

**Forensic auditing as a powerful tool to enhance non-government  
organisations' fraud risk management:**

**A study of selected NGOs in eThekweni region, South Africa**



**A thesis submitted in fulfilment of the requirements for the degree**

**of**

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## **ABSTRACT**

Financial statement fraud is of serious concern to professional auditors, funders, and regulators. Although responsibility for fraud prevention and detection falls on management and those in charge of governing entities, external auditors are likely to come under strong criticism if fraud is not detected. This study empirically investigated the relationship between forensic auditing and fraud risk management, focusing on financial statement fraud among non-government organisations (NGOs). It aimed to determine whether forensic auditors prevent, detect, investigate, and respond to the risk of financial statement fraud among these organisations.

To achieve these objectives, the study explored the significance of various fraud risk factors to propose how forensic auditors could respond to this risk using proactive forensic auditing techniques. It also explored the motivation for financial statement fraud. Four research questions guided the study, and four hypotheses were tested. Thirty large NGOs in the eThekweni region, South Africa constituted the sample, and the study population was 87 staff (internal auditors, forensic auditors, managers, accountants and bookkeepers, audit committees, finance officers, Chief Operations Officers, Chief Executive Officers, and directors). Data were gathered by means of an online questionnaire and semi-structured interviews via Zoom.

Structural Equation Modelling (SEM) and Confirmatory Factor Analysis (CFA) were employed to test the fitness of the model and to evaluate the independent variables. Robustness analysis was performed using Analysis of Moment Structures (AMOS) software version 27 for CFA (alongside SPSS Version 27) to estimate statistical models. Structural Equation Modelling was simultaneously used to estimate the link between fraud risk management factors, preventive fraud practices, detective fraud practices, responsive fraud practices and proactive forensic auditing techniques among NGOs. The responses to the interview questions were analysed using conventional thematic analysis via qualitative data analytic software NVivo 12.

The study's results revealed that the proactive approach to forensic auditing has a significant impact on fraud risk management among NGOs in eThekweni region. A new, holistic fraud combination theory is proposed to address the shortcomings of the fraud triangle theory and improve fraud prevention, identification, and detection, and it is recommended that NGO governance structures adopt proactive forensic audit techniques.

As the first to explore financial statement fraud and the extent to which forensic auditors could assist in the NGO context, this study deepens understanding of forensic auditing as the main driver of fraud risk management among NGOs by providing field-based evidence. It also contributes to the application of critical realism, interpretivism and positivism to accounting and auditing research.

## **DEDICATION**

My dedication is first and foremost to the Lord of Israel in the name of Jesus Christ for granting me the abilities and skills to complete the doctoral programme. This was a tough journey with many hurdles, but His grace enabled me to complete it.

This thesis is also dedicated to my father, the late Papias Kabarara and my beloved mother Esperance Mukamutesi for her tireless work and encouragement in my education.

I also dedicate the thesis to my lovely wife, Marie Solange Dushimire, who is the secret to my success, and our two wonderful sons, Nelson Mugisha Cyubahiro and Israel Nicholas Mvunabandi who endured my long absences from home.

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## **DECLARATION OF AUTHORSHIP**

By submitting this thesis electronically, I, Jean Damascene Mvunabandi (216063968), hereby declare that this Ph.D. thesis titled “**Forensic auditing as a powerful tool to enhance non-government organisations’ fraud risk management: A study of selected NGOs in eThekweni region, South Africa**” under the supervision of Doctors Bomi Cyril Nomlala and Harold Patrick, is entirely my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by the University of KwaZulu-Natal will not infringe any third party rights, and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

The University of KwaZulu-Natal Human and Social Sciences Research Ethics Committee (UKZN HSSREC) granted ethical approval with special conditions for the research described in this thesis (approval protocol reference number HSSREC/00002181/2020).

This thesis was subjected to the Turnitin System to establish the Similarity Index and the Turnitin Originality Report is 10%.

The School of Accounting, Economics and Finance (SAEF) at the University of KwaZulu-Natal (UKZN) supports researchers to publish articles based on their Ph.D. research and to attend relevant conferences before graduating in order to provide fresh and original input into local and global existing knowledge. The following academic papers were sent for publication from the Ph.D. research:

1. “The impact of forensic auditing techniques on non-government organizations’ fraud risk management in South Africa using a proactive approach”
2. “The practicality of forensic auditing techniques to detect non-government organisations’ financial statement fraud in South Africa using a proactive approach”
3. “The role of forensic auditing techniques in preventing non-government organisations’ financial statement fraud in South Africa using a proactive approach”
4. “Factors Affecting Non-Government Organisations’ Financial Statement Fraud in South Africa”: New Fraud Combination Theory Approach

**Date: 19-02-2022**

**Student Signature:** 

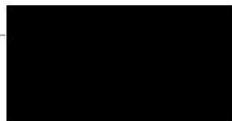
**Student Name:** Jean Damascene Mvunabandi

## **SUPERVISORS' APPROVAL**

This research work has been done and submitted by Jean Damascene Mvunabandi (216063968) to the University of KwaZulu-Natal, College of Law and Management Studies, School of Accounting Economics and Finance with our approval as UKZN Supervisors.

**Date: 19 February 2022**

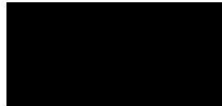
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**Supervisor's Name:** Dr Bomi Cyril Nomlala

**Date: 19-02-2022**

**Supervisor's Signature:**



**Supervisor's Name:** Dr Harold Patrick

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## LIST OF ABBREVIATIONS

<b>AAA:</b>	American Accounting Association
<b>ACCA:</b>	Association of Chartered Certified Accountants
<b>ACFE:</b>	Association of Certified Forensic Examiners
<b>ACFE:</b>	Association of Certified Fraud Examiners
<b>ACs:</b>	Audit Committees
<b>ACVI:</b>	Actual Cross-Validation Index
<b>AGFI:</b>	Adjusted Goodness of Fit Index
<b>AGSA:</b>	Auditor-General South Africa
<b>AICPA:</b>	American Institute of Certified Public Accountants
<b>AMOS:</b>	Analysis of Moment Structures
<b>APA:</b>	Auditing Profession Act
<b>CA:</b>	Chartered Accountant
<b>CBOs:</b>	Community Based Organisations
<b>CEOs:</b>	Chief Executive Officers
<b>CFA:</b>	Confirmatory Factor Analysis
<b>CFI:</b>	Comparative Fit Index
<b>CIMA:</b>	Chartered Institute of Management Accountants
<b>CIPC:</b>	Companies Intellectual Property Commission
<b>COSO:</b>	Committee of Sponsoring Organisations
<b>CPC:</b>	Code of Professional Conduct
<b>DSD:</b>	Department of Social Development
<b>DSO:</b>	Directorate of Special Operations / Scorpions
<b>E &amp; Y:</b>	Ernst and Young
<b>ECVI:</b>	Expected Cross-Validation Index
<b>EFA:</b>	Exploratory Factor Analysis
<b>EFAT:</b>	Embedded Forensic Audit Techniques
<b>FACAT:</b>	Forensic Audit Computer Assisted Techniques
<b>FEI:</b>	Financial Executives International
<b>FICA:</b>	Financial Intelligence Centre Act
<b>FRL</b>	Fraud Risk Level
<b>FRAs:</b>	Fraud Risk Assessments
<b>FRM:</b>	Fraud Risk Management
<b>FSF:</b>	Financial statement fraud
<b>GFI:</b>	Goodness of Fit Index
<b>IAPS:</b>	International Auditing Practice Statements
<b>IAR:</b>	Interpretive Accounting Research
<b>IAS:</b>	International Auditing Standards
<b>IASB:</b>	International Auditing Standards Board
<b>ICFP:</b>	Institute of Commercial Forensic Practitioners
<b>IDSA:</b>	Institute of Directors South Africa
<b>IFI:</b>	Incremental Fit Index
<b>IFRS:</b>	International Financial Reporting Standards
<b>IIA:</b>	Institute of Internal Auditors
<b>IMA:</b>	Institute of Management Accountants
<b>IRBA:</b>	Independent Regulatory Board for Auditors
<b>ISA:</b>	International Standards on Auditing
<b>KCGGP:</b>	King Code of Good Governance Principles

<b>KPMG:</b>	Klynveld Peat Marwick Goerdeler
<b>LANs:</b>	Local Area Networks
<b>LISREL:</b>	Linear Structural Relations
<b>MAR:</b>	Mainstream Accounting Research
<b>MICE:</b>	Money, Ideology, Coercion and Ego
<b>MMR:</b>	Mixed-Method Research
<b>NFI:</b>	Normed Fit Index
<b>NGOs:</b>	Non-Government Organisations
<b>NPOs:</b>	Not for Profit Organisations
<b>PAA:</b>	Public Audit Act
<b>PFI:</b>	Parsimony Fit Index
<b>PGFI:</b>	Parsimonious Goodness Fit Index
<b>PNFI:</b>	Parsimonious Normed Fit Index
<b>POCA:</b>	Prevention of Organised Crime Act
<b>PRECCA:</b>	Prevention and Combatting of Corrupt Activities Act
<b>PWC:</b>	PricewaterhouseCoopers Inc.
<b>RMM:</b>	Risk of Material Misstatement
<b>RMS:</b>	Root Mean Square (RMS)
<b>RMSEA:</b>	Root Mean Square Error of Approximation
<b>RNI:</b>	Relative Non-centrality Index
<b>SAAPS:</b>	South African Auditing Practice Statements
<b>SAEF:</b>	School of Accounting, Economics and Finance
<b>SAICA:</b>	South African Institute of Chartered Accountants
<b>SAIPA:</b>	the South African Institute of Professional Accountants
<b>SAPS:</b>	South African Police Services
<b>SEM:</b>	Structural Equation Modelling
<b>SOEs:</b>	State-Owned Entities
<b>TA</b>	Thematic Analysis
<b>TLI:</b>	Tucker-Lewis Index
<b>TM</b>	Thematic Map
<b>UKZN HSSREC:</b>	University of KwaZulu-Natal Human and Social Sciences Research Ethics Committee
<b>UKZN RIG:</b>	University of KwaZulu-Natal Research Information Gateway
<b>UKZN:</b>	University of KwaZulu-Natal
<b>VE:</b>	Variance Extracted
<b>WANs:</b>	Wide Area Networks

## **CHAPTER ONE: INTRODUCTION TO THE RESEARCH**

### **1.1. INTRODUCTION TO BACKGROUND OF THE RESEARCH**

All organisations are subject to fraud risks and financial statement fraud have led to the downfall of entire organisations, funding threats in non-government organisations (NGOs), massive investment losses, significant legal costs, incarceration of key individuals, extreme and harmful financial and reputational damage or erosion of confidence in capital markets (Esmaili Kia, Najafnia, and Oshani ,2019).

Furthermore, publicised fraudulent behaviour by key senior managers and executives has negatively impacted the reputations and images of many organisations including NGOs around the globe (Nicaise, 2020; Ma and McKinnon, 2021). For instance Ma and McKinnon (2021) found that the rate of fraudulent activities globally rose 24%. McKinnon's (2021) findings are supported in a report by ACFE (2021) to the nations on 2021 global study on occupational fraud, in which it revealed that the rate of occupational fraud and fraudulent activities in Sub Sahara Africa rose 56%. ACFE report further found that fraudsters in South Africa increased by 44% between March 2020 and March 2021. A similar situation was witnessed globally where the Stimulus Funding Amount (SFA) was \$285 billion and a significant estimated fraud amount was \$28 billion (fraud rate of 10%) and 54% of NGOs do not report fraud.

NGOs industry in South Africa has become a soft target for fraudsters and the trend of donor funding abuses has been on the rise and is further confirmed by the Association of Certified Forensic Examiners (ACFE) report of the year 2019 in which it is highlighted ACFE (2019), that \$61 billion dollars were lost to Frauds in NGOs (ACFE, 2019). It is, therefore, imperative for NGOs to try to reduce the chances of fraud occurring. This can be done by employing fraud risk management practices.

Fraud risk management (FRM) is a strategy employed by forensic auditors that include proactive and reactive measures (Lendemen, 2016). It should be approached in a systematic manner and should begin with fraud prevention as prevention is better than detection. This proactive approach is followed by fraud detection and response (Lendemen, 2016; Taylor, 2011). The need for proactive forensic auditing techniques which aim to prevent, detect and respond to the risks of financial and economic crimes, has been magnified by the sharp increase in financial scandals, fraudulent financial practices, manipulation of the figures reported in financial reports, cybercrime and misappropriation of assets as well as the perceived failure of traditional audits to fully alert

entities' stakeholders to financial and economic crimes (Njanike, Dube, and Mashayanye, 2009; Knežević, 2015). Extensive studies conducted by the Association of Certified Fraud Examiners (ACFE) indicate that financial statement fraud has caused more losses than other types of fraud. Such fraud prevents the users of financial reports, especially external users, from being able to properly analyse entities' financial situation and performance. It is no secret that NGOs in eThekweni region such as the KwaZulu-Natal Blind and Deaf Society have suffered financial difficulties due to fraudulent activities which led to funders being reluctant to support them. Many NGOs have experienced a drop in funding due to the lack of regular proactive forensic auditing practices. Funders require assurance that their donations are being spent wisely to assist the intended beneficiaries (Agere, 2014). Hence, the need for proactive forensic auditing to assist fraud prevention, detection, and investigation. Moreover, fraud in general, and financial statement fraud in particular, is linked to the poor quality of financial statements which greatly diminishes NGOs' standing (ACFE, 2016).

The Committee of Sponsoring Organisations of the Treadway Commission (COSO) in the United States is a private sector initiative that was established in 1985 to improve the quality of financial reporting through a focus on corporate governance, ethical practices, and internal control. It is sponsored and funded by the American Accounting Association (AAA), American Institute of Certified Public Accountants (AICPA), Financial Executives International (FEI), the Institute of Management Accountants (IMA), and the Institute of Internal Auditors (IIA). A COSO (2010) report noted that most audit reports issued in the year prior to fraud coming to light were unqualified. Such reports do not sufficiently and adequately quantify the impact of financial statement fraud. Recent financial scandals have highlighted the need for accounting professionals to adopt proactive fraud detection techniques to identify, detect, investigate, and respond to the risk of financial statement fraud. This calls for on-going monitoring of an entity's financial transactions via Embedded Forensic Audit Techniques (EFAT) and Forensic Audit Computer Assisted Techniques (FACAT) (Oyedokun, 2016; Evans, 2017; Negangard and Oler, 2018).

The fundamental role played by forensic auditing in combatting financial and economic crimes is captured by Opiyo (2017:45) who notes that it has become imperative for entities to appoint forensic auditors to investigate their operations. Albrecht (2001:23) and Adeniyi (2016:14-16) identified the following key functions of forensic auditing: (a) prevent, detect and investigate issues of fraud and financial abuse within an entity; (b) identify the causes and collect evidence for individual investigations by evaluating weaknesses in internal controls that enable unethical

business behaviours and practices to occur and go undetected; (c) employ internal and external resources to address allegations of fraud; (d) develop fraud awareness and analyse fraud trends and internal control procedures; (e) perform a comprehensive analysis of the results of the investigation across the entity to identify pervasive control issues; (f) oversee investigations and the planning and writing of forensic audit reports and present the findings; (g) work closely with financial trainers to enhance fraud-auditing skills; (h) develop a fraud prevention, detection and investigation programme, and manage the entity's fraud risk assessment programme; (i) conduct activities in areas of moderate to high risk; (j) conduct complex and extremely sensitive investigations; (k) promote awareness of FRM across the entity; and (l) testify in court as an expert witness.

The aim of a forensic audit is to prevent, investigate, and detect fraud (Silverstone, Sheetz, and Pdneault, 2012; Singleton, Bologna and Lindquist, 2006). Knežević (2015) notes that, proactive and reactive forensic audit techniques have been developed to curb fraudulent activities. The proactive audit approach aims to prevent financial and economic crimes by identifying deviant financial transactions and mistakes before they graduate into fraud and by promoting a fraud awareness culture within entities (Njanike, Dube, and Mashayanye, 2009; Oghoghomeh, 2013). Reactive forensic audit techniques focus on investigating allegations of financial and economic crimes (Ansari, 2005). Akenbor and Ironkwe's (2014) study on the effectiveness of forensic auditing services and fraudulent practices among Nigerian public institutions found that proactive and reactive forensic auditing techniques are critical in preventing, detecting, and responding to financial and economic crimes among organisations. Ehigiator (2015) and Ehioghiren and Atu (2016) concluded that forensic auditing has a significant impact on FRM practices.

A review of the recent literature on NGOs and FRM reveals a significant research gap on fraud risks in this sector (Domański, 2016; Felix, Gaynor, Pevzner, and Williams, 2017; Kim, 2017; Kummer, 2015; Parsons and Roberts, 2017; Tschakert, Needles Jr and Holtzblatt, 2016; Viader and Espina, 2014). Furthermore, there is a paucity of research on the factors that significantly influence FRM among NGOs (Mehta and Bhavani, 2017; Muthusamy, 2011; Okoye, Nwoye, and Okeke-Okonkwo, 2019). Studies highlight the need for the use of forensic auditing techniques to detect, investigate, and respond to the risk of fraud and to avoid consequences such as liquidation. Gbegi and Adebisi (2014) and Ile and Odimmega (2018) concluded that forensic auditing techniques such as interviewing, computer-assisted data mining, document review and data matching (record linkage) techniques are useful tools to prevent and detect fraud. Their studies also revealed that fraud reduction is significantly and positively related to fraud investigation and

detection through forensic auditing. However, these techniques have not been applied by many NGOs.

