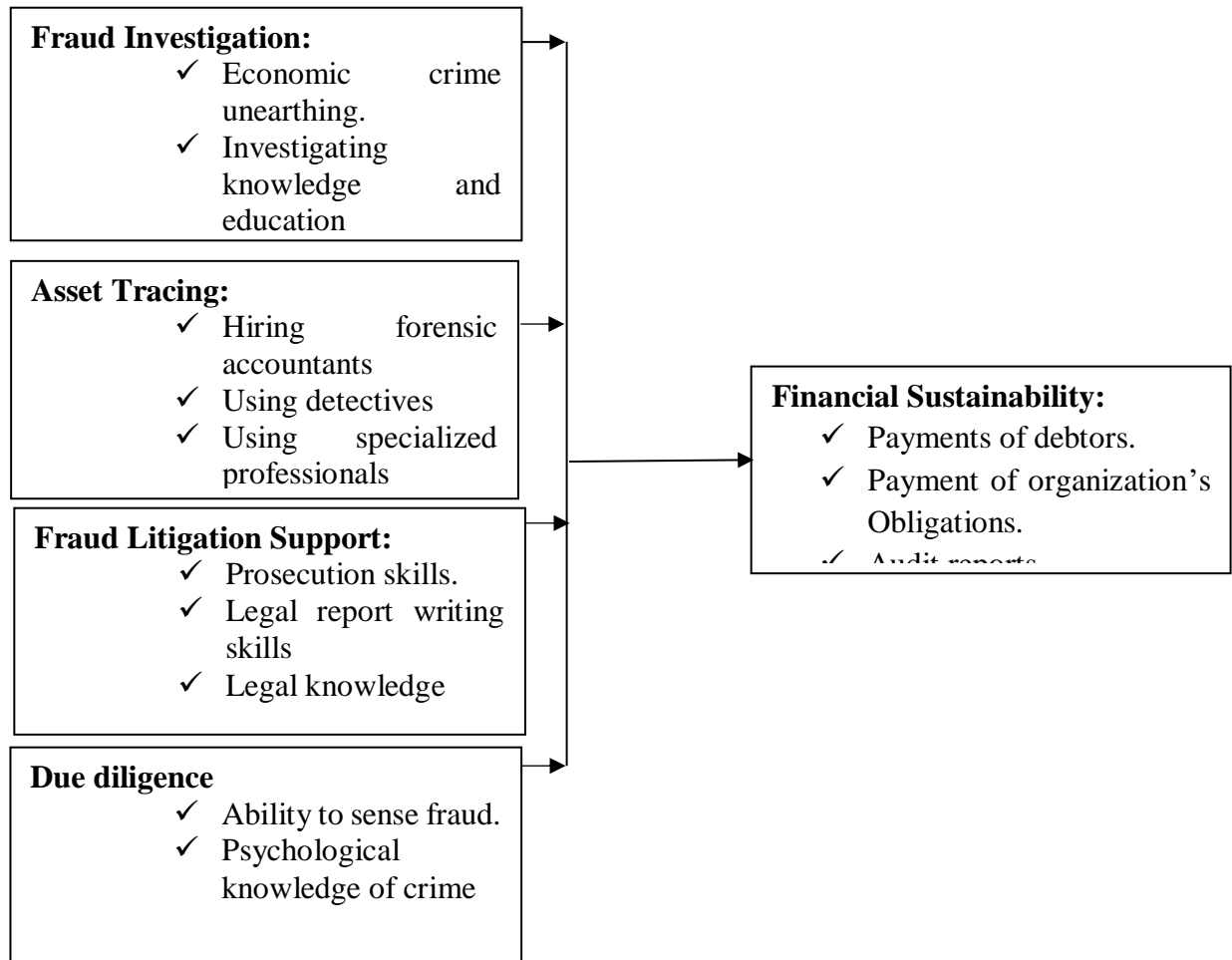
While Braun and Davis (2003) highlight the positive outcomes of fraud investigations, some auditors remain doubtful. Liang et al. (2011) identified inconsistency in the regular use of fraud

investigation methods. Auditors may employ various techniques, including fraud detection, network security, audit reporting, information retrieval, electronic working papers, audit history databases, e-commerce, computer-based training, and internet security. Data mining involves six primary categories, each serving a distinct function. Anomaly Detection identifies unusual data entries for further examination. Association Rule Learning searches for patterns by comparing variable pairs, while clustering looks for common data structures. Classification broadly describes known patterns to draw conclusions, and regression seeks to approximate a function. Summarization condenses the data, highlighting important elements. According to Panigrahi (2016), Due Diligence testing aims to identify outliers, where subsets deviate notably from expected behavior. The conceptual framework presented in Figure 2.1 guided the study, emphasizing the interconnected nature of forensic accounting techniques and their role in achieving organizational goals.

Figure 1
Conceptual Framework

INDEPENDENT VARIABLE

DEPENDENT VARIABLE



Source: Author (2024)

2.5 Operationalization of Variables

The variable in the study was operationalized as shown in Table 2.1 below.

Table 1
Operationalization of Variables

Variable	Type of Variable		Measurement Scale
Asset Tracing	Independent variable (X ₁)	<ol style="list-style-type: none"> 1. Hiring forensic accountants 2. Using detectives 3. Using specialized professionals 	Ordinal
Fraud Investigation	Independent variable(X ₂)	<ol style="list-style-type: none"> 1. Economic crime unearthing. 2. Investigating Knowledge and Education 3. Network security 	Ordinal
Fraud Litigation Support	Independent variable(X ₃)	<ol style="list-style-type: none"> 1. Prosecution skills. 2. Legal report writing skills 3. Legal knowledge 	Ordinal
Due Diligence Financial Sustainability (FS)	Independent variable(X ₄)	<ol style="list-style-type: none"> 1. Ability to sense fraud. 2. Psychological knowledge of crime 	Ordinal
	Dependent variable (Y)	<ol style="list-style-type: none"> 1. Timely payments of debtors. 2. Timely payment of organization's Obligations. 	Ordinal

Source: Author (2024)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the study's design, the target population, the sampling methods and procedures, the research instruments used, the validity and reliability of these instruments, as well as the data collection procedures and the methods for processing and analyzing the data.

3.2 Research Design

Research design involves planning the overall strategy for conducting the study. In this research, a descriptive research design was chosen. According to Saunders et al. (2009), descriptive research design enables researchers to clearly describe the variables of a research problem. The study demonstrated how the independent variables influenced the dependent variable. As noted by Arvid and Vijar (2013), descriptive research provides detailed descriptions and facts, allowing the researcher to conduct an in-depth analysis of the variables and components of the target population.

3.3 Target Population

The target population refers to a group of items or individuals with similar characteristics, as described by Kothari (2014). This trait is shared by all members of the population. For this study, the target population included all 1,388 non-profit organizations in Nairobi City County, Kenya, that have carried out projects in the past three financial years, as reported by the NGO Coordination Board (2022). The study focused specifically on NGOs involved in project implementation, excluding those that have been inactive. The distribution of the study's population is shown in Table 3.1:

Table 2
Target Population

Sector	Population
Health	232
Education	217
Disaster management	244
Children	203
Agriculture	113
Others	379
TOTAL	1388

Source: NGO Coordination Board (2022)

3.4 Sample Size and Sampling Procedure

Sampling refers to the process of choosing individuals or items from a larger population, with the method used for selection called the sampling technique. On the other hand, sample size refers to a subset or group of sampling units that does not include the entire population of sampling units from a larger population (Cooper & Schindler, 2018). For this study, the Yamane formula, as explained by Kothari (2014), was used to determine the sample size, since the target population is under 10,000.

$$n = \frac{N}{1 + Ne^2}$$

Where n is the desired sample size (if the population is less than 10,000)

N = 1388 at 5% levels of significance.

e= is the precision or sample error i.e., 0.05

$$n = \frac{1388}{1 + 1388(0.1)^2} = 93$$

The study employed stratified random sampling techniques to select 93 non-profit organizations in Nairobi City County, Kenya. These techniques are favored because they ensure that every member of the target population has an equal opportunity to be included. The sample size is presented in Table 3.2.