While there is a rich body of literature on these issues, there is no comprehensive theory on forensic audits as a tool for FRM in the NGO sector (Domański, 2016; Floch, 2004; Kariuki, 2017; Khadra and Delen, 2020; Lauck and Brozovsky, 2018; LeClair, 2019; McDowell, 2004; Musah, Ocansey, and Akomeah, 2018; Oluwatuyi, 2019). Most studies have focused on testing disconnected hypotheses on fraud risk categories (Chen, 2010; Omar, 2013) or available risk assessment strategies and tools (Arshad, 2015; Domański, 2016). Fortvingler (2016) and Mock (2017) propose that existing FRM tools and practices and theories in relation to for-profit entities should be applied to NGOs. These authors conclude that regardless of the fraud theories proposed to formulate strategies to identify red flags and build sound internal controls, a forensic audit can be adopted by any entity as an internal and external strategy to deter, detect and respond to fraudulent practices. This is due to the fact that a forensic audit goes beyond a statutory audit. Given that they are not used to render an audit opinion; forensic audits can be easily adapted to a principles-based accounting environment with broad guidelines for a variety of accounting investigations without using rules-based audit approaches or narrowly-focused fraud investigation practices.

Kummer (2015) observed that all entities are exposed to fraud risks and that fraud is a significant potential risk to NGOs' financial standing, assets, quality of service delivery, effectiveness, and reputation. However, Applegate (2019) noted that FRM is a challenge to many in this sector. Kummer (2015) added that, as in the private and public sectors, effective FRM is imperative to enable NGOs to fulfill their mandate, deliver services beyond expectations to their beneficiaries, and improve their performance. Ohalehi (2019) stated that fraud, especially financial fraud, is rampant in this sector, while Arshad (2015) asserts that it is a significant reason for NGOs' failure. It also has implications for donors and other stakeholders who might not know its existence (Arshad 2015).

Arshad (2015) stated that managing fraud risk among NGOs calls for business entities' exact mechanisms and processes. The Chartered Institute of Management Accountants (CIMA) (2005:8) publication entitled *Risk management cycle* highlights seven strategies and steps in this regard: (i) establish a risk management group and set goals; (ii) identify risk areas; (iii) understand and assess the scale of risk; (iv) develop a risk response strategy; (v) implement the strategy and allocate

responsibilities; (vi) implement and monitor the suggested controls; and (vii) review and refine the process and undertake it again.

Andres-Alonso and Garcia-Rodriguez (2016) assert that every organisation is exposed to fraud risks whether they are public, private, profit-oriented, or NGOs, including Non-Profit Organisations (NPOs) and Faith-Based Organisations (FBOs). The Association of Certified Forensic Examiners (ACFE), an international organisation dedicated to fighting fraud and white-collar crime, estimated \$61 billion was lost to fraud in NPOs in 2019 (ACFE, 2019). Media reports on fraud and scandals in large NGOs such as the Red Cross, United Way, American Cancer Society, the Youth Motor Sport Foundation, the Baptist Foundation of Arizona, the American Federation of Teachers, and the Women's Royal Voluntarily Service, etc., have shocked the public and resulted in decreased donations to many NGOs (Archambeault, 2015). Reports that directors and managers entrusted with public funds have engaged in unethical practices to promote their interests have exacerbated the situation (Doherty, 2011; Oliver, 2016). Kariuki (2017) cautions that NGOs face the threat of funders withdrawing or disqualifying further funding due to their flawed internal controls and inability to detect and curb fraudulent activities. This results in a vicious cycle where a lack of funding prevents NGOs from achieving their mission. It is thus critical to identify ways to improve fraud prevention, detection, and investigation using forensic auditing skills and techniques within this sector.

In South Africa, there have been several high-profile examples of misuse of donor funds within the NGO sector through fraud (Agere, 2014; Kang'ethe and Manomano, 2014; ACFE, 2019). Managers of some of the country's NGOs have also been accused of misappropriation and embezzlement of donors' funds (Agere, 2014). Indeed, fraud resulted in the loss of more than R12 million by the KwaZulu-Natal Blind and Deaf Society, one of the largest and most respected NGOs in the eThekweni region. It was perpetrated by a senior officer who had exclusive access to the organisation's online banking (ACFE, 2019). It is clear that this high level executive overrode the Society's internal controls and that they were ineffective in preventing and detecting such action. This raises whether traditional controls and audit models remain effective in overseeing financial activities.

Prentice (2016), Snyder, Andersen, and Zuber (2017), and Burks (2018) note that funders and prospective donors use NGOs' financial statements to assess their financial viability and sustainability. This is not possible in the case of fraudulent financial reports or financial statements.

However, there is a lack of empirical evidence on proactive forensic auditing techniques to curb such fraudulent activities among NGOs, particularly in the eThekweni region (Best, 2015). This study aimed to fill this gap by kick-starting research on forensic auditing as a tool to enhance NGOs' FRM. It also investigated the extent to which NGOs in the eThekweni region apply recommended FRM practices and whether or not proactive forensic auditing techniques are adopted to detect financial statement fraud.

Arshad (2015) clarified that failure to manage fraud risks adequately can result in NGOs experiencing financial risks (financial vulnerability) and operational, compliance, and strategic risks, among others. Failure to do so may result in their closure. Schreiner (2016) cautions that fraud leads to a loss of credibility (reputational risk) and a crisis of confidence among funders, donors, and other stakeholders. It thus raises severe questions on the long-term survival of NGOs in the eThekweni region. Taylor (2011) notes that FRM aims to reduce the risk of fraud (proactive preventive fraud risk factors), to detect fraud by being attentive to misconduct that could increase the risk of fraud (proactive detective fraud risk factors), and to take action when fraud occurs (proactive, responsive fraud risk factors). Taylor (2011) adds that a holistic FRM strategy is required to assist senior managers in building a fraud-resistant or fraud-free organisation.

Othman's (2019) study concluded that a comprehensive response to the risk of fraud and financial loss in any entity calls for FRM systems; the development of an anti-fraud culture and ethical practices; fraud risk assessment policies and procedures; fraud deterrence processes and controls; forensic audit techniques; computer-assisted auditing techniques; fraud investigations and investigation guidelines; evidence management; fraud remediation; root cause analysis, recovery of assets (manage incidents); a review of internal controls; analytical procedures; interviews; analysis of financial transactions; and measures of fraud resistance, among others. However, Adeniyi (2016) notes that internal controls and statutory audits cannot respond sufficiently to fraud issues or risks, especially about deterrence, detection, and mitigation, as well as the preparation of concrete and relevant evidence for court proceedings.

Non-government organisations can reduce fraud risks by applying FRM practices. Samociuk and Iyer (2010:8) identify three primary factors for measuring FRM that can also be grouped into three broad dimensions, namely, developing an anti-fraud culture, assessing and responding to fraud risks (preventive FRM practices), detecting fraud (detective FRM practices), managing fraud incidents and measuring fraud resistance (responsive FRM). This study thus empirically

investigated the role of forensic audits in enhancing FRM among selected NGOs in the eThekweni region, focusing on the Durban central business district (CBD) where many of the most prominent NGOs are located.

## **1.2. Problem Statement**

Media reports on fraud and scandals in large NGOs such as the Red Cross, United Way, American Cancer Society, the Youth Motor Sport Foundation, the Baptist Foundation of Arizona, the American Federation of Teachers, and the Women's Royal Voluntarily Service, etc., have shocked the public and resulted in decreased donations to many NGOs (Archambeault, 2015).

Publicised fraudulent behaviour by key senior managers and executives has negatively impacted the reputations and images of many organisations, including NGOs around the globe (Nicaise, 2020; Ma and McKinnon, 2021). Reports that directors and managers entrusted with public funds have engaged in unethical practices to promote their interests have exacerbated the situation (Doherty, 2011; Oliver, 2016).

Ma and McKinnon (2021) found that the rate of fraudulent activities globally rose 24%. McKinnon's (2021) findings are supported in a report by ACFE (2021) to the nations on a 2021 global study on occupational fraud. It revealed the rate of occupational fraud and fraudulent activities in Sub Sahara Africa rose 56%. ACFE report further found that fraudsters in South Africa increased by 44% between March 2020 and March 2021. A similar situation was witnessed globally. The Stimulus Funding Amount (SFA) was \$285 billion, and a significant estimated fraud amount was \$28 billion (fraud rate of 10%), and 54% of NGOs do not report fraud.

In South Africa, there have been several high-profile examples of misuse of donor funds within the NGO sector through fraud (Agere, 2014; Kang'ethe and Manomano, 2014). Managers of some of the country's NGOs have also been accused of misappropriation and embezzlement of donors' funds (Agere, 2014). Indeed, fraud resulted in the loss of more than R12 million by the KwaZulu-Natal Blind and Deaf Society, one of the largest and most respected NGOs in the eThekweni region. It was perpetrated by a senior officer who had exclusive access to the organisation's online banking. NGOs industry in South Africa and elsewhere has become a soft target for fraudsters, and the trend of donor funding abuses has been on the rise. It is further confirmed by the Association of Certified Forensic Examiners (ACFE) report of the year 2019 in which it is highlighted ACFE (2019), that 61 billion dollars were lost to Frauds in NGOs in the 2019 (ACFE, 2019). The Southern Africa Fraud Prevention Services (SAFPS) has also warned a significant increase in fraud in South

Africa; according to the organisation statistics for 2021, fraud in Gauteng has increased 120%, Eastern Cape 161%, and there were increases in every province except Limpopo (Widiyati, Valdiansyah, Meidijati, & Hendra, 2021). TransUnion also found that the cities with the highest percentage of fraudulent transactions against entities were Durban, Johannesburg, and Pretoria in that order.

Kariuki (2017) cautions that NGOs face the threat of funders withdrawing or disqualifying further funding due to their flawed internal controls and inability to detect and curb fraudulent activities. This results in a vicious cycle where a lack of funding prevents NGOs from achieving their mission. It is thus critical to identify ways to improve fraud prevention, detection, and investigation using forensic auditing skills and techniques within this sector.

Several studies (Islam, Rahman, and Hossan, 2011; Chi-Chi and Ebimobwei, 2012; Akenbor 2013; Walden, 2016, Ehioghiren and Atu,2016; Albrecht and Albrecht,2016; Ogutu and Ngahu; 2016; Huber, 2017; Amah, 2018; Jenkins, Negangard, and Oler, 2018; Ayres, 2019) have addressed the issues that forensic auditors do focus on to combatting fraudulent activities. These issues include, Fraud scandals are already reviling gaps in traditional ways of traditional audits in preventing, detecting and investigating fraud, weakness of internal audits and controls systems for many organisations, weak corporate governance, lack of management accountability, weak or non-existence of audit committee members in carrying out their oversight function, and lack of ability to respond quickly and proactively to fraud risks, issues of fraud red flags, and the issues of fraud risk management factors.

International studies have been done on fraud risk management factors. Albrecht and Albrecht (2014) studied investigative and forensic auditing systems in reducing fraud within organisations. Chi-Chi and Ebimobwei (2012) studied the effect of forensic auditing services on fraud detection in Nigerian banks. Islam, Rahman, and Hossan (2011) studied corporate fraud in Bangladesh. Dada (2013) reviewed the use of forensic auditing services to address fraudulent activities in Kenya. Modugu and Anyaduba (2013) studied the relationship and linkage between forensic auditing and fraud mitigation among manufacturing companies. Huber (2017) did a study on proactive and reactive forensic auditing practices to mitigate fraud. Amah (2018) studied proactive forensic audit techniques in preventing and detecting financial and economic crimes. Ayres (2019) studied proactive forensic audit techniques to strengthen the FRM life cycle.

None of the above-reviewed studies focused on the relationship between forensic auditing and fraud risk management practices of NGOs, studies done on fraud risk management practices have focused on fraud risk assessments without linking it to proactive forensic auditing techniques.

However, few studies have been done on the effect of fraud risk management on the firm's financial performance (Ohando, 2015). This study aims to fill in the existing gap by studying forensic auditing as a powerful tool to enhance NGOs' fraud risk management in the eThekweni region. Forensic auditing in enhancing fraud reduction among NGOs is the focal point of this research study. Anchored on the main FRM factors, it includes applying proactive forensic auditing techniques by NGOs as a tool to prevent, detect, and respond to the risks of financial statement fraud and to move the research forward towards the development of a robust NGOs FRM model. It is also crucial for forensic auditors to ensure that fraud risks are eradicated or at least reduced in the NGO sector.

### **1.3. The issue under Investigation**

There is a paucity of empirical research on why financial statement fraud occurs in NGOs and how its risk can be managed (Klammer, Richtermeyer, Siegel, and Sorensen, 2010). Furthermore, few studies have investigated the appropriate FRM practices that NGOs should adopt to prevent such fraud that undermines their performance (Andres-Alonso-Rodriguez, Romero, and Merina, 2016). Bredenkamp (2015) and Dzomira (2015) highlighted the need to identify the drivers of FRM factors and noted that these factors should be classified according to the context. However, the FRM practices used by the accounting and auditing profession have been influenced by extensive research on for-profit entities and state-owned entities (SOEs) without linking them to forensic auditing techniques (Bredenkamp, 2015). None of these are related to the critical fraud risk factors among NGOs, which undermine the effectiveness of their FRM practices. Hence, there was a need to research to investigate the drivers of FRM factors (the best fitting FRM models) that are crucial in the NGO context. The researcher conducted accounting and auditing research to identify the drivers of all forms of fraud and fraud risk factors that might motivate management to commit fraud linked to financial statement fraud in the sector. The study thus involved an alternative consideration of FRM factors among NGOs in the eThekweni region, South Africa.

More specifically, the study explored possible contextual fraud risk factors to determine which are more significant and directly or indirectly affect NGOs' FRM. It focused on fraudulent activities in NGOs to enable the identification of fraud risk factors (fraud risks associated with integrated fraud risk models) by stakeholders and make recommendations to their stakeholders. Few studies have linked forensic audits and FRM practices among NGOs in South Africa (Romburgh, 2014). Proactive forensic auditing has been identified as critical in measuring FRM (preventing, detecting, and responding to fraud risks). Given that fraudulent activities are prevalent among South African

NGOs, forensic auditing should be considered to systematically address all fraud risk issues and problems within the sector proactively.

According to Beck, Brasseur, Poetz, and Sauermann (2019:53), a research problem is an intellectual stimulus calling for an answer. Fraud is among the issues confronting NGOs and numerous studies have been conducted on fraud risks in this sector around the globe (Archambeault, 2015; Domański, 2016; Lauck, 2018). The literature points to numerous financial issues that constrain NGOs' activities. Domański (2016) revealed that financial statement fraud and losses due to fraudulent activities have increased significantly in the NGO sector, while Clemenson and Sellers (2013) noted that the financial sustainability and viability of these organisations are of concern. Harris (2014) observed that cases of fraud not only make funders unwilling to support NGOs financially, but undermine donors' trust and confidence in these entities and damage their reputation. Cuomo (2005) stated that the NGO sector is coming under increased public scrutiny, especially with regard to financial accountability and transparency in their financial reports. Motubatse (2014) found that many NGO board members believe that internal controls and audits are not crucial because any fraud will be picked up in the annual audit. However, Tschakert, Needles, and Holtzblatt (2016) asserted that auditing standards do not promote fraud deterrence and detection. Proactive forensic audit techniques are required to identify allegations of misconduct and to adopt preventive and detective measures that gauge the FRM climate within NGOs.

Tschakert et al. (2016) added that some NGOs do not formulate effective strategies to reduce the risk of financial loss from fraud, which creates a vicious cycle and traps these entities in a chronic situation. The failure of internal controls and audits to deter and detect fraud within this sector calls for the use of forensic audit services. Chamberlain and Etherington (2018) note that many NGOs' boards of directors do not establish audit committees to deter or detect fraud within their entities. Furthermore, the internal controls system in the sector is prone to financial crime and fraud due to the lack of regular audit practices. Aghghaleh (2014) adds that the rapid growth of this sector and lack of expertise and resources create opportunities for fraud. Gibson (2018) supports this argument and notes that financial fraud, and operational, compliance, and strategic risks threaten NGOs' long-term survival. Funders have noted traditional auditors' failure to respond aggressively to fraud risks in this sector. Kummer (2015) reported that there was a gap in this industry's understanding of fraud detection, deterrence, and responsive techniques. Udeh (2012) revealed that financial statement fraud was growing in NGOs and that these entities do not have the skills and

resources to detect, deter and respond to financial statement fraud. Udeh (2012) argued that NGOs are more vulnerable to fraudulent activities than other organisations, while Zamzami, Nusa, and Timur (2016) stated that this could be due to a lack of sound internal controls and audits. The abovementioned issues motivated this study on the role and status of forensic auditing in detection of fraud in the financial statements of NGOs in eThekweni region.