Table 3
Sample Size

Sector	Population	Sample Size
Health	232	16
Education	217	15
Disaster management	244	16
Children	203	14
Agriculture	113	7
Others	379	25
TOTAL	1388	93

Source: NGO Coordination Board (2022)

3.5 Research Instruments

Data collection is a systematic procedure that involves collecting and analyzing information related to specific variables of interest, aiming to answer research questions, test hypotheses, and evaluate results (Burns & Burns, 2018). The selection of research instruments depends on the type of data needed. To gather primary data, internal auditors from the chosen NGOs were asked to complete a questionnaire. This primary data was crucial for accurately depicting the relationship between the dependent and independent variables. The use of a questionnaire was justified by its cost-effectiveness, reliability, and efficiency in quickly gathering data. The questionnaire consisted of closed-ended questions designed to generate specific responses, allowing the researcher to obtain clear and precise answers. It was organized into three sections: background information, forensic accounting practices, and financial sustainability.

3.6 Pilot Test

Ensuring the accuracy and relevance of the research instrument is essential. To achieve this, a pilot study was carried out to assess the feasibility of conducting the full study. The pilot study involved a sample of 10% of the 93 target respondents, which included nine NGOs. Questionnaires were distributed to respondents from these nine randomly selected NGOs to gather their feedback on the questions and identify any areas where adjustments might be necessary.

3.6.1 Validity of Data Collection Instrument

The validity of an instrument, which refers to its ability to accurately measure a specific concept, was ensured by seeking expert opinion (Cooper & Schindler, 2018). The study supervisor thoroughly reviewed the questionnaire to assess its content and face validity, offering informed feedback to ensure that all study variables were adequately covered.

3.6.2 Reliability of Data Collection Instrument

Reliability refers to the consistency of an instrument's performance (Cooper & Schindler, 2018). A high level of reliability is achieved when the instrument produces similar results consistently under the same conditions. To evaluate the reliability of the research tools, Cronbach's alpha analysis was used to measure the accuracy of the internal data collection instrument. Cronbach's alpha is a reliable statistic that provides a "base" score, crucial for researchers to confirm the reliability of the questionnaire, even if some original questions are substituted with similar ones (Khan, 2018). A reliability score between 0.7 and 0.8 is generally considered acceptable, while scores above 0.8 are regarded as excellent.

3.7 Data Collection Procedures

Data collection involves systematically gathering empirical data to gain valuable insights into a specific situation and address the research questions (Khan, 2018). Permission for data collection was secured from KCA University and the selected NGOs. The questionnaire was distributed to the internal auditors of each targeted NGO, assuming their knowledge of forensic accounting practices and financial sustainability. The questionnaires were administered using the drop-and-pick method, with follow-up efforts made to ensure a high response rate. Ethical guidelines were strictly followed throughout the entire process.

3.8 Data Analysis and Presentation

Data analysis involves organizing and transforming raw data into a structured, scientific format that is clear and understandable (Burns & Burns, 2018). According to Kothari (2014), it consists of a series of steps aimed at summarizing and arranging the data to answer the research questions. To analyze the data, the researcher first reviewed the completed questionnaires, assigning numbers to each and verifying their completeness. The questionnaires were then categorized based on their relevance, and each question was assigned a unique code for scoring. After this, the data was reviewed, summarized, and entered the Statistical Package for Social Sciences (SPSS Version 24). Descriptive analysis was conducted using measures such as the mean and median for central tendency, and standard deviation for dispersion. Furthermore, correlation and regression analyses were used to examine the relationships between and among variables.

3.8.1 Model Summary

The regression model below was used:

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

Where: Y = Financial Sustainability

α = Regression intercept.

$\beta_1, \beta_2, \beta_3, \beta_4$ = Model coefficients

X_1 = Asset Tracing

X_2 = Fraud Investigation

X_3 = Litigation Support

X_4 = Due Diligence

ε = error term

3.9 Diagnostic Tests

Before proceeding with the calculation of the equations, diagnostic tests were conducted to verify that the assumptions of the classical linear regression model were not violated. Violations of these assumptions can result in biased and inefficient model parameters. Therefore, diagnostic checks were carried out to ensure that the assumptions for regression analysis were upheld. The tests conducted included assessments for normality, multicollinearity, heteroscedasticity, and linearity, which are detailed in the following subsections.

3.9.1 Normality Test

A normality test is a statistical method used to assess whether a dataset follows a normal distribution, which is typically represented by a symmetric bell-shaped curve. These tests help determine if the data is adequately modeled by a normal distribution or if it deviates significantly from it. Common normality tests include the Shapiro-Wilk test, Kolmogorov-Smirnov test, and Anderson-Darling test. Researchers often perform these tests before using parametric statistical techniques, such as t-tests and analysis of variance (ANOVA), which assume normality. However, it's important to recognize that normality tests have limitations, and their results should not be interpreted solely based on the p-value. Contextual factors, such as the nature of the data and the research question, should also be considered. To evaluate if the residuals of the response variables are normally distributed around the mean, tests like the Shapiro-Wilk or Kolmogorov-Smirnov test were used.

3.9.2 Multicollinearity Test

Multicollinearity was assessed in the analysis using a correlation matrix, with a threshold of 0.8 considered optimal for detecting multicollinearity (Cooper & Schindler, 2018). Failing to account for multicollinearity can lead to infinite standard errors and undetermined regression coefficients,

resulting in inflated standard errors. This undermines the accuracy of the hypothesis testing, affecting the ability to reject or fail to reject the null hypothesis. The extent of multicollinearity influences the estimation process, and a correlation coefficient above 0.8 suggests severe multicollinearity.

3.9.3 Heteroscedasticity

Heteroscedasticity must be identified and addressed in the Classical Linear Regression Model (CLRM). The CLRM assumes that the error term has a constant variance, known as homoscedasticity. If the error variance is not constant, the data is considered heteroscedastic. Running regression analysis without checking for heteroscedasticity can lead to unbiased estimated coefficients but incorrect standard errors. In this study, panel-level heteroscedasticity will be examined using the Likelihood Ratio (LR) test, as proposed by Khan (2018). The null hypothesis for this test assumes the presence of homoscedastic error variance.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the pilot study results as well as the findings from the main study, along with a discussion of these results. It begins with an analysis of the background study results. The section then examines the demographic characteristics of the respondents to assess their understanding of the research questionnaire. Finally, the chapter discusses both the descriptive and inferential results for the study variables.

4.2 Pilot Response Rate

Before starting the main research, a preliminary study was conducted to evaluate the reliability and validity of the questionnaires. This involved nine internal auditors, chosen from nine randomly selected NGOs in the County. The questionnaires were given to each participant and collected at an agreed-upon time. The pilot study achieved a 100 percent response rate, with all nine internal auditors completing and returning their questionnaires for analysis. This high level of participation was considered adequate for further analysis.

4.2.1 Reliability of the Data Collection Instrument

The initial assessment of the data collected after the pilot study aimed to evaluate its reliability. Reliability, as defined by Fraenkel and Wallen (2013), refers to the consistency of responses or scores when the tool is used repeatedly with different sets of questions. In this study, Cronbach's Alpha (α) was employed to measure the reliability of the instrument. According to Mugenda and Mugenda (2013), Cronbach's Alpha (α) measures the level of positive correlation between all variables in the scale. A reliable coefficient typically ranges from 0.00 to 1.00, with a value of 0.00 indicating inconsistency and 1.00 showing perfect consistency. However, following Nunally's

(1978) guideline, a Cronbach's Alpha exceeding 0.7 is considered an acceptable threshold, indicating strong internal consistency in the responses. The reliability results based on Cronbach's alpha are shown in Table 4 below.

Table 4
Reliability of Research Variables

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Items	Conclusion
Asset tracing	.825	.821	6	Reliable
Fraud investigation	.841	.839	6	Reliable
Fraud litigation	.759	.758	6	Reliable
Due diligence	.710	.718	6	Reliable
Financial	.846	.835	6	Reliable
Sustainability				

Source: Author (2024)

In the study, the primary independent variable, asset tracing, was assessed using six items. The results in Table 4.1 show a Cronbach's alpha of 0.825 for these items, confirming their reliability. As a result, all items were included in the main study to measure asset tracing. Likewise, fraud investigation, another independent variable, had a Cronbach's alpha of 0.841, supporting the reliability of all items, which were retained for the main study. For the third construct, fraud litigation, a Cronbach's alpha of 0.759 was found, indicating the appropriateness of all items for the final data collection without exclusions. Due diligence, the fourth variable, also had a Cronbach's alpha of 0.710, demonstrating the suitability of all six items for assessing the control environment, which were therefore included in the data collection. Finally, the dependent variable, financial sustainability, consisted of six items that underwent reliability analysis. The Cronbach's

alpha for these items, as shown in Table 4.1, was 0.826, confirming that all six items were suitable for data collection on financial sustainability.