Lee (2016) argues that a lack of or abuse of governance accountability, internal controls' failure to mitigate and/or detect fraudulent activities and concealment whether intentional or not undermine the validity of organisations' financial reports and expose not only them but also the auditing profession to major reputational risks when fraud is revealed during the course of a forensic investigation. Kulikova and Satdarova (2016) concur with Kassem and Higson (2016) that internal controls have failed to detect fraud, adding that funders and donors have raised serious questions as to whether such controls are still playing their part in FRM in NGOs (Motubatse, 2014). This raises the need to apply forensic auditing skills in FRM. This empirical study thus examined whether proactive forensic auditing has a significant relationship with the prevention and detection of fraud in the financial statements of NGOs in eThekweni region. It also aimed to gain insight into the extent to which internal controls and traditional audits are able to detect such fraud.

This study therefore aimed to close the research gap by addressing the overarching research question: What is the relationship between proactive forensic auditing and FRM factors among NGOs in eThekweni region? The main aim was to investigate the possibility of addressing the problem of detection of fraud in the financial statements of NGOs in the region using the services of forensic auditors and the fraud combination theory recently introduced that is being widely used to identify the motivation of those engaged in financial statement fraud. This was motivated by the expectation that forensic auditors will go beyond the normal audit to investigate financial statements more deeply (Othman, 2019). The research was thus designed to determine whether proactive forensic auditing is a powerful tool to enhance NGOs' FRM. This was achieved by identifying a number of factors which influence NGOs' fraud prevention, detection, and responsive strategies. Such knowledge will broaden the scope of options available to NGOs to overcome fraud risks.

#### **1.4. Motivation for conducting the research**

I have been working as an internal auditor, and business advisor in the NGO sector in South Africa since 2017. My responsibilities include preventing, detecting, and deterring any type of fraud, and advising NGOs on business matters, including an assessment of organisational risks to prevent financial losses resulting from financial statement fraud and fraudulent financial transactions. I registered as an ACFE student member to gain access to publications and reports on the issues under investigation. At Master's level, I carried out research on the applicability of International Financial Reporting Standards (IFRS) to enhance NGOs' performance and identified serious issues in their reporting which could lead to fraud risks. This Ph.D. research was a golden opportunity to close the gap between the auditing profession and academic research, and to make a contribution that can be of immediate application.

#### **1.5. Research Aim**

This study set out to empirically investigate how proactive forensic auditing techniques can facilitate the prevention and detection, and response to fraud in the financial statements of NGOs in eThekweni region, rather than reviewing their financial statements to identify any misrepresentations or materiality issues. The overarching research objective was thus to empirically investigate forensic auditing as a powerful tool for the detection of fraud in financial statements and the factors directly or indirectly influencing FRM among NGOs in eThekweni region.

#### **1.6. Research Objectives**

As noted previously, a number of key factors influence FRM within entities. For the purpose of this study, forensic auditing techniques were empirically investigated to determine their role in the fight against fraudulent activities within NGOs in eThekweni region. The specific research objectives were thus to:

1. Determine the key factors that influence fraud risk management practices among NGOs in eThekweni region.
2. Investigate whether or not proactive forensic audit techniques can significantly detect financial statement fraud among NGOs in eThekweni region.
3. Examine whether or not proactive forensic audit techniques can significantly prevent financial statement fraud among NGOs in eThekweni region.

4. Test whether or not proactive forensic audit techniques significantly reduce financial statement fraud among NGOs in eThekwini region.

### **1.7. Research Questions**

Faff (2016) recommended that in order to focus on the study's aim, a maximum of four questions should be posed, as this retains a keen focus on what the researcher intends to achieve. The following research questions were derived from the statement of the research problem and the literature review and were relevant in achieving the research objectives:

1. What are the key factors that influence fraud risk management practices among NGOs in eThekwini region?
2. How can proactive forensic audit techniques significantly detect financial statement fraud among NGOs in eThekwini region?
3. How can proactive forensic audit techniques significantly prevent financial statement fraud among NGOs in eThekwini region?
4. How can proactive forensic audit techniques significantly reduce financial statement fraud among NGOs in eThekwini region?

### **1.8. Statement of Hypothesis**

As recommended by Gill (2011), the following null hypothesis were formulated: a forensic audit is not a powerful tool to detect and deter, and respond to fraud in financial statements among NGOs in eThekwini region. The study tested the theory that effective FRM practices among NGOs would result in a significant reduction in financial statement fraud and losses. If the results show statistically significant agreement on the role played by FRM practices in detecting, preventing, and responding to financial statement fraud, the researcher will reject the null hypotheses and accept the alternative hypotheses, forensic audit techniques significantly deter fraud, detect financial statement fraud and address the weaknesses of internal controls and audits in reducing financial statement fraud among NGOs in eThekwini region. If the results show no significant impact of forensic audits on the detection and deterrence of financial statement fraud and in addressing the weaknesses of internal controls and audits in reducing financial statement fraud among the selected NGOs in eThekwini region, the alternative hypotheses will be rejected and the null hypothesis will be accepted.

## **1.9. Research Hypotheses**

According to Sekaran and Bougie (2016:60), a hypothesis is a statement of prediction and a tentative answer to the research problem expressed in the relationship between the independent and dependent variables. Since this was hypothesis-testing research, the researcher expected that NGOs that employ forensic auditing would be able to manage fraud risks better than those that do not. The hypothesis for this research was that forensic auditing skills within a comprehensive FRM life cycle that includes detective FRM practices, preventive FRM practices, and responsive FRM enhances NGOs' ability to prevent financial statement fraud. The primary overall hypothesis of this study was that three broad dimensions or aspects of FRM practices: preventive FRM practices, detective FRM practices and responsive FRM practices drive success or failure in FRM in the NGO sector. The research was designed to investigate whether forensic auditing is a powerful tool to enhance NGOs' FRM. The following tentative hypotheses in the null alternative form were formulated as a guide to gather data for statistical analysis and as a framework for informed conclusions:

**H01:** There are no key factors that greatly influence fraud risk management practices among NGOs in eThekwini region.

**H1:** There are key factors that greatly influence fraud risk management practices among NGOs in eThekwini region.

**H02:** Proactive forensic audit techniques cannot significantly detect financial statement fraud among NGOs in eThekwini region.

**H2:** Proactive forensic audit techniques can significantly detect financial statement fraud among NGOs in eThekwini region.

**H03:** Proactive forensic audit techniques cannot significantly prevent financial statement fraud among NGOs in eThekwini region.

**H3:** Proactive forensic audit techniques can significantly prevent financial statement fraud among NGOs in eThekwini region.

**H04:** Proactive forensic audit techniques cannot significantly reduce financial statement fraud among NGOs in eThekwini region.

**H4:** Proactive forensic audit techniques can significantly reduce financial statement fraud among NGOs in eThekwini region.

## **1.10. Contribution of the Study to the Body of Knowledge**

The study's original contributions revolve around detective FRM practices, more specifically, detection of fraud in the financial statements of NGOs in eThekwini region. It contributes to the

understanding of fraud risk factors and indicators that arguably, drive FRM practices in this sector. The study demonstrates the relationship between the main drivers influencing FRM in the NGO sector and sheds light on the use of forensic audits as a tool for FRM among NGOs in eThekweni region. It adds to FRM studies by using a more robust scientific research methodology (SEM) in the accounting and auditing discipline. Moreover, the study fills the research gap on the relationship between forensic auditing and the main drivers of FRM among NGOs in eThekweni region. This new knowledge will be useful in devising strategies to detect and curb fraud in the financial statements of the selected NGOs through the use of proactive forensic auditing techniques. Given that the government of South Africa is aware that forensic auditing is critical in tracking fraudulent financial statements and fraudulent activities, this research will enhance understanding of the relationship between forensic auditing and detection of fraud in the financial statements of NGOs.

As noted in the problem statement, the research contributes to knowledge by bridging an existing research gap (Ogweno, 2018) through the introduction of the New Fraud Combination Theory which is a combination of all the fraud models and the factors that contribute to fraud occurrence, and the elements of the fraud combination model (opportunity, motivation/pressure (money, ego, and coercion), capabilities/competence, integrity and lack of conscience, and rationalisation (rewards versus risk and ideology)).

### **1.11. Significance of the Study**

The research findings will assist NGOs in eThekweni region to improve their ability to sustain the funding already received from donors and to attract further funding to ensure their long-term survival. The results will also strengthen their ability to fight financial statement fraud using forensic audits as a tool. The study offers fresh insight into fraud detective, deterrence and responsive issues that, if left unattended, could cause NGOs to lose their funding. Extant research has mainly focused on auditing to prevent and detect accounting fraud in the public and private sectors.

The study's findings also provide new knowledge to funders, donors, and other relevant stakeholders on how and why some NGOs are exposed to fraud risks and others are involved in financial scandals as well as why such fraud was not uncovered sooner. This will assist funders in identifying the professional and technical support they should provide to NGOs before funding them in order to ensure that funds will be used efficiently, effectively, and economically.

The research method used in this study may have applications in other research settings. The study could thus motivate other researchers to carry out similar studies. The literature review offers insights to auditing professionals on a wide range of fraud risk factors, fraud risk indicators and FRM factors within the NGO sector. It is hoped that the study's results and recommendations will stimulate debate within this sector on how to detect fraud in financial statements using forensic auditing skills.

### **1.12. Rationale for the study**

Kajiita and Kang'ethe (2017) note that the NGO sector plays a critical role in society, promoting community self-reliance, democracy, and local initiatives to address challenges that are beyond the reach of the public and private sectors. However, fraud threatens their performance and, indeed, their very existence. As noted previously, internal controls and traditional and statutory audits are ineffective in detecting, preventing and responding to the various types of fraud, and economic and financial crimes confronting entities across the world. This calls for a robust forensic auditing system.

It recently came to light that the KwaZulu-Natal Blind and Deaf Society, one of the largest and most-respected NGOs in eThekweni region had lost R12 million, siphoned off from the organisation's bank accounts by an officer who had sole access to its online banking (ACFE, 2019). The Society's Board of Directors and staff have raised serious questions as to why auditors gave clean audits year after year (ACFE, 2019). This incident has highlighted NGOs' financial vulnerability as well as the consequences of ineffective FRM. It further motivated this study on how forensic auditors could assess, identify, prevent, detect, and respond appropriately to financial statement fraud risk factors in the NGO sector.

This study was also motivated by the fact that this is a little explored area and that forensic auditing has not been researched as a tool to enhance NGOs' FRM. The Codes of Good Practice for South African NPOs and Section 12 of the NPO Act require all NPOs to comply with international financial reporting and auditing standards, and to appoint independent auditors (Harding, 2014). While the South African government is aware that forensic auditing is critical in tracking fraudulent financial statements and fraudulent activities (Van Rooyen, 2008), empirical knowledge and an understanding of its role in the NGO sector would prove valuable. In the interests of the

NGO sector's continued sustainability, credibility, and success, issues related to fraud should be confronted head-on.

### **1.13. Structure of the Thesis**

This thesis is presented in nine chapters as follows:

#### **Chapter One:**

Chapter one introduces the study by outlining the background and relevance of the research. This is followed by a discussion on the key concepts relating to the phenomenon under investigation. The chapter discusses the rationale for the study and its significance and presents the research problem, and the study's objectives and research questions, as well as its hypotheses.

#### **Chapter Two:**

The second chapter presents a critical review of the relevant literature on public sector auditing in South Africa and the country's forensic investigation process. It presents the different theories relating to the phenomenon under investigation and briefly discusses forms of fraud and financial statement fraud, and corporate governance as well as enterprise risk management (ERM) in the NGO sector. The chapter highlights the differences between the work of auditors and forensic auditors as well as the role of forensic auditors with respect to financial statement fraud prevention, detection, and investigation. Red flags that indicate possible financial statement fraud are also described. The chapter also reviews the empirical literature.

#### **Chapter Three:**

Chapter presents the research methodology employed to conduct this study. It discusses the philosophical assumptions in the Social Sciences and their links to accounting perspectives and describes the adopted critical mainstream and interpretive philosophies. The research design and data collection and analysis are discussed, as well as the research process. The chapter concludes by discussing the ethical considerations taken into account in conducting the study.

#### **Chapter Four:**

The fourth chapter presents and analyses the data gathered by means of an online questionnaire and discusses the empirical findings to address the research questions.

#### **Chapter Five:**

Chapter five sets out the Confirmatory Factor (CFA) analysis and Structural Equation Modelling (SEM) analysis by AMOS version 27 that were used to test the fitness of the theory. Goodness Fit Indices are discussed as well as validity and the measurement model.

**Chapter Six:** Chapter six presents and analyses the data collected via the semi-structured online interviews. It discusses the results to address the research questions and to confirm and supplement the findings from the online questionnaire.

**Chapter Seven:**

The seventh chapter analyses and discusses the findings by comparing them with previous studies on the topic and the study's objectives and research questions. It concludes by reflecting on the study's key findings.

**Chapter Eight:**

Chapter eight draws on the previous chapters to summarise the study's contributions and offer theoretical, methodological and practical recommendations relevant to NGOs in eThekwinini region.

**Chapter Nine:**

Chapter nine concludes the study by presenting a summary of the research. It also examines the study's strengths and limitations, and the implications of the findings and recommends potential areas for further research.

The following chapter builds on this foundation by presenting a review of the relevant literature from which the set of research questions was derived, and theories adopted for this research.

## **CHAPTER TWO: REVIEW OF RELEVANT LITERATURE**

### **2.1. INTRODUCTION**

This chapter presents a review of the relevant local and international literature that formed the bedrock for this study. A literature review enables the reader to understand current knowledge about the research subject. It highlights the significance of the study by critically analysing the views of different authors.

Onwuegbuzie, Leech, and Collins (2012) state that a literature review displays comprehensive understanding of a topic by means of a logically argued case. Tan (2010:18) recommends that scholars and researchers should critically read unpublished and published empirical studies and relevant literature before entering a research field to sensitise themselves and get a feel of what is happening around study, and to highlight issues of concern. Hart (2018) concurs, and adds that, researchers should consider multiple theories or views on the subject under investigation.

Walwyn and Chan (2019) identify the following five criteria when undertaking a literature review: the review must cover the main aspects of the research; authors cited must receive due recognition; recent sources must be consulted; the information should not be limited to Internet sources; and the literature review must be logical and well-structured. Walwyn and Chan (2019) add that a literature review plays five critical roles, namely, it provides a broad understanding of the subject being researched; it helps to identify gaps that require further research; it assists in developing or constructing research topics and questions; the review assists the researcher to set the goals for his/her study; and finally, it provides methodologies which can be adapted for further research.

Van Rooyen (2008), Van Romburgh (2008), Jackson and Stent (2010), McIntyre and Van Graan (2014), and Ferreira (2018) recommend that all entities in South Africa adopt forensic auditing to enhance their performance and sustainability. This literature review thus begins by examining the application of forensic auditing in the country. This is followed by a review of relevant theories and a brief discussion on the forms of fraud and financial statement fraud. The chapter also examines the connections between the theories and the variables, financial statement fraud and corporate governance as well as enterprise risk management (ERM) in the NGO sector. It outlines the differences between what auditors do and what forensic auditors do highlighting the latter's role with respect to financial statement fraud prevention, detection, and investigation. Red flags that indicate possible financial statement fraud are also described.

## **2.2. Brief Background on Forensic Auditing in South Africa**

Forensic auditing was adopted in South Africa to address fraud risks and to prevent, deter, mitigate, and investigate allegations of fraud within or against the country. Statutory investigative bodies such as special investigation units, commissions of inquiry, and directorates of special operations have also been mandated to investigate matters involving financial irregularities and financial misconduct leading to financial losses. While forensic audit services are in their infancy in South Africa (McIntyre and Van Graan, 2014), the country's four largest auditing firms, PWC, KPMG, E&Y; and Deloitte all offer forensic auditing and accounting services (Ferreira, 2018:38-41). The Auditor-General South Africa (AGSA) also conducts several different types of audits (Fakie, 1999) prescribed in Chapter 3 of the Public Audit Act (PAA), including: (i) regularity auditing – checking that an audited body's financial statements are a fair representation of its financial position; (ii) performance auditing – checking that resources are purchased economically, used properly and that effective management systems and controls are in place. Performance auditing facilitates the prevention, detection, and investigation of an economic crime; (iii) computer auditing – identifying the strengths and areas of potential misuse of computer systems for data entry and financial transactions; (iv) environment auditing – supporting food environment protection and management practices through an audit approach to sustainable resource development; (v) budget auditing – a decrease in the amount not utilised in comparison with the previous year indicates that it is possible that improved planning and budgetary controls are in place; and forensic auditing – to facilitate the prevention, detection, and investigation of economic and financial crimes.

### **2.2.1. Characteristics and Ethical Requirements of Forensic Auditors in South Africa**

Both independent and forensic auditors in South Africa are required to strictly adhere to fundamental ethical requirements such as the Code of Professional Conduct (CPC) of the South African Institute of Chartered Accountants (SAICA) and the Independent Regulatory Board for Auditors (IRBA) when performing their duties. Van Romburgh's (2008:15-17) study highlights that forensic auditors also need to comply with the provisions of South Africa's: (1) Criminal Procedures Act No. 51 of 1977, which deals with crimes and offences relating to fraud, theft and forgery; (2) the Financial Intelligence Centre Act No. 38 of 2001 (FICA) that deals with money laundering and terrorist financing; (3) the Prevention of Organised Crime Act No. 121 of 1998 (POCA), which addresses money laundering as well as organised crime; and (4) the Prevention and Combatting of Corrupt Activities Act No. 12 of 2004 (PRECCA) that deals with all offences relating to corruption. Van Romburgh (2008:15-17) adds that forensic auditors use the International Standards on Auditing (ISA) to perform Fraud Risk Assessments (FRAs) as well as

common law to guide their investigations as forensic auditing has a broad scope and forensic auditors are specialists, particularly regarding investigating financial crimes within entities.

Jackson and Stent (2010) highlight that, in addition to ethical requirements, auditors should strictly comply with relevant rules and regulations which enable them to assess fraud risks such as (1) the Auditing Profession Act No. 26 of 2005 (APA) which outlines how to respond when managers are involved in the alleged fraudulent activities; (2) the Companies Act 71 of 2008 that sets out when the organisation should be audited. This is important as auditors are only required to perform fraud risk assessment in an audit; (3) SAICA's Constitution and by-laws; (4) the SAICA Code of Professional Conduct of 2011 (CPC); (5) the ISA that set out the procedures auditors need to strictly follow when performing FRAs, (6) International Auditing Practice Statements (IAPS), and South African Auditing Practice Statements (SAAPS).

Romburgh (2014) observes that the forensic auditor must also adhere to the principles set down by the Institute of Commercial Forensic Practitioners' (ICFP) Code of Ethics and Rules of Conduct. All members (forensic accountants registered as CAs with SAICA) of the ICFP are required to observe the five fundamental principles of integrity, objectivity, confidentiality, professional competency and legality. Van Rooyen (2008) adds that most medium to large companies in South Africa, as well as many government departments have created their own investigation structures. Nonetheless, directors and senior executives might turn to forensic auditors when allegations of fraud emerge (Van Rooyen, 2008).

The forensic investigation process in South Africa is outlined in Figure 1 below.

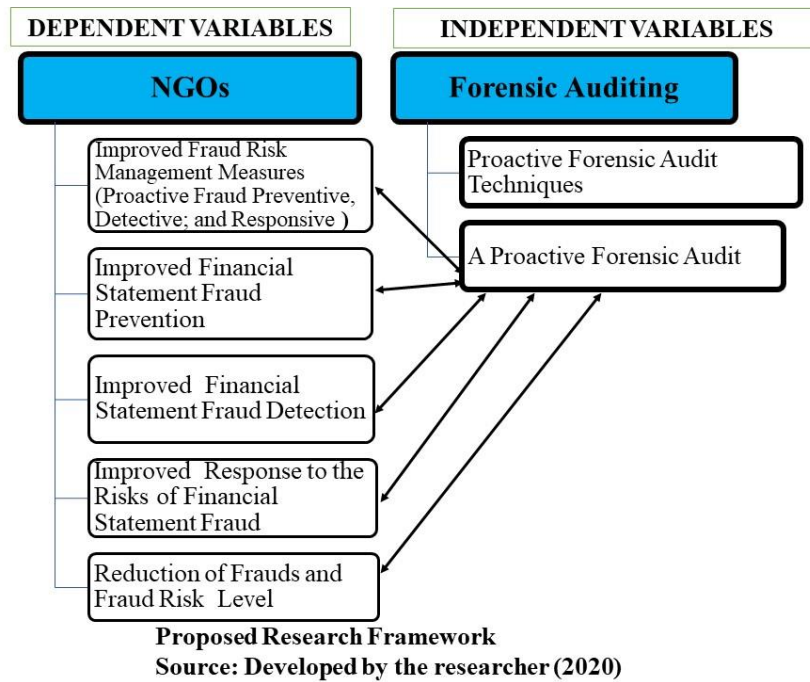
## Forensic investigation in South Africa



**Figure 1: Forensic investigation in South Africa**

### **2.3. Proposed research framework**

The research framework depicts the relationship between the independent variables and the dependent variable. The proposed research framework included three major factors to measure fraud risks (independent variables), namely, preventive FRM, detective FRM and responsive FRM. The dependent variable in this study is NGOs' FRM, which was measured by the preventive, detective, and responsive measures. The three key FRM practices are aligned with the elements of the New Fraud Combination Theory. The proposed research framework is illustrated Figure 2 below.



**Figure 2: Proposed research framework**

#### **2.4. Theoretical Framework**

The meaning of the term, theoretical framework can be discerned from the two words “theory” and “framework”. Abd-El-Khalick and Akerson (2007) define a theory as a set of interrelated constructs, definitions, and propositions that enable a systematic view of phenomena by specifying the relations among variables with the purpose of predicting and explaining a phenomenon. Radhakrishna, Yoder, and Ewing (2007) note that a theory can be used to make predictions and this predictive power guides researchers to pose appropriate research questions. The framework provides a structure within which the relationships between the variables of a phenomenon are explained. Caliendo and Kyle Jr (1996) thus define a theoretical framework as a collection of interrelated theories that guide and direct research with the aim of predicting and explaining its results. Camp (2001) and Burello and Worth (2011) add that a theoretical framework is used to provide the rationale for conducting the research.

A theoretical framework connects the researcher to the existing literature (Smyth, 2004); helps him/her to frame appropriate questions (Miller, 2007); provides assumptions that guide the research (Herek, 2011; Miller, 2007); convinces the reader of the relevance of the research questions and prompts the questions of how and why (Fransson and Holmberg, 2012); guides the researcher to select appropriate data collection methods (Miller, 2007); guides the choice of research design (LeCompte, Preissle, and Tesch, 1993); and assists the researcher to make predictions of the outcomes and to analyse and interpret the results based on the existing literature

(Abd-El-Khalick and Akerson, 2007). As the results are used to test and critically appraise a theory (Abd-El-Khalick and Akerson, 2007:189), the purpose of the theoretical framework is to provide a strong scientific research base and support for the researcher's thesis (Herek, 2011).

Theories and empirical studies on forensic auditing and FRM in the NGO sector were reviewed to form the basis for this research. The literature review assisted the researcher to identify the research gap and to formulate the study's objectives, research questions, and hypothesis. Financial losses caused by financial statement fraud motivated this study and led to the formulation of the New Fraud Combination Theory.

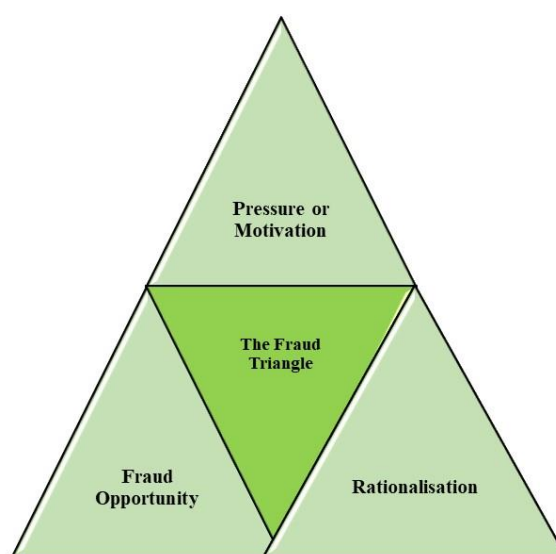
#### **2.4.1. Theories behind this study and connection between the theories and variables**

This research was driven by well-known theories relating to fraud detection, prevention, and response. These include the Fraud Management Life Cycle (FMLCT), New Fraud Triangle Theory (NFTT), Fraud Diamond Theory (FDT), Fraud Box Key Model (FBKM), Theory of Concealment, MICE theory, Crowe's Fraud Pentagon Theory, and the Fraud Deterrence Theory. This study adopted the NFTT; the FDT; the FBKM Theory; the Fraud Concealment Theory, the holistic model theory, the FRM Life Cycle Theory and the Fraud Deterrence Theory. Furthermore, the researcher developed a robust theory, the New Fraud Combination Theory. All these theories offer insights on fraudulent activities among NGOs. This mix of theories can be described as a multi-paradigm approach aimed at gaining in-depth insight into the research topic.

#### **2.4.2. Relationships between the Fraud Triangle Theory and Variables**

According to Wells (2017:15), the origins of the Fraud Triangle Theory can be traced to Cressey's (1973) hypothesis on the circumstances under which trusted persons become trust violators. Murphy and Free (2015) note that the first side of the triangle represents motive or pressure to commit fraudulent activities; the second side stands for perceived opportunity and the third side represents the rationalisation. Lokanan (2015) states that opportunity occurs when the employee is presented with a chance to commit fraud, and he or she perceives that there is little or no possibility of being caught. Rationalisation occurs when an employee feels justified in committing fraud, perhaps because of real or perceived slights, and pressure (non-shareable financial need) is the first leg that motivates a person to commit fraud. A severe financial problem may lead to a person committing an illegal act. For fraud to occur, all three elements must be present, although pressure is frequently what causes it (Schuchter and Levi, 2015; Taylor, 2011). Gee (2014) observes that

managing fraud risks and fighting fraud require entities to firstly, subvert the motivation for fraud, secondly, to reduce or eliminate opportunities to commit it and, lastly, to invoke feelings of guilt about fraudulent acts. However, the Fraud Triangle Theory does not fully describe FRM in a business environment when systems fail and stakeholders question external auditors' failure to detect and respond to the risk of such activities. A number of scholars such as Free (2015), and Lokanan (2015) note that it does not address the extent of management's ability to commit fraud that they effectively conceal from external auditors. The services of an experienced and highly skilled forensic auditor are required to prevent such fraud risks in NGOs. The Fraud Triangle Theory is illustrated in Figure 3 below.

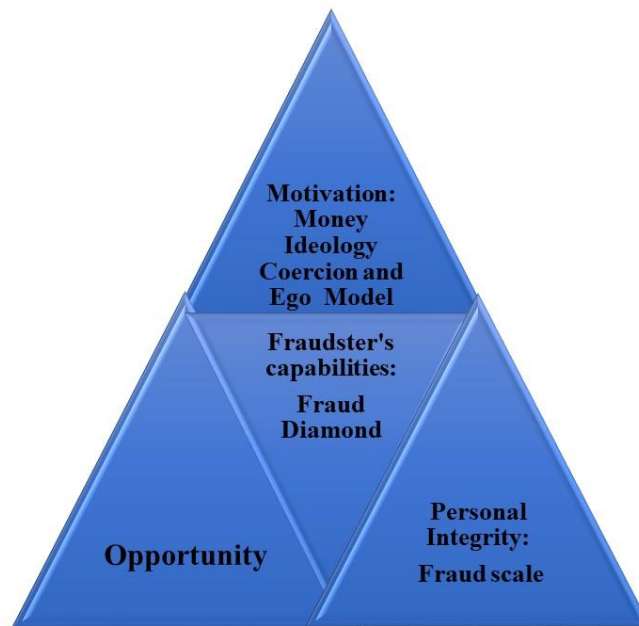


Source: Adapted from Taylor (2011)

### Figure 3: Fraud Triangle Theory

#### 2.4.3. Relationships between the New Fraud Triangle Model and Variables

Scholars like Kassem and Higson (2012) note that the Fraud Triangle Theory may not be able to identify each and every occurrence of fraud. They add that fraudsters' motivation should be expanded and identified by investigating Money, Ideology, Coercion and Ego (MICE). Schuchter and Levi (2015) argued for a fourth element to be added to Andrew's (2012) fraud triangle, namely, fraudsters' capabilities or competence. Epstein and Ramamoorti (2016) asserted that many multibillion-dollar frauds could not have been perpetrated had it not been for the fraudsters' capabilities. McMahon, Pence, Bressler, and Bressler (2016) (2012) add that the person with opportunity would need to be savvy enough to understand internal control weaknesses and have the capacity to overrule or ignore them. This led to the emergence of the New Fraud Triangle Theory outlined in Figure 4 below.

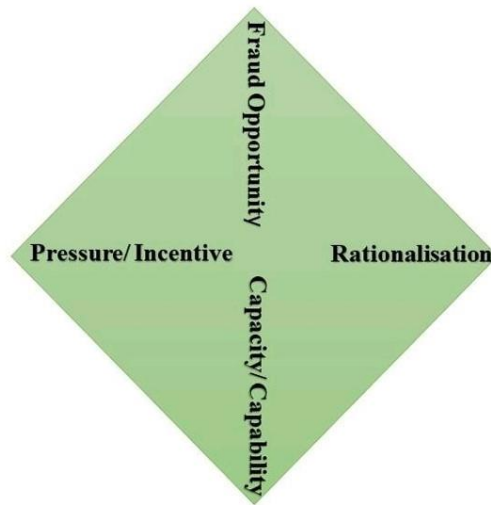


Source: Adapted from McMahon et al. (2016)

**Figure 4: The New Fraud Triangle Theory**

**2.4.4. Relationships between the Fraud Diamond Theory and variables**

Wolfe and Hermanson (2004) proposed the Fraud Diamond Theory to explain the motivation of fraudsters. It includes opportunity, financial pressure, rationalisation, and capacity or ability as key factors that can assist forensic auditors in tracking fraudulent activities within entities. This theory is also supported by Ruankaew (2016). The authors identified six main traits or characteristics that predispose individuals to commit fraud. In the context of this study that focuses on forensic audits and FRM, the key factors captured by Ruankaew (2016) that forensic auditors have to keep in mind are: (1) the authoritative function within the entity; (2) fraudsters' intelligence and experience; (3) fraudsters' confidence; (4) fraudsters' capability and capacity to exploit accounting systems and internal controls; (5), the fact that fraudsters are perfect liars; and (6) fraudsters' capability to deal with stress. These factors assist auditors to identify the type of fraud an individual is likely to commit when there are ineffective or missing internal controls. The fraud diamond with the four factors is shown in Figure 5 below.

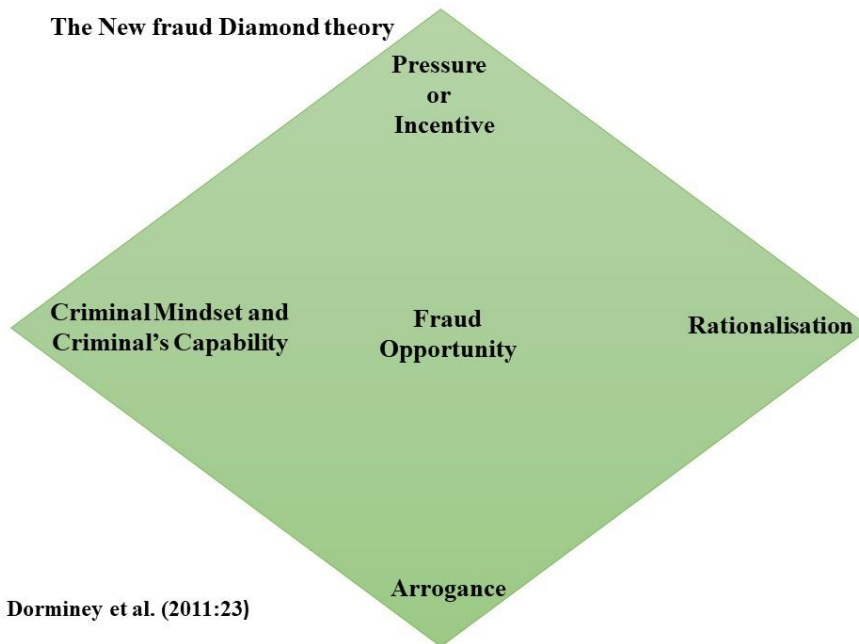


**Source: Adapted from Ruankaew (2016)**

**Figure 5: The Fraud Diamond Theory**

#### **2.4.5. Relationships between the New Fraud Diamond Theory and variables**

The Fraud Diamond Theory offers valuable insights and a framework that can assist NGO leaders and practitioners to find sustainable solutions to reduce and/or prevent fraud. It can add value to fraud detection, prevention, mitigation, and deterrence. The services of an experienced and highly skilled investigator like a forensic auditor are recommended in this regard (Ruankaew, 2016). Wolfe and Hermanson (2004) and Sorunke (2016) note that, for fraud to be committed, the person must have the capacity and ability to recognise the open doorway as an opportunity and take advantage of it by walking through it. The New Fraud Diamond Theory is presented in Figure 6 below.