4.2.2 Validity of the Data Collection Instrument

Foss and Saebi (2017) define validity as the extent to which the test items accurately reflect the content the test aims to measure. They identify four types of validity: face, content, construct, and criterion. In this study, face, content, and construct validity were assessed. Face validity, according to Kothari (2019), ensures a logical alignment between the research objectives and questions, testing whether the questionnaire content is in line with its goals. Content validity, as described by Wilson (2010), measures how well the research instrument represents the constructs it aims to measure. Essentially, it assesses whether the instrument captures the knowledge or content domain for which it was designed.

Validity is essential to ensure that research instruments accurately assess what they intend to measure, whether by establishing a logical connection with research objectives (face validity), representing underlying constructs (content validity), or capturing the intended variables (construct validity). In this study, both face and content validity were evaluated through expert judgment. To test face validity, the supervisor assessed the feasibility, readability, consistency of style and format, and clarity of the language used in the questions. The expert confirmed the questionnaire's validity based on these criteria.

Content validity was assessed using the Content Validity Index (CVI), a method proposed by Waltz, Strickland, and Lenz (2010). Two registered accountants reviewed the questionnaire items for relevance, and the level of agreement between them was measured using the CVI. The formula for calculating the CVI, as suggested by Mason (2010), is $CVI = (\text{Number of Relevant Items} / \text{Total Number of Items})$. Each item was rated as relevant or irrelevant by the experts. The resulting

average CVI was 0.877, which indicates satisfactory content validity. According to Mason (2010), a CVI greater than 0.7 is acceptable, confirming the content validity of the instrument.

4.2.3 Study Response Rate

In a research study, the response rate is determined by dividing the number of received responses by the total number of targeted participants. Often expressed as a percentage, the response rate is also referred to as the completion rate or return rate. Information regarding the response rate for this study is presented in Table 5.

Table 5
Response Rate

Response Rate	Frequency	Percent
Returned	70	83.3
Unreturned	14	16.7
Total	84	100

Source: Author (2024)

Table 4.1 indicates that 84 questionnaires were sent to the operations managers of the 84 NGOs in Nairobi County. A total of 70 questionnaires were returned, resulting in a response rate of 83.3%. This aligns with Mugenda and Mugenda's (2008) recommendation that analysis and conclusions are valid for studies with a response rate of 70% or higher.

4.3 Background Information

The background information section provides an overview of the respondent organizations' characteristics, offering insight into the sample or population under study. It forms the foundation for data analysis and interpretation by providing context for demographic variables. By detailing the demographic makeup of the sample, researchers can identify potential biases or limitations in the data. The first section of the questionnaire is intended to gather general information about the NGOs, including respondents' educational and professional qualifications, as well as their years

of experience. This data is essential for understanding the study's context and for making informed conclusions from the research findings.

4.3.1 Highest Level of Education

The study aimed to determine the highest level of education attained by respondents to evaluate their general knowledge, which would help them comprehend the questionnaire's questions regarding the use of Forensic Accounting Techniques and financial sustainability in NGOs within Nairobi County.

Table 6
Highest Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	11	15.7	15.7	15.7
	Undergraduate	38	54.3	54.3	70.0
	Masters	16	22.9	22.9	92.9
	PhD	1	1.43	1.43	94.33
	Others	4	5.7	5.7	100.0
	Total	70	100.0	100.0	

Source: Author (2024)

The data in Table 6 shows the educational qualifications of the respondents. Of the respondents, 15.7% (N = 11) had a diploma, 54.3% (N = 38) held an undergraduate degree, 22.9% (N = 16) had a master's degree, and 1.43% (N = 1) possessed a PhD. Additionally, 5.7% (N = 4) had qualifications categorized as "other." These results suggest that the respondents had a wide variety of educational backgrounds, which likely enhanced their ability to understand the questionnaire and provide well-informed responses. It also indicates that the respondents possessed adequate knowledge of Forensic Accounting Techniques in NGOs in Nairobi County, supported by their educational achievements.

4.3.2 Training in Accounting

The respondents were asked to specify whether they were professionals in their respective fields to assess their knowledge of Forensic Accounting Techniques in NGOs within Nairobi County from a professional perspective. This inquiry was designed to evaluate their expertise and experience in the relevant area, offering valuable insights into their viewpoints on forensic

accounting techniques in the context of NGOs in Nairobi County. The distribution of the respondents is shown in Table 7.

Table 7
Training in Accounting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	62	88.6	88.6	88.6
	No	7	11.4	11.4	100.0
Total		70	100.0	100.0	

Source: Author (2024)

Table 4.4 reveals that the majority of respondents (88.6%, N=62) had received professional training, while 11.4% (N=7) had not been professionally trained. This suggests that most respondents possess a professional understanding of Forensic Accounting Techniques.

4.3.3 Experience in Current Role

Respondents were also asked to indicate how long they had been in their current roles within NGOs in Nairobi County. This question aimed to gather insights into their familiarity with the impact of changing circumstances on Forensic Accounting Techniques. By determining the length of time respondents had spent in their positions, the study sought to evaluate their exposure to various situations and changes within the NGO sector. This information was important for assessing their understanding of how shifting circumstances could influence the application and effectiveness of forensic accounting methods. The responses are presented in Table 8 below.

Table 8
Experience in Current Role

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 – 3 years	46	65.7	65.7	65.7
	4 – 6 years	22	31.4	31.4	97.1
	Over 7 years	2	2.8	2.9	100.0
	Total	70	100.0	100.0	

Source: Author (2024)

The data in Table 4.5 reveals that 65.7% (N=46) of respondents had been in their current positions for one to three years, while 31.4% (N=22) had been serving for four to six years. Furthermore, 2.8% (N=2) of the respondents had more than seven years of experience in their current roles. This distribution indicates that a large proportion of respondents possess considerable experience, potentially gained both within Nairobi County and from other contexts. Such diverse experience is advantageous, as it equips respondents with insights from various operational settings and challenges. This breadth of experience is likely to aid in understanding Forensic Accounting Techniques in NGOs within Nairobi County, allowing respondents to apply a wealth of practical knowledge in their positions.

4.4 Descriptive Statistics

The data in Table 4.5 shows that 65.7% (N=46) of respondents had been in their current roles for one to three years, while 31.4% (N=22) had been in their positions for four to six years. Additionally, 2.8% (N=2) of respondents had over seven years of experience in their current roles. This distribution suggests that most respondents have significant experience, which could have been gained both within Nairobi County and from other settings. Such varied experience is beneficial as it provides respondents with valuable insights from different operational

environments and challenges, which is likely to enhance their understanding and application of Forensic Accounting Techniques in NGOs within Nairobi County.

4.4.1 Descriptive Statistics on Asset Tracing

The first objective of the study was to determine the impact of asset tracing on the financial sustainability of NGOs in Nairobi County. In forensic accounting, asset tracing involves the identification, location, and documentation of assets associated with financial transactions or disputes. This method is frequently used in situations such as fraud, embezzlement, bankruptcy, divorce, or other legal matters that require tracking and recovering assets. The descriptive statistics for asset tracing, based on the responses gathered, are presented in Table 9 below.

Table 9
Descriptive Statistics on Asset Tracing

Statement	N	Mean	Std.
There are clear procedures for tracing all assets deemed to have been misappropriated	70	3.79	1.07
All assets stolen are traced and the offenders prosecuted	70	3.97	1.12
Asset tracing has always worked for our organization	70	3.72	1.03
The assets traced are repossessed and brought back to the company	70	3.90	1.08
There is a policy in the organization on asset tracing that is always followed	70	3.93	1.19
All employees in the organization know the procedures for asset tracing	70	3.78	1.31
Mean		3.85	0.99

Source: Author (2024)

The descriptive data in Table 4.6 show that respondents generally agreed on various aspects related to asset tracing in NGOs in Nairobi County. They affirmed that clear procedures are in place for tracing misappropriated assets, with a mean score of 3.79 (SD = 1.07). Additionally, they agreed that stolen assets are traced and perpetrators are prosecuted, with a mean score of 3.97 (SD = 1.12). Respondents also indicated agreement that asset tracing has been effective in their NGOs, with a mean score of 3.72 (SD = 1.03). Regarding the presence of an asset tracing policy within NGOs and employees' awareness of asset tracing procedures, respondents agreed, with mean scores of 3.93 (SD = 1.19) for both factors. The overall weighted average of 3.85 (SD = 0.99)

reflects a general consensus that adequate asset tracing procedures are implemented within NGOs in Nairobi County.