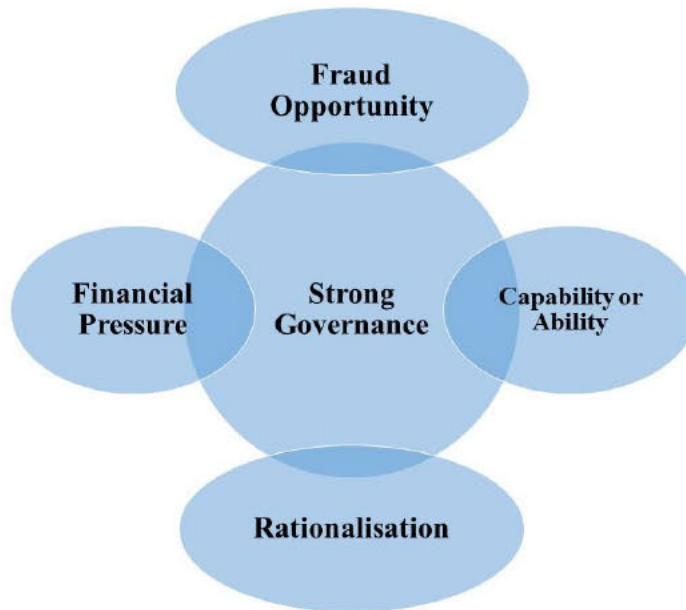


Source: Adapted from Dorminey et al. (2011:23)

**Figure 6: The New Fraud Diamond Theory**

**2.4.6. Relationships between the Fraud Box Key Model and variables**

The Fraud Box Key Model (FBKM) was proposed by Onodi, Okoye, and Egbunike (2017) in response to critiques of the Fraud Diamond and Fraud Triangle Theories. According to Onodi et al. (2017), the FBKM is an expanded version of the Fraud Diamond Theory that includes a fifth perspective, namely, corporate governance. Aigienohuwa (2017) asserts that the Fraud Diamond Theory and Fraud Triangle Theories focus on the reasons and channels of committing fraud, with no mention of reliable and strategic measures to mitigate fraud risks. The FBKM posits that sound and effective corporate governance is a powerful preventative tool no matter how accessible the opportunity may be, or how strong the pressure or the rationale, ability, and capacity of the perpetrator (Ruankaew, 2016). Tombs (2015) notes that the model will greatly assist forensic auditors not only in identifying corporate governance fraud risks (such as abuse of the code of conduct, ethical issues or problems and moral hazard, poor leadership, and declining productivity) but also in prevention, mitigation and deterrence of fraud. The FBKM is illustrated in Figure 7 below.



Source : Adapted from Onodi, Okoye, and Egbunike (2017)

**Figure 7: The Fraud Box Key Theory (Model)**

**2.4.7. Relationships between the Fraud Risk Management Life Cycle Theory and Variables**

Wilhelm (2004) describes the FRM Life Cycle Theory as a holistic, comprehensive method of fraud management. Wilhelm (2004) lists eight stages in this life cycle that deter fraud, all of which harness Information Technology (IT) to achieve FRM. These include fraud deterrence, prevention, detection, mitigation, analysis, policy, investigation and prosecution, and IT and staff. They are thus essential building blocks in the FRM life cycle (Domański, 2016).

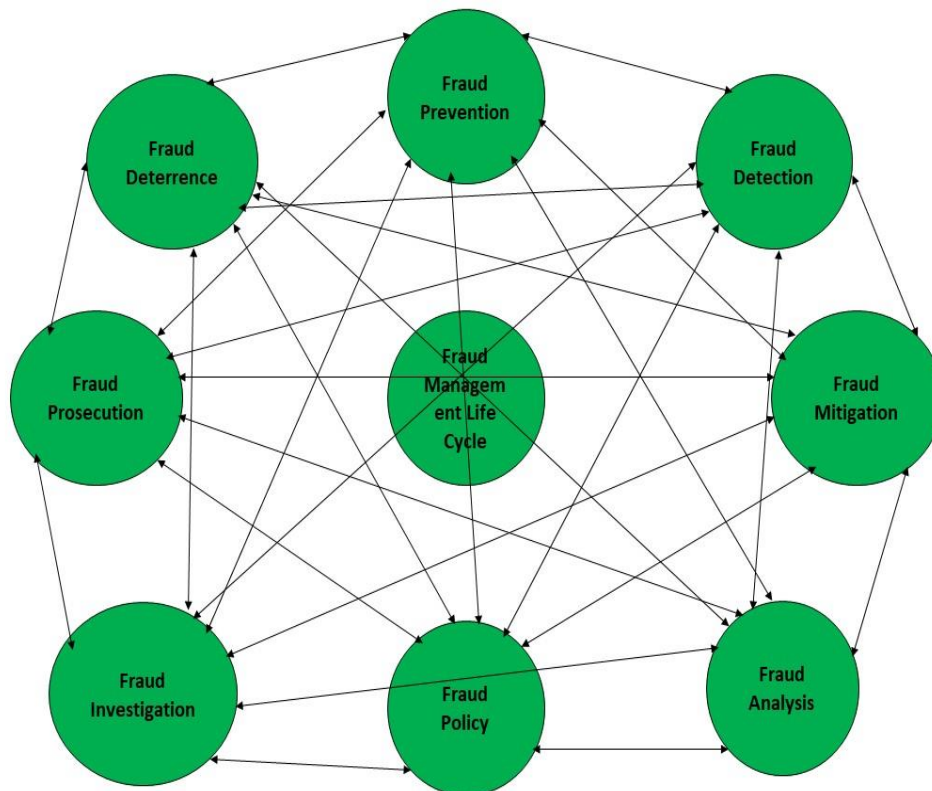
▪ **Fraud risk management life cycle theory**

Fraud Deterrence	Fraud Prevention	Fraud Detection	Fraud Mitigation	Fraud Analysis	Fraud policy	Fraud Investigation	Fraud Prosecution
<b>Supporting Information Technology Systems and Staff</b>							

Source: adapted from Wilhelm (2004)

Forensic audit techniques require the use of computer technology and staff. Forensic computer investigations are performed through (i) cross-drive analysis (Garfinkel, 2006), (ii) live analysis (Qasim 2011), and (iii) deleted files (Ngomane, 2010; Philipp, 2009). As forensic auditors' roles and responsibilities in fraud detection have expanded, sophisticated measures are required to detect fraud, identify digital fraudsters and collect digital data for deeper analysis. Benson, Jones, Horne, and Dintwe (2015) note that modern forensic auditors deal with ever-more sophisticated electronic systems that not only maintain records and produce financial reports but also automatically make

programmed management decisions, highlighting the need for a forensic audit to identify digital and non-digital fraudsters. The FRM Life Cycle Theory is shown in Figure 8 below.



**Figure 8: The Fraud Risk Management Life Cycle Theory**

According to Giles (2012) a realistic representation of the FRM life cycle includes the flow of the above stages from the front (deterrence and prevention) to the back end (investigation and prosecution) and all stages are interconnected and interrelated. Each stage is discussed separately in order to clearly understand the process.

**(i) Fraud deterrence**

According to Ozili and Studies (2015), while fraud deterrence has been a major concern for some time, the collapse of respected NGOs created a new urgency. Fraud deterrence aims to inhibit or discourage fraud through fear of the consequences. Williams (2016) thus notes that it stops fraud before it happens. For the purposes of this research, deterrence is defined as activities designed to instil fear of the consequences of fraud in order to discourage or prevent fraudulent activities in the NGO sector (Vollmer, 2016).

**(i) Fraud Prevention**

Gong, McAfee, and Williams (2016) state in that in the literature on fraud, the terms prevention, deterrence, and detection are often used interchangeably. Wells (2017) defines fraud prevention as

all activities relating to checking, hindering, or stopping the fraudster from performing fraud. For the purposes of this research, fraud prevention is taken as hindering and stopping fraudsters from perpetrating fraudulent activities in NGOs. Eisen (2017) notes that fraud prevention aims to prevent losses from occurring and to secure entities and their operations against fraud. Gibson (2018) concurs and adds that it frequently involves the use of IT and management. For the purposes of this research, fraud prevention is defined as the adoption of procedures, systems, and verification processes designed to make it more difficult to commit fraud.

### **(ii) Fraud Detection**

Fraud detection refers to measures that aim to identify and locate fraud prior to, during and after fraudulent acts (Zainudin and Hashim, 2016). This definition highlights that fraud detection involves closely related activities such as fraud testing, fraud attempts, and fraud successes. It can thus be further described as the identification of testing, attempts and successes that are potentially clustered not only in the fraud detection, prevention and mitigation stages but also in each of the other stages of the FRM life cycle (Davis, 2007; Salehi, and Azary 2008). The three relevant aspects of this definition are therefore identification of a testing component, an attempt component and a success component. Essentially, fraud detection systems can alert special investigators.

### **(iii) Fraud Mitigation**

Wilhelm (2004:13) describes fraud mitigation as a set of activities designed to prevent a fraudster from continuing or completing a fraudulent act and to render the fraud less costly to the organisation. Baer (2008) notes that this is achieved through the use of fraud detection tools, approaches, methodologies and policies. Curry, Hailstones, Dement, and Holtz (2008) assert that fraud mitigation should be implemented as soon as possible in order to put an end to fraudulent activities, decrease losses, and reduce reputational, compliance, operational and financial risks. Effective, efficient, aggressive, and proactive mitigation can increase overall deterrence.

### **(iv) Fraud Analysis**

According to Coderre (2009), fraud analysis aims to clearly understand and identify losses that occurred besides the fraud detection, deterrence, prevention, and mitigation stages. Miltonberger (2010) defined fraud analysis as activities that drive the creation, evolution and performance measurement of detection tools, process and methods. It provides valuable feedback to assist mitigation efforts to act on detection alerts to reduce fraud losses. Kranacher (2019) noted that fraud and performance analysis provide investigators with an analytical understanding of the

environment as well as crucial elements of prosecution activities. The use of IT can assist timely avoidance of current or actual losses.

**(v) Fraud policy**

Kummer, Singh, and Best (2015) note that fraud policy creates, evaluates, communicates, and assists in the deployment of fraud policies and resources to fight fraud. Suleiman and Othman (2016) observe that policy is a powerful management tool to tackle fraud. Zourrig, Zhang, and El Hedhli (2017) state that it should seek to balance deterrence and reduction of losses, be cost-effective, and promote operational scalability. Best practices in the internal and external environments can be drawn on to craft fraud policies.

**(vi) Fraud investigation**

Thornhill (1995) defines investigation as a careful search and systematic inquiry and follow-up using observation, and examination of the facts. Comer (2017) maintains that rigorous fraud investigation should include coordination with law enforcement agencies. Thus, fraud investigations involve internal and external investigations and law enforcement. Gottschalk (2018) notes that the internal investigation process includes investigation of contractors, consultants, and vendors, as well as employees. External investigations are conducted in relation to customers' "fraudulent claims", individual fraudsters and organised groups (associations of criminals and internal and external parties that work together to commit fraud). For example, a fraudster or organised group could target an employee to assist them with the commission of fraud. Singleton and Singleton (2010) and Golden (2011) note that investigations aim to gather sufficient evidence to enable prosecution.

**(vii) Fraud prosecution**

Mohamed and Ahmad (2012) define prosecution as the act or process of prosecuting to take legal action against or pursue by legal proceedings for redress or punishment due to a crime or breach of the law. Enofe, Omagbon and Ehigiator (2015) note that fraud prosecution has three major objectives. The first is to punish the fraudster in order to prevent further fraud, while the second is to establish, maintain, and enhance the entity's reputation for deterring fraud by catching and punishing fraudsters who target it. The third goal is recovery or restitution where possible. Some would also argue that a fourth objective is the satisfaction gained by seeing the fraudster punished.

**(viii) Information Technology (IT)**

Philipp (2009) observes that IT can positively impact avoidance of fraud losses. It plays a pivotal and valuable role throughout the FRM life cycle (Thomopoulos, 2013). Mahant and Meshram

(2012) explain that IT resources are frequently the keys to success or failure of the activities in the individual fraud stages and indeed, of the entire FRM life cycle. Against this background, Taylor (2011) noted that a realistic and comprehensive representation of the fraud risk life cycle includes not only the flow of activities from the front end (fraud deterrence and fraud prevention) to the back end (investigation and prosecution) but also interactions and interrelationships between each of the fraud management life cycle stages

#### 2.4.8. Relationships between the Fraud Scale Theory and Variables

The Fraud Scale Theory was presented by Albrecht, Howe and Romney in 1984 in their book *Deterring Fraud* (Dorminey, Fleming, Kranacher, and Riley, 2010:19). They proposed that rationalisation in the Fraud Triangle should be replaced by personal integrity as it is particularly applicable to financial statement fraud. It should thus be considered by auditors when assessing, identifying and investigating the types of fraud that can occur. Albrecht et al. (1984) argued that, while pressure, opportunity, and rationalisation are helpful in identifying fraudulent activity, rationalisation is not observable. In contrast, personal integrity can be observed through a person's decisions as well the decision-making process, taking ethics into account. The Fraud Scale Theory is presented in Figure 9 below.

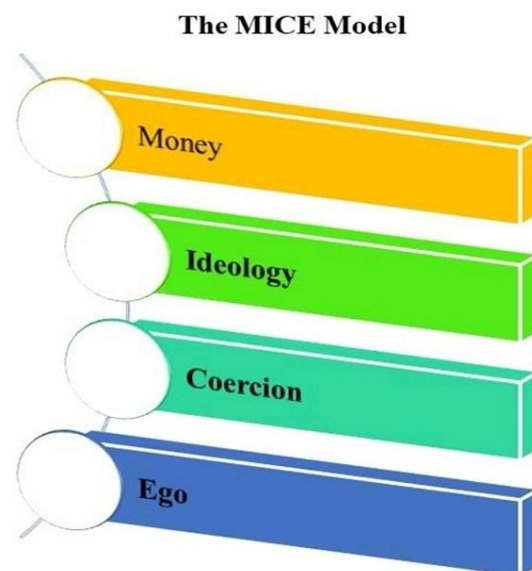


Source: Adapted from Dorminey et al. (2010:21)

**Figure 9: The Fraud Scale Theory**

#### 2.4.9. Relationships between the MICE Model and Variables

According to Dorminey (2010:21), the MICE Model was propounded by Thomas as an extension of the fraud triangle to explain why people violate trust to commit fraud. Thomas posited that fraudsters are motivated by money (greed), ideology (that allows the fraudster to commit wrongs because the outcome will benefit them and is thus comparable to rationalisation), coercion (forcing someone to commit fraud against their will) and ego (power). He thus proposed that money, ideology, coercion and ego (MICE) be added to two elements of the fraud triangle, namely, pressure and rationalisation. The MICE Model enables forensic auditors to understand fraudsters' mind-set and to identify the type of fraud that is possible and the fraud risks that occur when there are weak or no internal controls. The MICE Model is illustrated in Figure 10 below.



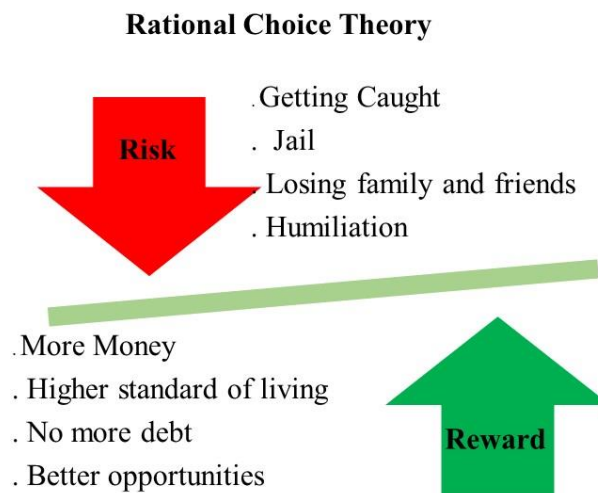
**Source: Adapted from Kranacher et al. (2011:13)**

**Figure 10: The MICE Model**

#### 2.4.10. Relationships between the Rational Choice Theory and Variables

The rational choice theory was proposed by Cornish and Clarke in 1986 (Cornish and Clarke, 2014: 1). It posits that individuals who commit financial and economic crimes make a rational decision to do so. The authors add that such criminal acts are not committed out of desperation but rather purposely. Taylor (2011:143) concurs and notes that before committing fraud, a person will calculate the risks and compare them with the rewards. Although this theory expands on the element of rationalisation in the fraud triangle, it does not consider that people sometimes commit fraud on the spur of the moment without weighing the risks and rewards. Nonetheless, the Rational

Choice Theory will assist forensic auditors to investigate and assess fraud risk. The theory is shown in Figure 11 below.

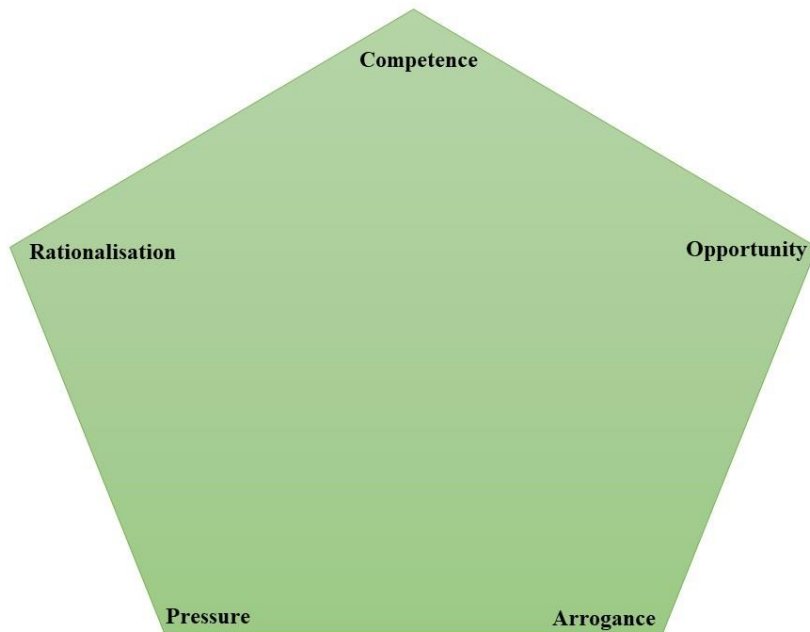


Source: Adapted from Taylor (2011:143)

**Figure 11: The Rational Choice Theory**

#### **2.4.11. Relationships between Crowe's Fraud Pentagon and Variables**

Researchers have also added other elements to expand the Fraud Triangle Theory and create the fraud diamond. They have noted that insight into why a lawful employee would perform an illegal act could assist in deterring fraud. Marks (2009) added arrogance and competence to create Crowe's Fraud Pentagon. These factors refer to the employee's belief that he/she is superior to others and that rules and regulations do not apply to him/her and his/her ability to override internal controls and exploit a situation to his /her advantage. Crowe's Fraud Pentagon is outlined in Figure 12 below.

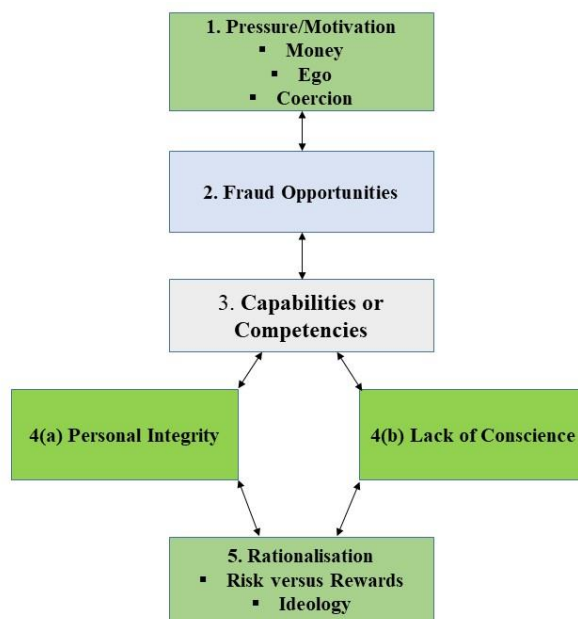


Source: Crowe Horwath (2009:3)

**Figure 12: Crowe's Fraud Pentagon**

#### **2.4.12. Relationships between the Fraud Combination Theory and Variables**

All the theories discussed above have been critiqued by scholars. Cornish and Clarke (2014) asserted that they have many similarities and can, therefore, be combined. The theories have also been criticised for not considering internal and external pressure on corporate governance. Thus, it is posited that a combination theory would offer a powerful model to deter, mitigate, prevent, and detect fraud and enable forensic auditors to perform effective FRAs and FRM. The components of the theories discussed above are opportunity, motivation/pressure, capabilities/competence, integrity and lack of conscience, and rationalisation (rewards versus risk and ideology). The Fraud Combination Theory proposed by Popoola (2014) and Cornish and Clarke (2014) is presented in Figure 13 below.



Source: Adapted from Wilken (2016:34)

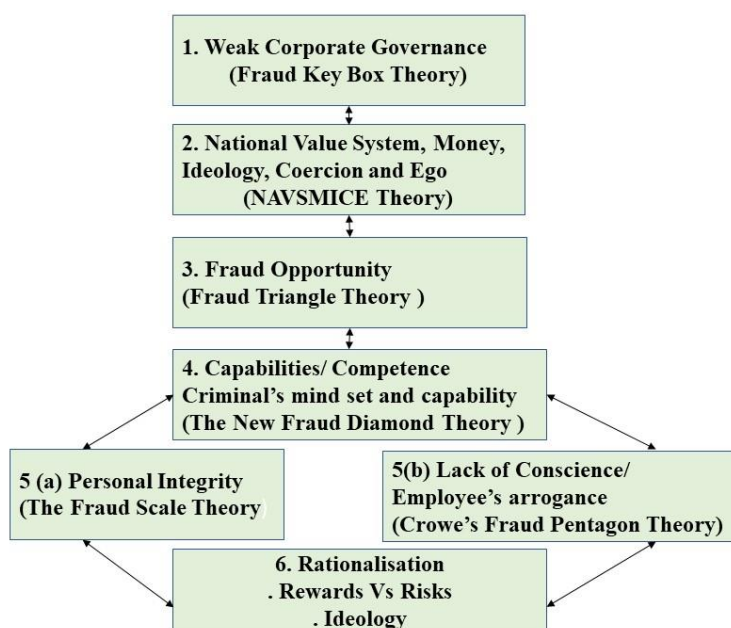
**Figure 13: The Fraud Combination Theory**

### 2.4.13. Relationships between the New Fraud Combination Theory and Variables

Against the background of the review of the different fraud theories, I propose the New Fraud Combination Theory to predict the existence of fraudulent financial reports. The aim is to broaden auditors' knowledge of fraud and how it occurs, and to enable forensic auditors to identify, detect, deter, prevent, and investigate financial statement fraud and to respond appropriately to fraud risks. While the Fraud Combination Theory added the fourth and fifth variables (capabilities, and personal integrity and a lack of conscience) to the fraud triangle and filled the gap in other fraud theories, on its own, it is an inadequate tool to identify, detect, deter, prevent, and investigate financial statement fraud. This is because it ignores the critical factor of corporate governance. Thus, the New Fraud Combination Theory is proposed that adds a sixth variable, corporate governance to the five-factor fraud combination model introduced by Popoola (2014) to detect fraud in financial statements and promote understanding of why a person would violate accounting rules and standards. It is believed that the New Fraud Combination Theory will provide a strong foundation for the development of policies, strategies, and techniques to detect fraud in financial statements.

The new theory posits that financial statement fraud is based on six factors: opportunity; pressure; the fraudster's capability; personal integrity and lack of conscience; rationalisation or risk versus rewards; and weak corporate governance (no matter how accessible the opportunity may be, or how strong the pressure, and regardless of the rationalisation and ability and capacity of the

perpetrator). Strong, effective corporate governance will ensure that the fraudster's intentions amount to nothing. Thus, corporate governance is suggested as the lock that protects NGOs from all the factors that cause financial statement fraud. Therefore, the New Fraud Combination Theory incorporates all the elements of other fraud theories. It will enable forensic auditors to consider all the factors that contribute to the occurrence of financial statement fraud in order to assess fraud risks, identify red flags for fraud, and detect financial statement fraud. It is consistent with Tonye's (2018) observation that a forensic auditor should think like a fraudster in order to combat fraud. The New Fraud Combination Theory is set out in Figure 14 below.



Source: Developed by the researcher (2021)

**Figure 14: The New Fraud Combination Theory**

Having discussed the various fraud theories and proposed a new theory, the following section focuses on fraud risk factors and risk indicators.

#### **2.4.14. Fraud risk factors, fraud risk indicators and variables**

The literature notes that identification of and appropriate responses to risk factors assists auditors to identify, detect, deter, prevent, and investigate financial statement fraud. This section examines risk factors relating to financial statement fraud, which is a major issue in the accounting field. As noted previously, Srivastava, Mock, and Turner (2009) linked significant fraud risk factors to significant fraud risk indicators. Understanding the key factors that influence fraud will give forensic auditors insight into why it occurs. The fraud risk factors, and fraud risk indicators are presented in Table 1 below.

**Table 1: Fraud Risk Factors, Risk Indicators and Red Flags**

Fraud Risk Factors	Fraud Risk Indicators
Pressure	Financial stability: Threats to business financial stability.
	Financial Pressure: paying for lifestyle, gambling, etc.
	Non-financial: Lack of personal discipline and greed.
	Personal financial need: sudden financial problem.
	Corporate/ Employment pressure: management financial interests, unfair treatment, fear of losing one's job and low salaries.
	External pressure: Market expectations, Ego, reputation and social pressure.
Fraudster's Capability	Criminal's mindset and competency to exploit accounting and internal systems.
Fraud opportunities	Ineffective supervision, poor accounting records, lack of physical controls, lack of proper authorisations of transactions and lack of audits. Lack of external oversight and monitoring, internal monitoring and control deficiencies, environmental complexity and related parties, lack of knowledge.
Rationalisation	Risks versus rewards and ideology (fraudster rationalises his or her action before he or she engages in the fraud, "I deserve more" Nobody will get hurt. Level of personal ethics, environmental ethics, need to succeed and Rule-Based accounting standards.
Weak internal Controls	Red flags can indicate fraud risk areas
Lack of internal controls	Red flags can indicate fraud risk areas
Poor governance	Red flags can indicate fraud risk areas.
	Internal control deficiencies, corporate compliance deficiencies and integrity deficiencies.
Weak Board of Directors	Personal position, corporate position, externally imposed expectations, Senior Board behavioural anomalies and aggressiveness towards financial reporting increase the chance of fraud risks
Collusion	Motivated offenders can collude with individuals at different levels, perceived legitimate power and perceived coercive power.
Abnormal or omitted evidence, inconsistency in accounting principles and records	Systematic difference in reports, unusual changes in financial statements, unusual missing items, unauthorised transactions, transactions recorded incorrectly, alterations that have significant effect on the financial reports, missing assets, improper asset valuation, fictitious revenue and expenses, inadequate disclosures, etc.

**Source: Adapted from Srivastava, Mock, and Turner (2009)**

The following section presents a critical review of the academic and professional literature on forensic auditing techniques that are relevant to reduce fraud among NGOs.

### **2.5. Critical review of the Academic Literature on forensic auditing techniques**

Njanike, Dube, and Mashayanye (2009) assert that evidence gathered in a forensic audit is considered as irrevocable and irrefutable and that such an audit offers unique insights into the fraud life cycle that can be presented in a court of law.

Samociuk and Iyer (2010) state that a comprehensive FRM strategy includes developing an anti-fraud culture, assessing and responding to fraud risks (preventive FRM practices), detecting fraud (detective FRM practices), and managing fraud incidents and measuring fraud resistance (responsive FRM). Ştirbu et al. (2010) observe that the need for forensic auditors arose because, while auditors can identify fraud risk factors, they may not be able to translate this knowledge into an audit plan that effectively takes them into account and enhances the chances of investigating and detecting fraud if it exists.

Boateng (2014) notes that an effective and proactive business-driven FRM strategy focuses on detecting, deterring and responding to fraud. According to Enofe, Omagbon, and Ehigiator (2015), forensic auditing has become an important issue across the globe in recent years. Onodi, Okafor, and Onyali (2015:73) identify three essential computer forensic auditing techniques to detect fraudulent activities within firms, namely, (i) cross-drive analysis - where a forensic auditor correlates information on multiple hard drivers to identify and detect anomalies, (ii) Live analysis - examination of a computer from within the operating system using forensics tools to extract evidence, especially when dealing with encrypted files systems, (iii) recovering deleted files, and (iv) rigorous and focused tests that yield a small sample of highly suspicious transactions.

Benjamin Onodi, Okafor, and Onyali (2015:73) add that forensic auditing techniques such as net worth, expenditure and tracing techniques, which involve the flow of funds; cheque spreads if the subject uses such; deposit spreads in relation to payments into a cheque account; credit card spreads if the subject frequently uses credit cards; gross profit analysis in cases of money laundering or skimming; bank deposits, especially for a subject who only operates one business and income seems to come from only one source; and telephone calls to identify the subject's contacts and associates. A database is established to identify telephone contacts. Organisational, operational and chronological flow charts are popular, and unsupervised and semi-supervised techniques are employed to detect anomalies, as well as data cleaning to avoid poor data quality and noise, adaptive and incremental techniques to adapt to new fraud detection tools, cost-based scoring techniques, statistical techniques such as Benford's law, descriptive statistics correlation and time series analysis to detect fraud and errors, risk profiling techniques, case escalation techniques, and digital analysis techniques, among others.

Ogutu and Ngahu (2016) describe forensic auditing as a critical tool in the fight against fraud as its procedures and methodologies are designed to gather all the facts and provide irrefutable evidence. Forensic auditors apply specialised knowledge, technical skills, and methodologies to dig deeper and uncover the fraud life cycle (Ogutu and Ngahu, 2016). Thus, the forensic auditor's primary concern is fraud detection, prevention and responses to the organisation's losses (Ogutu and Ngahu, 2016). Oyedokun (2016) asserts that a proactive forensic investigation can proactively collect evidence, trigger an event, and preserve and analyse evidence to identify an incident as it occurs, with a preliminary report generated for later investigation by the reactive component.

Oyedokun (2016) further identifies forensic auditing techniques, including robust computer-assisted reviews (Hybrid Multimodal, Predictive Coding, Bottom Line Driven Proportional Review, Review Quality Controls) which include data mining techniques such as regression (predictive); Association Rule Discovery (descriptive); classification (predictive); clustering (descriptive); and document review; interviews; background reading; fraud risk assessment; benchmarking; systems analysis; mathematical modeling; analysis of financial ratios; technology-assisted reviews; litigation; lifestyle audits; qualitative and quantitative approaches to fraud risk assessment; vertical financial statement analysis (which entails analysing the relationship between different financial accounts); horizontal financial statement analysis (comparing the current year's financial statements with those of previous years or comparison of financial statistics across time periods); surprise audits,; and operational ratios analysis, among others.

Khersiat (2018:147-148) highlights the following six critical forensic audit techniques that are employed to combat fraud within entities: (i) indirect techniques such as income items not reflected in the financial reports, large transactions, concealed or paid cheques, real estate transactions, direct evidence of undeclared, and unreported income and financial ratios, (ii) embezzlement investigation techniques (proactive preventive and therapeutic approaches) such as effective and powerful internal controls, financial and operational audits, intelligence work to gather information, registering exceptions and reviewing deviations; (iv) detective techniques (therapeutic approach) such as the funds method (Funds T) – an analysis of funds received and spent by a suspect within a period, and the net worth method – significant changes in assets and liabilities from one year to another; (v) the source and application of funds method or expenditure approach that consists of a list of the use of funds at the beginning of the period, less the source of the funds. If actual funds exceed declared ones (including the funds accumulated at the beginning of the period) the difference is considered non-disclosed income, and (vi) the bank deposits method that focuses on the funds deposited during the year from unknown sources by checking bank statements and financial transactions. These substantive, rigorous tests are relevant to any entity whether small or large, for-profit, and not for profit or government-related (Nigrini, 2020).

Nigrini (2020) notes that the techniques used by forensic auditors to detect fraud, errors and other anomalies include (i) analysis of credit card transactions, (ii) risk scoring with regard to access, (iii) FRAs using forensic units, (iv) time series analysis, (v) correlation, (vi) abnormal duplications within subsets, (vii), the relative size factor test, (viii) the largest subsets and largest growth tests,

(ix) testing the internal diagnostics of current period and prior period data, (x) Benford's law, (xi) Access, (xii) Excel, (xiii) Power point, and (xiv) high-level data overview tests.

Having critically reviewed the academic and professional literature on forensic auditing techniques, the following section defines key terms and discusses the forms of fraud among NGOs that are the subject of this study.

## **2.6. Typology of fraud and the types of fraud committed against and by NGOs**

This section defines the key terms used in this thesis and discusses their application in the context of this research. It concludes by briefly defining fraud and classifying the forms of fraud that are specific to NGOs.

Skalak, Alas, and Sellitto (2012:41) note that the term fraud is derived from the Latin word, *fraus*, meaning trickery or embezzlement. Benjamin (2009) defines fraud as trickery or deceit (intentional distortion of the truth, misrepresentation, or concealment of material facts) that is deliberately practised to gain an unfair advantage over another person's interests or rights.

As noted previously, fraud has become a major issue and risk in the charities industry, and the NGO sector (Amin and Harris, 2017). Indeed, Amin and Harris (2017) observe that any NGO that believes that it will never fall victim to fraud "is in for a big shock". Grice (2001:30) defines NGO fraud as any fraud that is perpetrated within or against an NGO, including internal and external incidents and fake and non-existent NGOs. Holtfreter (2008), Greenlee, Fischer, Gordon, and Keating (2007) and Johnson (2015) concur and add that internal fraud is usually committed by individuals inside the NGO, such as trustees, employees, volunteers, and directors, while external fraud is perpetrated by people outside the organisation.

Kariuki (2017:14) notes that the public expects NGOs to establish sound, strong internal controls, or audits and to allow external and forensic auditors to conduct audits and provide information on the organisation's performance to both external and internal stakeholders. Lauck (2018) agrees that NGOs need to show that they have aggressive systems, policies, and proactive strategies in place to achieve a high level of FRM through sound, effective and efficient internal controls, and forensic audits to ensure that resources are being prudently managed, deployed and maintained. An extensive range of potentially fraudulent activities can be committed by NGOs in the development

context and they can occur in routine organisational operations as well as within programmes and projects. Caton (2014) lists the following examples:

- “Fictitious” NGOs established for the sole purpose of generating income for executives or the board of directors;
- “Double-dipping” - seeking or accepting funds from more than one donor for parts of the same project;
- Financial irregularities such as inflated, duplicated or fictional invoices for goods and services procured for a project;
- Kickback arrangements in the procurement of goods and services, in hiring staff for a project or in the distribution of goods and services;
- Extortion of bribes or other benefits (including sexual favours) from beneficiaries in order to include them on goods and services distribution lists;
- “Ghost” employees, participants or beneficiaries that inflate the cost of project activities.