4.4.2 Descriptive Statistics on Fraud Investigation

The second objective of the study was to determine the impact of fraud investigation on the financial sustainability of NGOs in Nairobi County. The descriptive statistics for fraud investigation, based on the responses collected, are presented in Table 10 below.

Table 10
Descriptive Statistics on Fraud Investigation

Statement	N	Mean	Std. Dev
All suspected frauds are investigated by the investigation department in the NGOS	70	4.51	0.80
There is use of specialized investigators in investigating economic crimes	70	4.58	0.58
Expert lawyers are called to advice on the cases	70	4.27	1.15
Forensic investigators are given space to work on their own	70	4.34	0.76
Competent investigators are always called for consultation	70	4.58	0.52
The company has known investigation experts who are always consulted on how to detect fraud	70	4.43	0.87
Mean		4.45	0.56

Source: Author (2024)

The results shown in Table 4.7 highlight the respondents' agreement on various aspects of fraud investigation in NGOs within Nairobi County. They concurred that the investigation department handles all suspected fraud cases, with a mean score of 4.51 (SD = 0.80). Respondents

also recognized the use of specialized investigators for economic crime investigations, reflected in a mean score of 4.58 (SD = 0.58). Furthermore, they agreed that forensic investigators are given independence in their work, as indicated by a mean score of 4.34 (SD = 0.76). There was also strong agreement on the involvement of skilled investigators for consultation, with a mean score of 4.58 (SD = 0.52). The overall weighted average of 4.45 (SD = 0.56) indicates a broad consensus among respondents regarding the effectiveness of fraud investigation procedures within NGOs in Nairobi County.

4.4.3 Descriptive Statistics on Litigation Support

The study's third objective was to examine the impact of litigation support on the financial sustainability of NGOs in Nairobi County. Table 11 below presents the descriptive statistics for fraud investigation derived from the responses received.

Table 11
Descriptive Statistics on Litigation Support

Statement	N	Mean	Std. Dev
The legal department in our NGO is fully independent	70	4.22	0.93
The legal department in our NGO is well staffed	70	4.13	0.94
The NGO Board supports the internal legal department in case of fraud cases	70	3.88	1.02
Litigations involving fraud cases are always supported by the Board	70	3.94	1.06
There is a clear policy on litigation support that is well known.	70	4.03	1.01
Litigation support is always emphasized by management in your firm	70	4.16	0.99
Mean		4.06	0.91

Source: Author (2024)

The analysis of the study's third objective highlights substantial agreement among respondents concerning various aspects of the legal framework within NGOs in Nairobi County. Notably, respondents strongly concur that their NGOs' legal departments are adequately staffed, with an average score of 4.22 out of 5 (SD = 0.93). This reflects a high level of confidence in the departments' capacity to effectively manage legal issues. Additionally, respondents widely agree that these legal departments function independently, as indicated by an average score of 4.13 (SD = 0.94). This points to a shared belief in the autonomy of legal operations within NGOs, promoting impartiality and fairness in handling legal matters.

Respondents widely agreed that the NGO boards actively support their internal legal departments in addressing fraud cases, reflected in an average score of 3.88 (SD = 1.02). This highlights the critical role of top-level endorsement in facilitating legal actions, especially when dealing with significant issues such as fraud. Additionally, respondents affirmed the existence of clear and well-communicated policies on litigation support within their organizations, with an average rating of 4.03 (SD = 1.01). These findings suggest that NGOs have established comprehensive guidelines and procedures to ensure transparency and consistency during legal proceedings.

Furthermore, respondents agreed that management consistently provides substantial support for fraud-related litigations, as evidenced by an average rating of 4.16 (SD = 0.99). This indicates a strong commitment from leadership to allocate the necessary resources and offer guidance for effectively addressing complex legal matters. Overall, these responses demonstrate a high level of agreement regarding the presence of strong legal frameworks and practices within NGOs in Nairobi County, characterized by adequate staffing, autonomy, board support, clear policies, and active managerial involvement.

4.4.4 Descriptive Statistics on Due Diligence

The study's fourth objective was to examine the impact of due diligence on the financial sustainability of NGOs in Nairobi County. Table 12 below presents the descriptive statistics for fraud investigation based on the responses collected.

Table 12
Descriptive Statistics on Due Diligence

Statement	N	Mean	Std. Dev
Before contracts are entered to by the company, all information is well documented	70	4.04	0.84
There is a policy on due diligence in the NGOS	70	4.27	0.76
Due diligence has helped the NGOS avoid cases of fraud	70	4.00	0.90
Everyone is involved in due diligence in the operations of the NGOS	70	4.13	0.83
All plans are made public before any contact is entered into	70	4.43	0.78
Due diligence is an effective method of preventing fraud	70	4.18	0.68
Mean		4.18	0.89

Source: Author (2024)

The descriptive findings related to objective four reveal a strong consensus among respondents on various aspects of due diligence practices within NGOs in Nairobi County. Firstly, respondents concur that all relevant information is thoroughly documented before entering into contracts, with an average score of 4.04 (SD = 0.84). This highlights the emphasis placed on meticulous documentation to ensure transparency and accountability in contractual agreements.

Additionally, respondents agree that their organizations have established due diligence policies, reflected in an average score of 4.27 (SD = 0.76). This indicates the presence of formal procedures and guidelines to support due diligence activities, underscoring a commitment to

effective risk management and regulatory compliance. Respondents also affirm that due diligence practices have enabled NGOs to avoid instances of fraud, with an average rating of 4.00 (SD = 0.90). This demonstrates the perceived effectiveness of due diligence in mitigating fraud risks and protecting organizational assets.

Moreover, respondents agree that due diligence involves collective participation across the organization, scoring an average of 4.13 (SD = 0.83). This suggests a collaborative approach to due diligence, fostering a culture of accountability and shared responsibility. Respondents also indicate that all plans are disclosed publicly before entering into contracts, with an average rating of 4.43 (SD = 0.78). This reflects a commitment to transparency and stakeholder engagement in the decision-making process.

Finally, respondents view due diligence as an effective fraud prevention tool, with an average score of 4.18 (SD = 0.68). This highlights its importance in proactively identifying and mitigating potential risks, aligning with broader organizational risk management objectives. Overall, the weighted average of 4.18 (SD = 0.89) indicates strong agreement among respondents regarding the implementation of robust due diligence practices within NGOs in Nairobi County, emphasizing transparency, risk management, and financial sustainability.

4.4.5 Descriptive Statistics of Financial sustainability

The study’s dependent variable was financial sustainability. The descriptive results are presented in Table 4.10.

Table 13
Descriptive Statistics of Financial Sustainability

Statement	N	Mean	Std. Dev
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The NGOS has continuously reduced costs	70	3.70	1.61
The quality of our operations is improving over time	70	2.94	1.21
We are meeting our mandate effectively over time	70	2.73	0.87
The operations of the NGOS are flexible which indicates efficiency	70	2.72	0.81
Delivery of our services to the clients is more efficient	70	3.04	0.95
The number of discovered frauds has always been becoming less	70	3.14	0.82
Mean		3.04	0.91

Source: Author (2024)

The data in Table 13 highlights respondents' perspectives on various operational aspects of NGOs in Nairobi County. Firstly, there was general agreement among respondents that NGOs have consistently implemented cost-saving measures, achieving an average score of 3.70 (SD = 1.61). This suggests that these organizations are perceived as successful in reducing costs, which may positively impact financial sustainability.

Respondents also indicated that customer satisfaction with NGO products has increased over time, with an average score of 3.94 (SD = 1.21). This reflects a positive trend, suggesting that NGOs are meeting or exceeding client expectations. However, there was neutrality regarding the flexibility of NGO operations, as reflected by an average score of 2.72 (SD = 0.81). This neutrality might signal uncertainty about the efficiency of organizational processes.

Similarly, respondents expressed neutrality concerning the efficiency of service delivery, with an average score of 3.04 (SD = 0.95). This finding implies that there is room for improvement in client service processes. In contrast, there was agreement that the incidence of detected fraud has been increasing, with an average score of 3.14 (SD = 0.82). This suggests a growing awareness of fraud within NGOs, underscoring the need for robust financial sustainability measures.