Kanyane’s (2000:15-23) study on falsified financial statements showed that financial ratios are a useful tool to detect fraudulent activities within these entities. Holtfreter (2008) established that financial statement fraud is the costliest type of occupational fraud (corruption, asset misappropriation and financial statement fraud) within the NPO sector and advocated for the use of financial ratios to identify such fraud. Aranda (2020) classified fraud into four types based on their type and magnitude. Aranda (2020) identified the following signals relating to revenue and cash receipts which can be regarded as red flags in the behaviour of NGO executives and managers:

- Skimming – theft of cash before it is captured in the books for personal use. The perpetrator could be the person who collects the money, or opens incoming mail, issues cash receipts, prepares bank deposits or takes the cash to the bank.
- Theft of donated items or goods: the lack of proper records of donated assets or grants among many NGOs, especially faith-based entities, has exposed them to theft of goods.
- Falsification of an NGO’s financial statements.

Kumar (2015) states that cash disbursement and purchasing can lead to:

- Credit card abuse: the use of the organisation’s cards for personal use and in some instances, the credit numbers of donors.
- Ghost or fictitious vendors: this is a common occurrence where employees create a fake supplier company and submit fake invoices with payment subsequently made.

Kwok (2005:22) and Chorvatovičová and Saxunová (2016) assert that payroll padding, and employee expense claims as well as misappropriation of other assets cause accounting irregularities in financial reports. Chorvatovičová and Saxunová (2016) categorise the different forms of fraud that occur among NGOs as follows:

- Ghost employees: this is another common activity whereby non-existent employees are created either by maintaining laid-off employees on the payroll or setting up new ones. Cheques are made out to these fake employees and cashed by the perpetrator.
- Fictitious expenditure: fake invoices are created for reimbursement.
- Overstatement of working hours: supervisors connive with junior employees to claim that their team members worked longer hours than was the case.
- Personal use of the organisation's assets and other resources including computers, software, and printers for personal projects, personal long-distance telephone calls, utilising the organisation's Internet access and email for personal use, photocopying personal documents on the organisation's photocopier.
- Physical asset conversion: this refers to outright theft of assets (property and equipment).

Buckhoff and Parham (2009) built on Kwok's (2005:22) work by adding various forms of external fraud such as supplier fraud which refers to fraudulent billing by vendors for services or goods not delivered or inflating prices, additional charges, kickbacks and conflicts of interest where the organisation providing services to the NGO charges for false transactions or receives kickbacks from subcontracted vendors. Buckhoff and Parham (2009) shed more light on computer fraud, and state that, as technology advances and evolves, new channels of perpetrating fraud through computers have emerged, such as diverting funds from one account to another and gaining unauthorised access to bank accounts, etc.

Johnson (2015) identifies the different types of fraud that are committed by NGOs, including inflating the cost of projects or programmes; failure to comply with donors' requirements in relation to the usage of donor funds, and misrepresenting the portion of donations that will be used in charitable organisations.

The following section discusses financial statement fraud (management fraud).

## **2.7. Financial statement fraud or Management fraud**

Esmaili Kia, Najafnia, and Oshani (2019) define financial statement fraud as intentional or grossly negligent violation of international financial reporting standards (IFRS) and principles that materially affects the information in a financial statement or intentional misstatements including omission of amounts or disclosures in the financial statements to deceive the users of such statements. Hopwood, Leiner, and Young (2012:411) assert that intentional deviation from IFRS involves three elements Firstly, any undisclosed material deviation from IFRS is misleading because the lack of disclosure leads users to believe that the statements comply with IFRS when in fact they do not. Secondly, research shows that financial statements are linked to users' decisions; thus, users will rely on misleading financial statements. Thirdly, the mere fact that users' decisions are affected suggests injury.

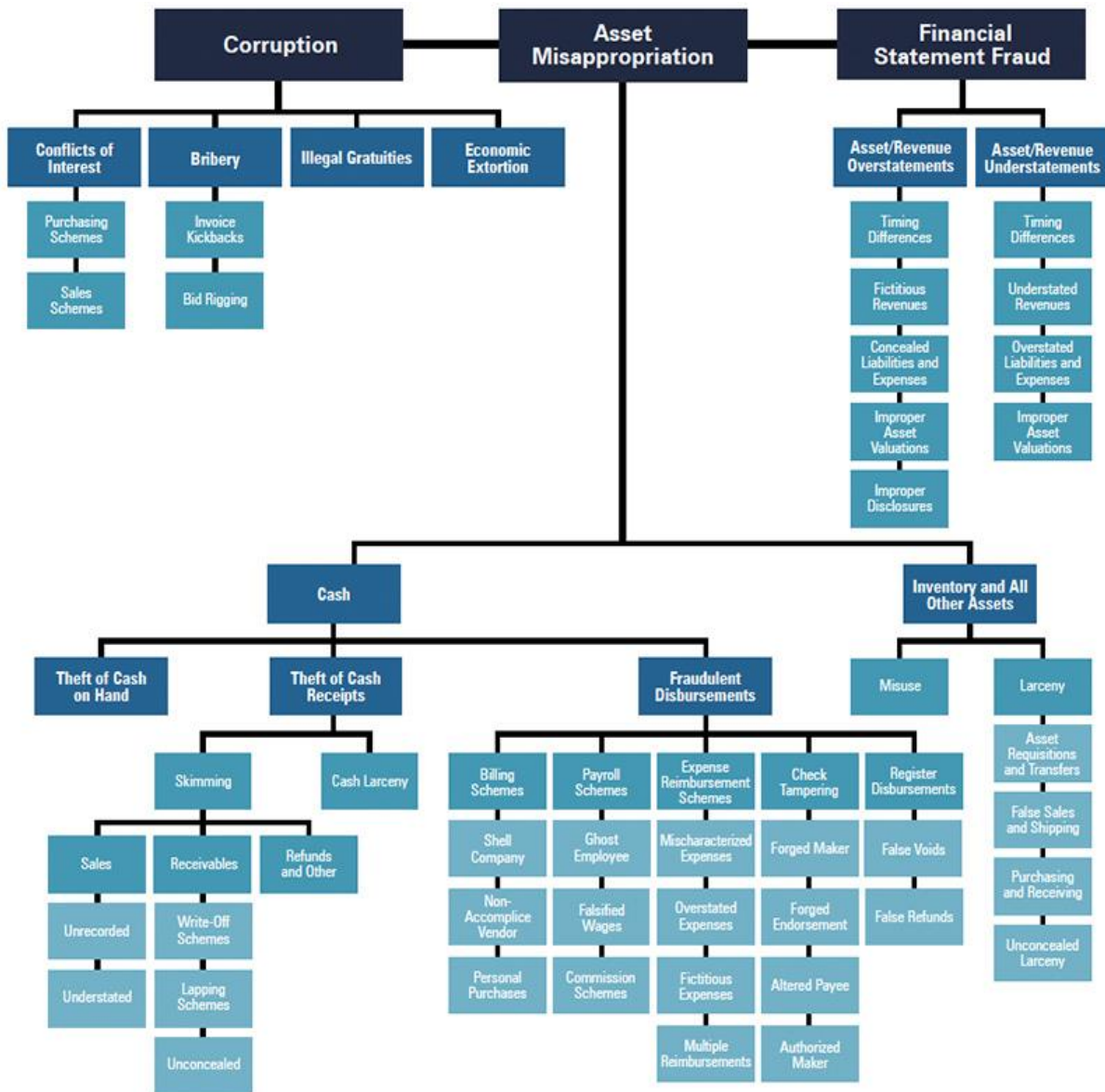
These views are supported by Zack (2012) who adds that financial statement fraud may involve: (1) falsification, alteration or manipulation of material record, supporting documents or business transactions, (2) material intentional omissions or misrepresentation of events and transactions, accounts and other significant information from financial reports prepared, (3) deliberate misapplication of accounting principles, policies and procedures used to measure, recognise, report and disclose business transactions, (4) intentional omissions of disclosures concerning accounting principles and policies and related to financial figures in the financial reports. This comprehensive definition was adopted for the current study.

The following section examines the types of financial statement fraud committed by NGO managers.

## **2.8. Financial statement fraud committed by NGO Management**

According to Zack (2003), NGO management intentionally commits fraudulent financial reporting by making false assertions in financial reports. These include: (i) misleading donors by misclassifying project expenses, (ii) misleading donors by misclassifying restricted donations, (iii) non-disclose of significant related party transactions, (iv) inflating revenue, (v) understatement of expenses, failing to correctly value donated assets, inventory, receivables, expenses misreporting, and split-interest liabilities or gift annuity obligations. Such fraud is carefully planned by people in high positions in the organisation. Anichebe, Agbomah, and Agbagbara's (2019) recent survey of 101 NGOs that had recorded fraudulent activities found that falsification of financial statements

was prevalent in such entities. The authors recommend a strong Board of Directors that establishes an effective audit committee to detect and deter financial statement and other fraud within the sector. The ACFE (2016) identified three main methods of committing fraudulent financial statements, namely, changing accounting policies, procedures, and methods, altering managerial estimates and, improper recognition of revenue and expenses. The classification of financial statement fraud is outlined in Figure 15 below.



Source: Adapted from ACFE (2016:11)

Figure 15: Classification of Financial Statement Fraud

### 2.9. Motives for management to commit financial statement fraud

Six factors motivate financial statement fraud and influence detection of such fraud. Various motivations are identified in the literature. The current study proposes the New Fraud Combination Theory to understand why people engage in financial statement fraud. Skousen, Smith, and Wright (2009) note that internal and external financial pressure has a significant impact on financial statement fraud. In such a situation, the entity overstates assets on the balance sheet and net income in the income statement. Omar (2014) asserts that opportunity is directly related to financial statement fraud and that it arises in the absence of effective monitoring within an entity Omar

(2014:34) adds that the internal audit function is well-suited to work with members of an entity's Board of Directors and its audit committee.

Kamarudin, Ismail, and Kamaruzzaman (2018) established a significant relationship between financial statement fraud and weak corporate governance. The authors noted that detecting this form of fraud is not the role of the traditional/independent auditor; it is up to managers to build sound internal controls that can assist in such detection. Boyle, Wilbanks, and Hermanson (2012) examined the relationship between the likelihood of financial statement fraud and five corporate governance characteristics, namely, an audit committee consisting of only independent directors; the number of additional directorships of members of the audit committee; a board where the majority of members are fully independent; audit committee members with financial accounting or accounting proficiency; and independent directors sitting on the nominating committee. The authors found that financial statement fraud was less likely to occur in an entity with strong corporate governance which cultivates ethical behaviour among top managers. Nasir, Ali, and Ahmed (2019) concur that there is a significant relationship between strong corporate governance and financial statement fraud detection. Salleh and Othman (2016) assert that managers may turn to financial statement fraud in order to protect their shareholders or stakeholder value by manipulating financial statements to maintain or increase share prices or ensure that the entity's goals are achieved. They might justify it by rationalising that the entity's competitors are also doing it and by considering the risks associated with the crime and the rewards to be gained.

Othman (2019) holds a similar view and argues that financial statement fraud is usually used by management to deceive the users of financial statements, while misappropriation of assets is most often committed by employees. Othman (2019) adds that managers may exploit ambiguities and the options available to present financial statements that meet their financial targets, especially when power is concentrated in the hands of insiders. Sennetti (2005) investigated financial reporting within the financial services sector. The study established a relationship between executive directors and senior management and financial statement fraud and noted that most material fraud involves management. Albizri and Rizzotto (2019) found that managers were motivated to commit fraudulent financial reporting by: (1) compensation packages based on reported earnings, (2), the desire to maintain or increase share prices, (3) the need to meet internal and external forecasts, especially when an entity is failing to achieve targets, to satisfy funders or to protect share prices, (4) the desire to avoid or minimise tax liabilities, (5) the need to violate debt agreements when the entity has low liquidity. Albizri and Rizzotto (2019) found that entities

that committed financial statement fraud had more leverage than the controlling entity, and that they needed to honour unrealistic commitments to creditors and beneficiaries, (6) the desire to postpone dealing with financial problems (thus violating debt agreements), and (7) the desire to raise cheap external capital.

Van Akkeren (2018:12) points to the role played by personal integrity in the probability of financial statement fraud. The author adds that a manager who understands the entity's accounting and internal control systems is able to exploit them if there is weak corporate governance and the entity is dominated by insiders. Steffen (2017:24) agrees that a fraudster must have the capability to perform financial statement fraud by overriding internal controls and audits. Dorminey (2010) argues that a lack of conscience and arrogance cause fraudsters to believe that they are superior to others and that laws and rules do not apply to them. Lin and Chiu (2015), COSO (2020) and Gupta and Mehta (2021) found that most financial statement fraud involves a combination of the Chief Executive Officer (CEO), Chief Operations Officer (COO), Chief Finance Officer (CFO), the controller, Board of Directors, and low-level accounting personnel.

The following section examines red flags of financial statement fraud.

## **2.10. Red flags and indicators of possible financial statement fraud**

Much research has been conducted on how and why financial statement fraud is perpetrated, leading to the identification of fraud risks and indicators in financial statements. This section critically reviews the literature on red flags of possible financial statement fraud. As noted previous, Hopwood (2012:421) observed that, several red flags are associated with financial statement fraud, including a lack of independence, competence, or oversight of management; internal auditors and external auditors undermining the basic structure designed to prevent financial statement fraud; lack of diligence on the part of internal auditors or the audit committee, a weak governance structure, a problematic management style, financial problems, nonstandard accounting practices, and industry weaknesses. Singleton (2010:101) argues that forensic auditors need to be familiar with possible fraud risk indicators such as inconsistency in accounting records, fictitious revenue, inadequate disclosure, improper asset valuation, concealed liabilities, asset misappropriation (billing schemes, payroll schemes, larceny), inconsistent or omitted evidence, or an unhealthy relationship between senior management and the statutory auditors. The following section traces the links between corporate governance and financial statement fraud.

## **2.11. Corporate governance and financial statement fraud**

The United States Congress passed the Sarbanes-Oxley Act (SOX) in 2002 to protect shareholders and the general public from accounting errors and fraud in enterprises. While the Act applies to publicly traded companies, much of it is also useful for private companies and NGOs. The SOX Act also aims to minimise financial statement fraud by promoting strong governance and organisational oversight by: the Board of Directors (must have competent, experienced members who participate actively in the entity's governance), an audit committee (should work closely with the internal and external auditors, and management to ensure the integrity of the external audit process), management (must be actively involved in all major aspects of internal controls process development), and internal auditors (should report directly to the audit committee). This would enable the audit committee to serve as an independent check on top management and to ensure quality internal controls processes and compliance with the external auditors and public oversight bodies (Hopwood 2012:421).

Assakaf and Samsudin (2018:24) note that international auditing standards aim to deter financial crimes whether due to error or fraud and corruption. DiPietro (2011) and Kouakou and Boiral (2013) state that the International Auditing Standards (IAS) set by the International Auditing Standards Board (IASB) aim to shape financial reporting practices and make them more transparent in order to reduce the risk of fraudulent activities. Assakaf and Samsudin (2018) concur and add that the IAS promote appropriate behaviour among auditors and hold the entities they audit to high ethical standards that enable identification of fraudulent activities. The relationship between corporate governance and financial statement fraud is illustrated in Figure 16 below.

## Corporate governance and fraudulent financial statements



Source: Adapted from Hopwood et al. (2012:415)

**Figure 16: Corporate governance and Fraudulent Financial Statements**

The relationship between corporate governance and audit committees is the focus of the following section.

### **2.12. The connection between Audit Committees and Strong Corporate Governance**

Proactive forensic audits enable the development of measures to prevent, detect, and respond to fraud (Akenbor and Ironkwe, 2014). This study empirically investigated how proactive forensic auditing techniques can facilitate the prevention, detection and response to fraud in the financial statements of NGOs in eThekweni region. Forensic techniques also improve management accountability and strengthen audit committee members in carrying out oversight by providing them with assurance on internal control reports.

Maluka (2014:38) notes that South Africa's White Paper on Transforming Public Service Delivery aimed to ensure efficient and effective service delivery to the public based on sound ethical standards and management. This calls for proactive and reactive processes. Section 76 of the White Paper on Municipal Services (2010) and *Batho Pele* (People First) relates to NGOs, NPOs and community-based organisations (CBOs), which were the focus of this research study. Like other organisations, NGOs and CBOs should adopt a formal constitution and a code of good practice consistent with those issued by the minister. According to the Department of Social Development

(DSD) (2009), NGOs must continually strive to meet the highest standards of good governance, transparency, accountability and sound management within an ethical framework.

The Codes of Good Practice outline critical areas of NGO governance regardless of the type and size, including sound financial management processes and international accounting standards and auditing adopted in South Africa, annual financial audits, and robust internal controls. Sadly, these organisations struggle to sustain themselves as they have weak systems that enable fraudulent expenditure, misuse of funds, misappropriation of assets and overall poor management of resources.