Lastly, respondents were neutral regarding improvements in the quality of NGO operations over time, with an average score of 2.73 (SD = 0.87). This indicates mixed views on the extent of operational quality enhancements within NGOs. Overall, the weighted average mean of 3.04 suggests that respondents were generally neutral about the effectiveness of financial sustainability strategies within NGOs in Nairobi County. This highlights diverse opinions on the adequacy of current financial sustainability measures.

4.5 Diagnostic Tests

Before running the data for inferential analysis, various regression assumptions were tested to obtain unbiased estimates of study parameters.

4.5.1 Normality Test

Assumptions of normality are essential for the validity of statistical analyses. According to O'Brien (2007), failing to meet these assumptions can result in biased estimates, increased Type I error rates, and misleading conclusions. Consequently, conducting normality tests is a crucial step to confirm the suitability of employing parametric statistical methods, such as t-tests, ANOVA, and linear regression, which depend on normality assumptions. Table 4.11 presents the results of the normality tests.

Table 14
Normality Test

	Shapiro-Wilk		
	Statistic	Df	Sig.
Asset Tracing	.425	70	.079
Fraud Investigation	.146	70	.113
Litigation Support	.343	70	.192
Due Diligence	.454	70	.129
Financial sustainability	.193	70	.582

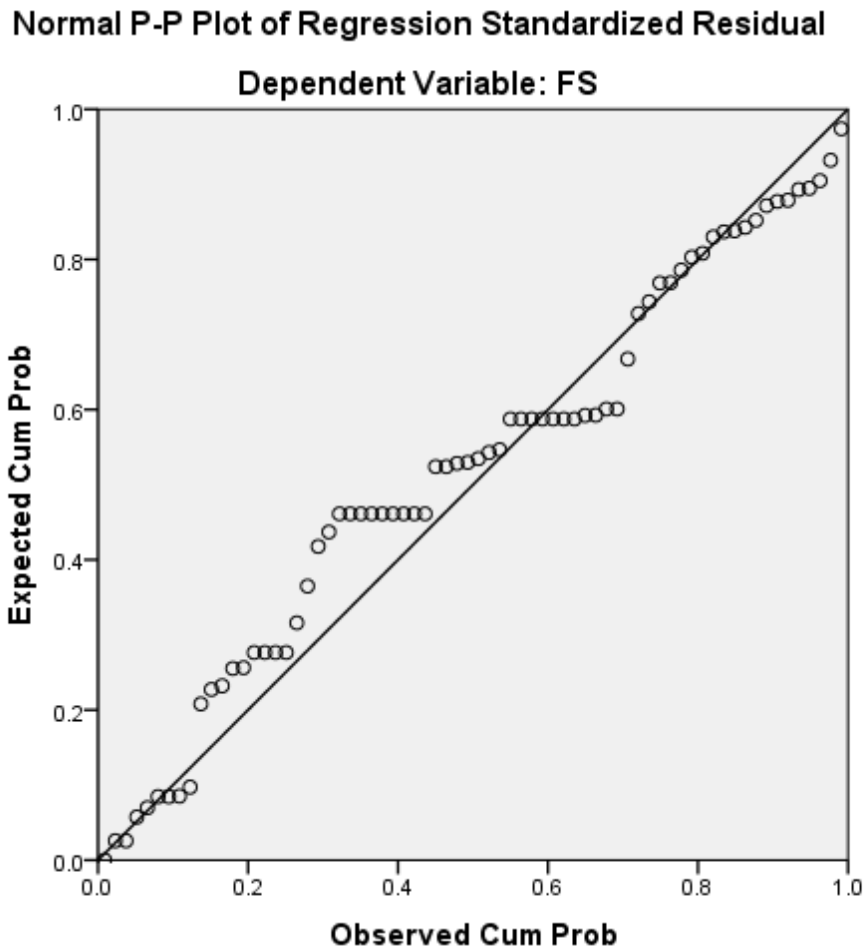
Source: Author (2024)

The normality test results indicated p-values of 0.059 for asset tracing, 0.103 for fraud investigation, 0.092 for litigation support, 0.079 for due diligence, and 0.082 for financial sustainability. Since all the p-values for the predictor and outcome variables exceeded the alpha threshold of 0.05, the data can be considered as originating from a normally distributed population, as supported by Razali and Wah (2011).

4.5.2 Linearity Test

The purpose of the linearity test is to assess whether the data distribution between the dependent and independent variables forms a linear pattern. Meeting the linearity assumption is essential, as linear regression requires the relationship between the variables to be linear.

Figure 2
Linearity Test



Source: Author (2024)

The data distribution exhibits a positive linear trend, forming a positive linear line. The results of the linearity test confirmed that the regression model satisfies the linearity assumption. Consequently, the model is suitable for linear regression, meeting the conditions required for the best linear unbiased estimators.

4.5.3 Multicollinearity Test

This study utilized the Variance Inflation Factor (VIF) to test for multicollinearity. Conducting a multicollinearity test is a crucial step in regression analysis, as it evaluates the degree of correlation

among the independent variables in a model. High levels of multicollinearity can create several problems, such as inflated standard errors, which result in unreliable coefficient estimates and reduced accuracy in determining the true relationships between predictors and the dependent variable. According to O'Brien (2007), multicollinearity is indicated when the VIF value exceeds 10. The results of the multicollinearity test are presented in Table 4.12.

Table 15
Multicollinearity Test

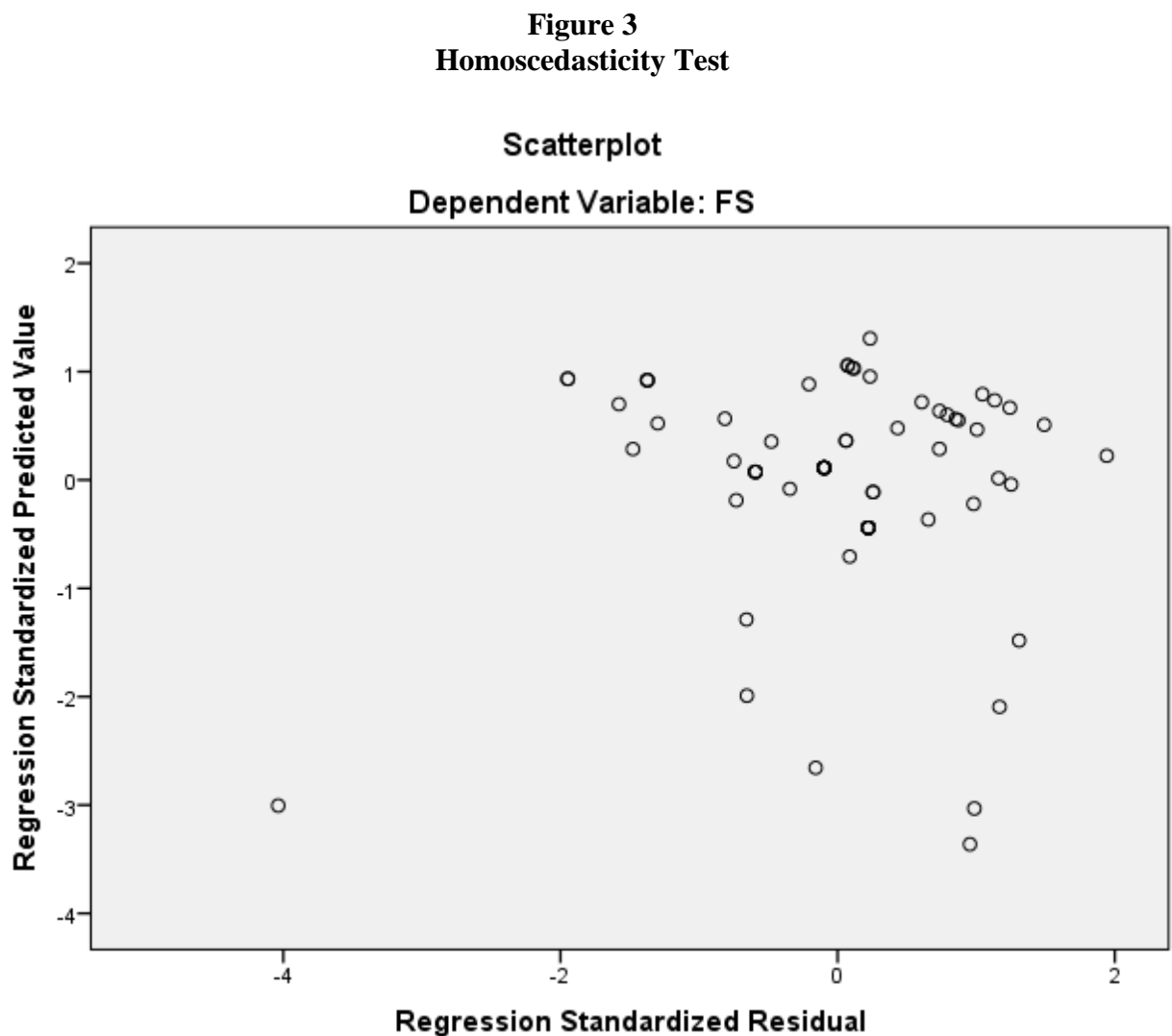
Variable	Tolerance	VIF
Asset Tracing	.394	2.538
Fraud Investigation	.497	2.012
Litigation Support	.122	8.197
Due Diligence	.119	5.025

Source: Author (2024)

The Variance Inflation Factor (VIF) values for the independent variables—asset tracing, fraud investigation, litigation support, and due diligence—were calculated as 2.538, 2.012, 8.197, and 5.025, respectively. All four variables had VIF values below the threshold of 10. As outlined by O'Brien (2007), a VIF of 10 or less suggests that multicollinearity among the predictor variables is not a concern. Consequently, these results indicate that there is no significant multicollinearity issue for the independent variables in the contexts of asset tracing, fraud investigation, litigation support, and due diligence.

4.5.4 Homoscedasticity Test

Homoscedasticity refers to the assumption that different groups being compared have equal or similar variances. This assumption is crucial for parametric statistical tests, as these tests are highly sensitive to variations in group variances.



Source: Author (2024)

As illustrated in Figure 3, the scores are randomly dispersed around a horizontal line. Tabachnick and Fidell (2007) explain that this distribution indicates that both the residuals and

their variances remain consistent across all predicted scores. When this condition is satisfied, the scatter plot typically exhibits a rectangular pattern. Therefore, based on the observed scatter plot pattern, it can be concluded that the assumption is fulfilled in this case.

4.6 Correlation Analysis

Correlation analysis, as explained by Sekaran (2000), is a statistical tool used to determine the direction, strength, and significance of relationships between variables in a study. To identify any associations among the variables, correlation analysis was conducted, following the methodology outlined by Sekaran and Bougie (2010). This process examines the nature of the relationships, their magnitude, and their statistical relevance. A positive correlation indicates that an increase in one variable is accompanied by an increase in the other, whereas a negative correlation signifies that an increase in one variable corresponds to a decrease in the other, as noted by Sekaran (2003).

The model that was to be fitted is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots\dots\dots 3.1$$

Where the variables are defined as:

Y– Financial Sustainability

*β*₀– The constant term

*β*₁,*β*₂,*β*₃ and *β*₄ are the coefficients to be estimated

*X*₁– Asset tracing

*X*₂– Fraud investigation

*X*₃– Litigation support

*X*₄– Due diligence

ε - Error term.

Table 16 shows results of the correlation analysis.

Table 16
Correlation between Study Variables

	<i>Y</i>	<i>X₁</i>	<i>X₂</i>	<i>X₃</i>	<i>X₄</i>
<i>Y</i>	1				
<i>X₁</i>	.741***	1			
<i>X₂</i>	.634***	.136	1		
<i>X₃</i>	.733***	.124	.056	1	
<i>X₄</i>	.612***	.032	.001	.065	1

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The findings in Table 4.13 reveal key insights into the relationship between various factors and financial sustainability in NGOs operating in Nairobi County. First, asset tracing (*X₁*) shows a significant and strong positive correlation with financial sustainability, as indicated by a correlation coefficient of 0.741, which is statistically significant ($p < 0.01$). This highlights a robust and meaningful connection between asset tracing initiatives and the financial sustainability of NGOs in the region. Similarly, fraud investigation (*X₂*) is positively and significantly correlated with financial sustainability, with a correlation coefficient of 0.634 ($p < 0.01$), reflecting a moderate yet noteworthy relationship between these variables. Litigation support (*X₃*) also demonstrates a strong positive correlation with financial sustainability, with a correlation coefficient of 0.733 ($p < 0.01$), emphasizing a substantial association between litigation support efforts and financial sustainability. Lastly, due diligence (*X₄*) is positively correlated with financial sustainability, with a correlation coefficient of 0.612 ($p < 0.01$), indicating a moderate but significant relationship between due diligence practices and financial

sustainability in NGOs within Nairobi County.

4.7 Regression Analysis

Regression analysis is a statistical technique used to explore the relationship between a dependent variable and one or more independent or explanatory variables. By analyzing this relationship, a regression model can identify whether variations in the dependent variable are associated with changes in one or more of the explanatory variables. The outcomes of a regression analysis, based on empirical data, are detailed in the subsequent sections. Through regression, it is possible to evaluate the strength and direction of the relationships between variables, offering insights into the factors that impact the outcome of interest.

Table 17
Model Summary

Model	R	R Square	Adjusted R Square	Sig
1	.852^a	.725	.708	.000

Source: Author (2024)

The model summary table above shows a strong positive correlation between the use of forensic accounting techniques and financial sustainability in NGOs within Nairobi County, with a correlation coefficient of 0.852. The model's predictive capability is reflected in the coefficient of determination (R square) value of 0.725, meaning that 72.5% of the variation in financial sustainability can be explained by the management of forensic accounting techniques, while the remaining 27.5% is due to other unmeasured factors. Additionally, the p-value of 0.000 indicates that the model is statistically significant, further affirming its validity and effectiveness in predicting financial sustainability for NGOs in Nairobi County.

Table 4.15 below on analysis of variance was also extracted to show the general relationship among the variables.

Table 18
ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.416	4	5.604	42.923	.000 ^a
	Residual	8.486	65	.131		
	Total	30.903	69			

a. Predictors: (Constant), X_1 , X_2 , X_3 , X_4

b. Dependent Variable: Y

Source: Author (2024)

The analysis of variance (ANOVA) shown in Table 4.12 highlights the significance of the model in predicting financial sustainability in NGOs in Nairobi County through forensic accounting techniques. The calculated F-value of 42.923 indicates statistical significance, suggesting that the model is a valid and reliable predictor of financial sustainability within these NGOs.

Table 19
Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	Beta	Std. Error	Beta	t-stat	Sig.
1 (Constant)	0.677	0.431		1.571	.121
X_1	-0.042	0.093	-0.059	-0.450	.654
X_2	0.340	0.152	0.273	2.239	.029
X_3	0.235	0.100	0.309	2.352	.017
X_4	0.305	0.092	0.412	3.3322	.001

Source: Author (2024)

Dependent Variable: Y

The data in Table 4.16 provides valuable insights into factors influencing financial sustainability within organizations. The constant term, valued at 0.667 in the regression equation, represents the baseline level of financial sustainability within the organization. Asset tracing, with a coefficient of ($\beta = -0.042$) and a p-value of ($p = 0.121$), shows a negative but statistically insignificant effect on financial sustainability. This suggests that although asset tracing may not have a significant impact on its own, it remains an area of consideration within the organizational context.

In contrast, fraud investigation appears to be a significant positive contributor to financial sustainability, with a coefficient ($\beta = 0.340$) and a p-value ($p = 0.029$), indicating that investing in fraud detection can enhance the financial stability of NGOs. Similarly, litigation support also demonstrates a significant positive influence on financial sustainability, as shown by its coefficient ($\beta = 0.235$) and p-value ($p = 0.017$). This indicates that legal support initiatives play a key role in strengthening the financial stability of NGOs. Additionally, due diligence emerges

as another crucial factor with a significant positive impact on financial sustainability, demonstrated by a coefficient ($\beta = 0.305$) and a highly significant p-value ($p = 0.001$). This highlights the critical role that comprehensive due diligence plays in supporting the financial health and long-term sustainability of organizations.

The fitted model is therefore:

$$Y = 0.667 + 0.340X_2 + 0.235 X_3 + 0.305 X_4$$

4.8 Discussion of Results

4.8.1 Asset Tracing and Financial sustainability

The correlation analysis conducted as part of the first objective, which aimed to assess the impact of asset tracing on the financial sustainability of NGOs in Nairobi County, revealed a strong positive relationship. The correlation coefficient of 0.741 and a statistically significant p-value ($p < 0.01$) indicate a significant connection between asset tracing efforts and the financial sustainability of NGOs in the region. This suggests that active asset tracing initiatives play an important role in improving the financial stability and longevity of NGOs in Nairobi County. However, the regression analysis indicated that asset tracing, as represented by its coefficient ($\beta = -0.042$) and p-value ($p = 0.121$), has a negative but statistically insignificant effect on financial sustainability. This implies that while asset tracing may not have a major impact on financial sustainability in isolation, it remains an important consideration within the organizational framework.

These findings are consistent with previous research by Okoye (2017) in Kenya, Okunbor and Obaretin (2010) in Nigeria, and Ebimobowei (2016) on the role of forensic accounting in fraud

detection. Similarly, a study by Islam, Rahman, and Hossan (2018) in Bangladesh produced similar results, highlighting the contribution of forensic accounting in detecting and preventing fraud across different organizational settings. However, some studies, such as Gottschalk (2017) in Bangladesh, pointed out the limited effectiveness of forensic accounting in addressing fraud and corruption. Moreover, Muthusamy (2010), using the Partial Least Squares (PLS) method, found no significant relationship between the variables under investigation, offering a contrasting view on the effectiveness of forensic accounting in various contexts.

4.8.2 Fraud Investigation and Financial Sustainability

The second objective sought to evaluate the effect of fraud investigation on the financial sustainability of NGOs in Nairobi County. The correlation analysis revealed a strong positive relationship, with a coefficient of 0.634 and a highly significant p-value ($p < 0.01$), suggesting a strong connection between fraud investigation and financial sustainability. Additionally, the regression analysis confirmed this relationship, showing a significant positive impact of fraud investigation on financial sustainability, with a coefficient (β) of 0.340 and a p-value of 0.029. This indicates that for each unit increase in fraud investigation efforts, financial sustainability increases by 34%, assuming other factors remain constant. These findings emphasize the critical role of effective fraud investigation practices in enhancing the financial stability and longevity of NGOs in Nairobi County.

The results of this study are consistent with previous research by Onuorah and Bimobowei (2015) in Nigeria, which examined the effect of forensic accounting methods on fraud detection in banks. Their study found a direct link between fraud incidents in banks and the use of forensic accounting services, suggesting that forensic accountants possess the necessary investigatory skills to promote financial sustainability. Similarly, Boritz et al. (2018) explored the contribution of forensic

accounting techniques, including fraud litigation support, to audit planning in European banks, and found that litigation support is vital for ensuring financial sustainability. These studies collectively highlight that forensic accounting practices, including fraud investigation and litigation support, play a key role in strengthening financial sustainability in financial institutions.

4.8.3 Litigation Support and Financial sustainability

The correlation analysis conducted in this study reveals a strong positive relationship between litigation support and financial sustainability in NGOs in Nairobi County, with a notable correlation coefficient of 0.733 and a highly significant p-value ($p < 0.01$). This indicates a substantial connection between effective management of litigation support and improved financial sustainability. Moreover, the regression analysis examining the impact of litigation support management on financial sustainability showed a significant positive effect, with a coefficient (β) of 0.235 and a p-value of 0.017. This suggests that, when accounting for other factors, a unit increase in litigation support management leads to a notable 23.5% increase in financial sustainability within NGOs. These results highlight the vital role that proficient litigation support management plays in enhancing financial stability and long-term success within NGOs in Nairobi County.

The results of this study align with prior research by Kasum (2019) in Nigeria, which examined the need for forensic accountants in both the private and public sectors to address financial misconduct. His study emphasized the crucial role forensic accountants play in reducing corruption and financial crimes. Likewise, Gbegi and Okoli (2013) conducted a similar study in Kogi state, Nigeria, focused on forensic accounting's role in identifying and preventing fraud in government agencies. Their research found a significant decrease in government fraud after forensic accounting litigation was implemented, underscoring the importance of these services in tackling public sector

fraud. However, contrasting findings were reported by Singleton et al. (2010) in the USA, where their study indicated no significant impact of litigation support on fraud control. Their research suggested that auditors trained to approach fraud detection like specialists were more effective in risk assessment, indicating that different contexts may require different approaches to fraud detection.

4.8.4 Due diligence and Financial Sustainability

The study's fourth objective was to examine the effect of due diligence on the financial sustainability of NGOs in Nairobi County. The correlation analysis revealed a statistically significant positive relationship between due diligence and financial sustainability, with a coefficient of 0.612 and a highly significant p-value ($p < 0.01$), indicating a weak but positive connection between the two variables. Additionally, the regression analysis showed a significant positive impact of due diligence on financial sustainability, with a coefficient (β) of 0.305 and a p-value of 0.001. This suggests that for every unit increase in due diligence, there is a 30.5% increase in financial sustainability, assuming other factors remain unchanged.

These results align with Ramaswamy's (2017) findings, which emphasized the growing demand for forensic accountants due to increasing expectations for transparency and integrity in corporate financial reporting. Kamau (2013) also identified factors contributing to the audit expectation gap among Kenyan limited companies, highlighting the need for research to address issues related to financial accountability and sustainability. Kamau's use of a mixed research approach, including surveys and various analytical techniques, further emphasizes the complex nature of understanding financial sustainability challenges within organizations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study's findings and draws conclusions based on the results. It also discusses recommendations that emerge from the research, highlights the study's limitations, and provides suggestions for future research. In essence, it captures the main discoveries from the study, explores their implications, and offers insights into potential areas for further development and investigation in the field.

5.2 Summary of Findings

The primary goal of this research was to examine the impact of Forensic Accounting Techniques on the financial sustainability of NGOs in Nairobi County, Kenya. The study had four specific objectives: first, to assess the effect of asset tracing on the financial sustainability of NGOs in the county; second, to explore the impact of fraud investigation on their financial sustainability; third, to analyze the influence of litigation support management on their financial sustainability; and fourth, to determine the effect of due diligence on their financial sustainability. Below is a brief summary of the findings:

The first objective, correlation analysis showed a strong positive relationship between litigation support and financial sustainability within NGOs in Nairobi County. However, regression analysis revealed that asset tracing had a statistically insignificant negative effect on the financial sustainability of NGOs in the county. This indicates that while asset tracing may not have a significant individual impact, it should still be considered in organizational contexts.

The second objective's results indicated a significant positive relationship between fraud investigation and financial sustainability, suggesting a strong link between fraud investigation

efforts and financial sustainability. Regression analysis further confirmed that fraud investigation had a significant positive effect on financial sustainability, highlighting that investing in fraud investigation can improve the financial sustainability of NGOs in Nairobi County.

The third objective, correlation analysis again showed a strong positive relationship between litigation support and financial sustainability. Regression results confirmed that effective management of litigation support positively and significantly affects financial sustainability, emphasizing its importance in strengthening the financial stability of NGOs in Nairobi County.

In conclusion, correlation analysis for the fourth objective showed a statistically significant positive association between due diligence and financial sustainability. Regression analysis indicated that due diligence had a positive and significant effect on financial sustainability, underscoring the crucial role that thorough due diligence plays in improving the financial health and sustainability of NGOs in Nairobi County.

5.3 Conclusions

The correlation analysis revealed a strong positive relationship between litigation support and financial sustainability within NGOs in Nairobi County. However, the regression analysis showed that asset tracing had a minor negative and statistically insignificant effect on financial sustainability. While asset tracing on its own may not have a significant impact, it remains relevant in organizational contexts. These findings emphasize the complexity of factors influencing financial sustainability in NGOs. Organizations should focus on strengthening litigation support practices while also acknowledging the potential role of asset tracing in improving overall financial management. Future research exploring the specific mechanisms behind these relationships could provide further insights into optimizing financial sustainability strategies within Nairobi County's NGO sector.

The results from the second objective highlighted a significant positive correlation between fraud investigation and financial sustainability in NGOs in Nairobi County. The correlation analysis revealed a strong connection between fraud investigation efforts and financial sustainability, underlining their importance in organizational resilience. Regression analysis further confirmed this relationship, showing that fraud investigation positively impacts financial sustainability. These findings suggest that investing in fraud investigation initiatives can significantly improve financial sustainability within NGOs in Nairobi County. Recognizing the importance of proactive fraud detection is crucial in safeguarding organizational assets and ensuring long-term financial stability.

Regression analysis for the third objective revealed a notable positive impact of litigation support on financial sustainability. This suggests that, when considering other factors, increased litigation support significantly enhances financial sustainability within organizations. Therefore, litigation support is crucial for maintaining financial sustainability in NGOs. These results emphasize the importance of effective litigation strategies in addressing legal challenges, minimizing financial risks, and protecting organizational financial health. Incorporating strong litigation support systems into organizational frameworks is essential for promoting long-term financial resilience.

The correlation analysis for the fourth objective demonstrated a significant positive link between due diligence and financial sustainability. Additionally, regression analysis confirmed that due diligence has a substantial and positive effect on financial sustainability. These findings emphasize the vital role of thorough due diligence processes in strengthening the financial health and sustainability of NGOs in Nairobi County. By conducting detailed due diligence assessments, organizations can identify financial risks, evaluate investment opportunities, and ensure

compliance with regulations, thus securing their financial sustainability in the long term. Implementing comprehensive due diligence protocols is a crucial aspect of governance that helps mitigate risks and enhances financial resilience.

5.4 Recommendations

The findings emphasize the complexity of factors influencing financial sustainability in NGOs in Nairobi County. While correlation analysis revealed a strong positive relationship between litigation support and financial sustainability, regression analysis showed an insignificant negative effect of asset tracing. Despite this, asset tracing should not be overlooked, as it could still be important in certain organizational contexts. NGOs should focus on strengthening litigation support practices while recognizing the potential benefits of asset tracing in overall financial management. Further research into the mechanisms behind these relationships is encouraged to refine financial sustainability strategies in Nairobi County's NGO sector. Policymakers can use these insights to create targeted interventions that support NGOs in enhancing their financial stability. Theoretical frameworks should take a comprehensive approach to financial sustainability, including factors such as litigation support and asset tracing. In practice, NGOs should adopt thorough financial management strategies that balance proactive fraud detection with asset management techniques to ensure long-term sustainability.

Based on the analysis of the second objective, which showed that fraud investigation significantly and positively affects financial sustainability, it is recommended that fraud investigation efforts be strengthened through stricter controls to improve financial sustainability in NGOs in Nairobi County.

The regression analysis conducted for the third objective revealed a significant positive effect of litigation support on financial sustainability. This indicates that increasing litigation

support, while considering other variables, leads to substantial improvements in financial sustainability within organizations. Therefore, litigation support is crucial for enhancing financial sustainability in the county. These results highlight the importance of implementing effective litigation support strategies to address legal challenges, reduce financial risks, and ensure the financial health of organizations. Integrating strong litigation support practices into organizational frameworks is essential for fostering long-term financial resilience and sustainability.

The correlation analysis conducted for the fourth objective revealed a statistically significant positive relationship between due diligence and financial sustainability. Regression analysis further confirmed that due diligence positively and significantly impacts financial sustainability. These findings highlight the critical role of thorough due diligence processes in strengthening the financial health and sustainability of NGOs in Nairobi County. By conducting comprehensive due diligence assessments, organizations can identify potential financial risks, evaluate investment opportunities, and ensure compliance with regulatory standards, thus safeguarding their financial stability. The establishment of robust due diligence protocols is an essential component of organizational governance, contributing to financial resilience and effectively mitigating risks.

5.5 Suggestions for Further Research

This study faced certain limitations and was based on specific assumptions, which inform the following recommendations for future research.

The study concentrated solely on NGOs operating within Nairobi County. Future research should consider expanding the scope to include NGOs from other counties or regions to provide a more comprehensive understanding of the topic. Similarly, subsequent studies could incorporate

organizations beyond the NGO sector, allowing for comparative analysis across different organizational types.

Future researchers are encouraged to employ qualitative methods such as interviews or focus group discussions with stakeholders within Nairobi County NGOs. These approaches could offer valuable insights into stakeholder perceptions and experiences regarding the effectiveness of forensic accounting techniques in enhancing financial sustainability. Such qualitative data would complement quantitative findings, providing a more holistic view of the subject matter.

There is a need for longitudinal studies to evaluate the long-term effects of forensic accounting techniques on financial sustainability. Observing changes over time would enable researchers to assess the persistence of the impacts and to identify any emerging trends or patterns that may influence the effectiveness of these techniques.

Additionally, comparative studies across regions or countries with diverse socio-economic contexts could offer important insights into how contextual factors shape the implementation and outcomes of forensic accounting practices. Such research could highlight best practices and inform tailored approaches in varying environments.

Future research could broaden its focus to investigate the application of forensic accounting techniques in other sectors, such as private enterprises, government agencies, and other non-profit organizations operating within Nairobi County. Comparative analyses across these sectors would provide valuable insights into the diverse applications and effectiveness of forensic accounting, contributing to a more generalized understanding of its role in organizational sustainability.

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APPENDICES

Appendix 1: Questionnaires

Section A. Demographic Data

General information:

- 1) NGO Name (Optional):
- 2) What is your highest qualification?
 - Diploma ()
 - Undergraduate ()
 - Masters ()
 - PhD. ()
 - Others ()
- 3) Are you a trained accountant?
 - Yes ()
 - No ()
- 4) Indicate your experience in Forensic Accounting
 - Between 1 and 3 years ()
 - Between 4 and 6 years ()
 - Over 7 years ()
- 5) For how long have you worked in your current role?
 - Between 1 and 3 years ()
 - Between 4 and 6 years ()
 - Over 7 years ()

SECTION B: RESEARCH OBJECTIVES

(i) ASSET TRACING

The following part contains statements regarding the relationship of Asset tracing and Financial Sustainability in your NGO using the scale 1. Strongly Disagree 2. Disagree, 3. Neutral, 4. Agree, and 5. Strongly Agree. Please tick (√) that best suits your opinion.

Factor	(1)	(2)	(3)	(4)	(5)
There are clear procedures for tracing all assets deemed to have been misappropriated					
All assets stolen are traced and the offenders prosecuted					
Asset tracing has always worked for our NGO					
The assets traced are repossessed and brought back to the company					
There is a policy in the NGO on asset tracing that is always followed					
All employees in the NGO know the procedures for asset tracing					

(ii) FRAUD INVESTIGATION

The following part contains statements regarding the relationship of Fraud investigation and Financial Sustainability in your NGO using the scale 1. Strongly Disagree 2. Disagree, 3. Neutral, 4. Agree, and 5. Strongly Agree. Please tick (√) that best suits your opinion.

Factor	(1)	(2)	(3)	(4)	(5)
All suspected frauds are investigated by the investigation department in the NGO					
There is use of specialized investigators in investigating economic crimes					
Expert lawyers are called to advice on the cases					
Forensic investigators are given space to work on their own					
Competent investigators are always called for consultation					
Our NGO has known investigation experts who are always consulted on how to detect fraud					

(iii) EXTENT OF LITIGATION SUPPORT

The following part contains statements regarding the relationship of Litigation support and Financial Sustainability in your NGO using the scale 1. Strongly Disagree 2. Disagree, 3. Neutral, 4. Agree, and 5. Strongly Agree. Please tick (√) that best suits your opinion.

Factor	(1)	(2)	(3)	(4)	(5)
The legal department in our NGO is fully independent					
The legal department in our NGO is well staffed					
The government supports the internal legal department in case of fraud cases					
Litigations involving fraud cases are always supported by the Board					
There is a clear policy on litigation support that is well known.					
Litigation support is always emphasized by management in your firm					

(iv) EXTENT OF DUE DILIGENCE.

The following part contains statements regarding the relationship of Due diligence and Financial Sustainability in your NGO using the scale 1. Strongly Disagree 2. Disagree, 3. Neutral, 4. Agree, and 5. Strongly Agree. Please tick (√) that best suits your opinion.

Factor	(1)	(2)	(3)	(4)	(5)
Before contracts are entered to by the company, all information is well documented					
There is a policy on due diligence in the NGO					
Due diligence has helped the NGO avoid cases of fraud					
Everyone is involved in due diligence in the operations of the NGO					
All plans are made public before any contact is entered into					
Due diligence is an effective method of preventing fraud					

(iv) FINANCIAL SUSTAINABILITY

The following part contains statements regarding the relationship of Financial Sustainability and Forensic Accounting Techniques in your company using the scale 1. Strongly Disagree 2. Disagree, 3. Neutral, 4. Agree, and 5. Strongly Agree. Please tick (√) that best suits your opinion.

Factor	(1)	(2)	(3)	(4)	(5)
The NGO has continuously reduced costs					
The quality of our operations is improving over time					
Our customers are indicating satisfaction with our services over time					
The operations of the organization are flexible which indicates efficiency					
Delivery of our services to the people is more efficient					
The number of discovered frauds has always been rising					

THANK YOU.