With respect to King Code of Good Governance Principles, the Institute of Directors South Africa (IDSA) (2016) notes that, audit committees were first promulgated under the King Committee led by Mervin King. The committee established a governance framework in its report, known as the King Report, which was issued in November 1994. It aimed to promote high standards of good corporate governance under the new democratic dispensation. King II was issued in March 2002, King III in September 2009 and King IV in 2016.

At the same time, the Companies Act (Act No. 61 of 1973) was revised and replaced by a new Companies Act (Act No. 61 of 2008), which incorporates some of the latest principles of corporate governance. In contrast to the King I and II codes, King III and IV apply to all entities, irrespective of their form and manner of establishment or incorporation. More specifically, King III applies to NGOs and NPOs in South Africa on an “apply and explain” basis. Ten of the 29 principles in King III pertain to audit committees and King IV progressed from “apply or explain to explain and apply” (King IV, 2016). King IV notes that, effective boards, directors and audit committees are not only critically mindful of their practices, roles and responsibilities but also embrace and fully understand what makes it necessary to effectively fulfil them (King IV, 2016).

Against this background, Oussii and Taktak (2018) identified a more comprehensive role for audit committees by highlighting eight key critical benefits of effective audit committees, namely, (i) providing direction on sound governance practices, (ii) overseeing adequate and effective functioning of internal controls systems, (iii) overseeing adequate implementation of recommendations made by internal and external audits and other review committees, (iv) ensuring effective and efficient management of fraud and corruption, (v) ensuring enhancement of the quality of financial reporting and performance, (vi) ensuring an efficient and effective audit

process, (vii), enhancing and ensuring proper application of FRM practices, and (viii) ensuring an independent and effective internal audit function. For their part, as discussed in the following section, the ISA promote strong FRAs.

### **2.13. The connection between the International Standards on Auditing and Fraud Risk Assessments**

The ISA (240:4) notes that, the three factors of the Fraud Triangle Theory propounded by Donald Cressey should be incorporated into the audit plan. Two types of fraud, asset misappropriation and financial statement fraud, are of importance to auditors (ISA, 240:3). The ISA (320:3) also cites corruption and material misstatement.

Jackson and Stent (2010:16) note that common financial crimes in developed and developing countries include asset misappropriation, financial statement fraud and corruption. Seven essential pillars are included in the ISA laws and regulations that are applicable to forensic auditors and traditional auditors in assessing fraud risks and gathering irrefutable evidence. The relevant standards are: (1) ISA 200 (Chapters 1 to 5), which deals with the need for an independent auditor and such auditor's adherence to the ISA, (2), ISA 240 (Chapters 1 to 5), which covers auditors' responsibilities relating to fraud in financial reports, ISA 315 (Chapters 1, 4, and 5) that sets out auditors' responsibilities in identifying and assessing the risk of material misstatements (RMM) by understanding the entity and its business environment (to recognise, measure, present and disclose financial information, auditors use essential assertions such as existence and occurrence, completeness, accuracy, cut off, proper accounts classification, right and obligations, valuation, and disclosure or presentation), ISA 320 (Chapter 3), that deals with materiality in planning and performing audits, ISA 330 (Chapter 4), that covers auditors' responses to assessed fraud risks, ISA 500 (Chapter 5), that describes the audit evidence (auditors obtain sufficient evidence through inspection, observation, external confirmation, recalculation, performance and inquiry), and ISA 520 (Chapter 4), which outlines the analytical procedures (vertical, horizontal and operating ratio analysis in assessing and detecting fraud) (IFC, 2009).

However, Oluwatuyi (2019) argues that auditors are not suitably equipped to identify, assess, and detect asset misappropriation, corruption and financial statement fraud because they use their judgement and make estimates and their major focus is not to identify fraud. It is thus recommended that all entities engage forensic auditing services as a strategic tool to address all

types of financial and economic crimes. Forensic auditors are involved in different types of investigations and they adopt different strategies and procedures to address specific investigations. Otherwise, auditing and accounting firms (independent auditors) should provide extraordinary services besides mandatory audits.

Crain, Hopwood, Gendler, Young, and Pacini (2019) found that auditors experience major problems in detecting, preventing and responding to fraud. They thus conclude that a forensic audit is a more appropriate response to this scourge as forensic auditors' approaches and strategies never assume that the client has complied with the IFRS and accounting policies and procedures, or that an audit check will lead to the discovery of fraudulent activities.

Knežević (2015:33) highlights 11 key differences between external auditing and forensic auditing which are set out in Table 2 below.

**Table 2: Key differences between external auditing and forensic auditing**

Elements of differences	Forensic Audit	External
<b>Legislation</b>	Professional regulation	Professional and legal
<b>Objective</b>	Deterrence, prevention, detection, mitigation, and investigation of fraud	Expressions of independent, professional and competent opinions on truthfulness, correctness and accuracy of financial statements
<b>Limitation</b>	Not limited by external audit standards and can perform professional activities outside the standards	Limited by professional standards beyond which it does not check further.
<b>Period of activity</b>	No specific timeline, activity lasts until the fraud is discovered	Expression of opinion on the financial statements for one financial Year
<b>Materiality</b>	It is not important because it determines amount of damage of fraud	Very important
<b>Investigation</b>	One of the main activities	Does not investigate
<b>Methodology</b>	Investigate every financial transaction which is connected to fraud	Based on sampling method
<b>Reporting</b>	Specialised report containing the elements of the offense of fraud and is intended for legal proceedings and there are no generally accepted standards prescribed	Provides independent, professional and competent opinion in the form prescribed by International Auditing Standards
<b>Method of detecting fraud</b>	Alert, doubt, request the client and other ways	In the normal course- plan review
<b>The court proceedings</b>	Forensic auditor is required to as a witness in a court in the role of expert	An expert auditor may be a witness in court
<b>Obligation</b>	It is not a legal obligation	It is mandatory

**Source: Adapted from Knežević (2015)**

Oyedokun (2016:32) drew an analogue between fraud examination, external auditing and forensic auditing which is presented in Table 3 below.

**Table 3: Analogue between external auditing, fraud examination and forensic auditing**

Characteristics	External auditing	Fraud Examination	Forensic auditing
Time perspective	Historical	Historical	Future and historical
Primary focus	Periodic	Reactive	Proactive and ongoing
Investigation scope	Narrow	Narrow	Broad ranging
Main work is	Audit opinion	Fraud case report	Forensic audit report
Main responsibility is to	Company and public	Defrauded party	Principal or third party
Guidelines	Rules-Based	Principles-based under audit rules, it is rules-based	Principles-Based
Purpose of the report	Ensure GAAP is followed	Identify the perpetrator of fraud	Fraud risk assessment and strategic services
Professional stance	Non-adversarial	Adversarial	Adversarial and non-adversarial
Techniques	Substantive and compliance with procedures	Fraud examination techniques	Analysis of past trends and substantive or in-depth checking of selected transactions – as it proactively integrates data forensic analytics (DFA) and computer forensics
Off-balance sheet items	Used to vouch arithmetic accuracy and compliance with procedures	Specific reviews	Regularity and propriety/ contracts are examined
Adverse findings if any	Negative opinion or qualified opinion	-	Legal determination of fraud and naming person behind such fraud

**Source: Adapted from Oyedokun (2016:32)**

The following section discusses Enterprise Risk Management (ERM)

#### **2.14. Frameworks for Enterprise Risk Management (ERM)**

Enterprise risk management is essential in the modern business world because it expands the scope of risk management from associated and accidental losses to include other entity-wide operational aspects. Beasley, Branson, and Hancock (2010) note that the COSO ERM framework that was published in 2004 spells out the role of key actors in an entity including the Board of Directors, management, and other personnel. The framework sets out the steps for risk identification, management risk within internal controls limits and how to ensure quality assurance towards the achievement of strategic objectives. Beasley et al. (2010) add that global ERM practice is effective in reducing the extent of fraud across organisations. The relationship between ERM and fraud detection is discussed in the next section.

#### **2.15. Enterprise Risk Management and Fraud detection**

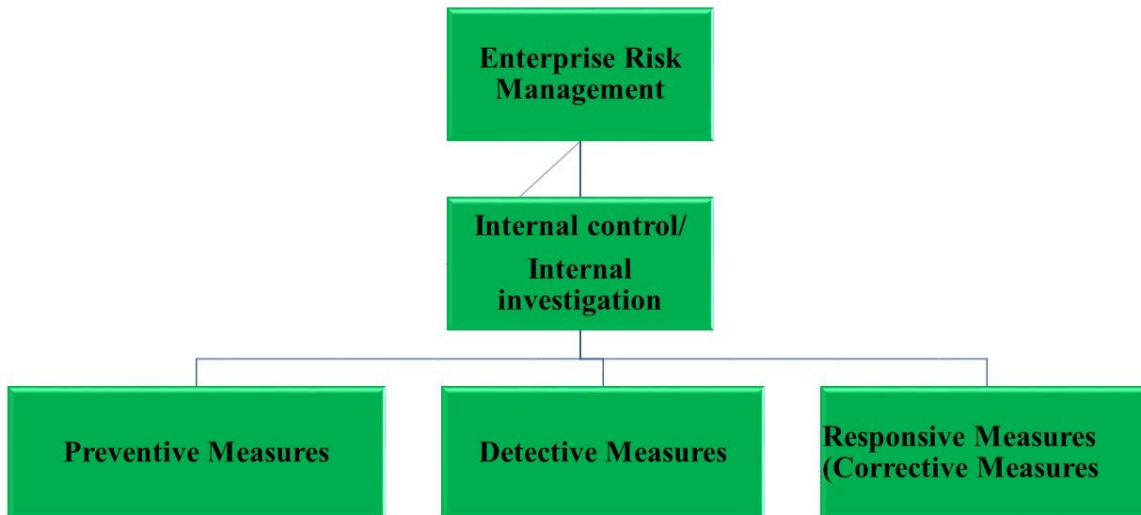
Williamson (2007) and the COSO (2014), state that ERM is a relatively new discipline. It is an on-going process that flows across an entity and involves all its members. Enterprise risk management aims to identify and assess potential risks (including, but not limited to strategic, operational,

compliance, data security, reputational, and financial reporting risks) and to manage any risk within the risk appetite and provide reasonable assurance regarding the achievement of the strategic objectives. It can also assist Boards of Directors and management to make better, risk-informed strategic decisions. PwC (2015) notes that ERM is also referred to as corporate risk management and integrated risk management.

El Junusi (2020) observes that ERM enables the Board of Directors to improve risk in order to protect stakeholders' interests. It offers a holistic, top-down view of the key risks facing an entity. The COSO's (2010) research on financial statement fraud during the period 1998-2007 concluded that boards and audit committees are sometimes misled by management who distort the entity's financial reports.

Fraud detection is part of the larger ERM process and as such, it is also part of the internal control process. In the strict sense, fraud detection is the second line of defence with the first line being prevention. When both prevention and detection fail, corrective measures are required. Therefore, fraud detection is part of a three-prong defence. Prevention frequently relies on security barriers (Van Rooyen, 2008:171).

Richard's (2011) investigation of the application of strategic ERM for fraud deterrence within the COSO framework recommended that organisations should identify, develop, assess, and prioritise significant fraud risk levels, examine options to respond to such risk and formulate plans to gauge how well they are managing fraud risks. Enterprise FRM is illustrated in Figure 17 below.



Source: Adapted from Van Rooyen (2008:171)

**Figure 17: Enterprise Risk Management and Fraud Detection**

The pivotal role of proactive forensic auditing in addressing internal controls issues is discussed in more detail in the following section.

### **2.16. Forensic auditing within the ERM framework to address internal controls issues**

As noted previously, ERM aims to minimise fraud risks, and forensic auditing plays a key role in this endeavour. Saidu's (2015) study on the application of forensic auditing techniques for fraud prevention and control highlights the weaknesses of internal controls. The study found that there was significant agreement amongst stakeholders on the effectiveness of forensic auditing in promoting quality internal controls and preventing fraudulent activities. Internal forensic auditors thus supplement the duties of internal auditors. Saidu (2015) concluded that forensic auditing has improved management accountability and strengthened audit committee members in carrying out their oversight by assuring them of the veracity of internal control reports.

Many NGOs suffer from weak internal controls (Zamzami, Nusa, and Timur, 2016) and they are thus prone to fraud risks. However, Domański (2016) asserts that internal controls do not always protect these entities from fraud as senior managers and executives often override such controls. The ACFE (2016) found that financial fraud committed by top managers and executives was 16 times higher than that committed by junior employees. KPMG (2013:4) also notes that senior

managers are more likely to commit fraud than other employees. An international survey of economic crimes carried out by internationally-reputable auditing and accounting firms (PwC, 2014:18) found that fraud was mainly committed by members of senior management and executives. Chamberlain and Etherington (2018) argue that, due to these weaknesses, NGOs need to establish internal audit or audit committees to oversee accounting transactions.

Ming and Chun-Li (2009) observe that, internal controls cannot prevent or detect fraud in a poorly governed entity as fraud is strongly connected to top managers who violate these systems. Other scholars note the inherent limitations of internal controls, with Jackson and Stent (2010:4-5) and KPMG (2011:4) pointing to: (i) top management overriding internal controls, (ii) circumvention of internal controls involving collusion among employees and/or third parties, and the fact that, (iii) internal controls are only directed at routine transactions, (iv) they not timeously updated when the controls environment changes, as well as (v) human error, and (vi) the cost of internal controls versus the benefits derived. They are thus not sufficient to prevent and detect financial and economic crimes.

Given that audit firms might not uncover discrepancies as traditional auditors are rule and single event-focused for the purpose of rendering an audit opinion, Van Rooyen (2008:171) and Coenen (2008:159) advocate for the formulation and adoption of fraud prevention, detection and investigation strategies and techniques, with investigations undertaken by skilled forensic auditors.

Forensic auditors are generally engaged in much broader FRM than traditional auditors. Kariuki (2017) proposes that a mixed team of specialised forensic auditors and financial analysts and specialists should undertake unscheduled, surprise investigations of NGOs that include a review of relevant programme or project files and claims paid by funders; examination of the documentation associated with the preparation and management of project finances; examination of the NGO's financial accounting and financial management systems; discussions with relevant staff, stakeholders and beneficiaries; where possible, examination of planned projects and standards; and an investigation of every financial transaction which could involve fraud such as overtime claims, inappropriate lifestyle changes, poor separation of duties, poor computer security and inadequate board oversight, among others.

It is against this background that this study aimed to gain insight into the challenges confronting NGOs' internal controls in prevention and detection of financial statement fraud and the use of forensic auditing to create a new approach to fraud risk assurance.

### **2.17. The connection between forensic auditing and fraud risk management practices in relation to the NGO sector**

Van Rooyen (2008) cited the need for forensic investigation structures, rather than relying on routine controls to prevent and uncover fraudulent activities, Van Rooyen (2008) adds that the majority of medium to large companies in South Africa, including most government departments, have created investigation structures. Similarly, Jackson and Stent (2010:16) suggested that regardless of their size and scope, all entities should be free from fraudulent activities and forensic auditing is the most relevant tool to manage fraud risks. The authors add that forensic auditing offers a robust and practical framework to promote high ethical standards and high quality financial reporting practices.

Osioma (2006) observes that a proactive forensic auditing approach seeks indicators of fraud or red flags and is based on the philosophy that one should catch fraud before it catches one. Aiken (2016) established a positive relationship between forensic auditing and FRM, while Walden (2016) states that proactive forensic auditing could enhance FRM in NGOs and be employed to prevent financial crimes. A proactive forensic audit seeks out minor and major mistakes and irregularities in financial transactions before they graduate to fraud and is thus a major factor in curbing it (Knežević, 2015).

However forensic auditing has some disadvantages (Greenlee, 2007; Muthusamy, 2011). Owolabi, Dada, and Olaoye (2013) note that it can be costly, while Dada (2014) observes that it is a lengthy process and that it can take some time to catch fraudsters and recover stolen assets (Dada, 2014). Okoye (2019) posits that NGOs might not be able to afford forensic auditing.

Zainon, Atan, Wah, and Nam (2011) found that accountability, funding, staff and governance issues, and non-compliance with international financial reporting practices and the ISA are major obstacles to the adoption of forensic auditing to fight fraudulent activities. Umar and Samsudin's (2016) empirical research concluded that the adoption of forensic auditing is strongly linked to organisational resources and to situations where the perceived cost of fraud is great than the

perceived cost of such services. However, this study focused on for-profit entities. There is a paucity of research on the reasons why NGOs adopt forensic auditing to manage economic and financial crimes. The current study investigated the key factors that influence the FRM process in NGOs in eThekweni region.

### **2.18. Fraud Risk Management factors**

Fraud risk management should be approached in a systematic manner that begins with fraud prevention as prevention is better than detection. This is followed by fraud detection and response (Taylor, 2011). According to Taylor (2011:184), FRM aims to prevent fraud by reducing the risk of fraud, to detect it by being attentive to misconduct that could relate to fraud, and to respond to the risk of fraud by taking action when it occurs. The FRM factors identified by Taylor (2018) are proactive preventive factors, proactive detective factors and proactive responsive factors related to financial statement fraud using Wilken and McIntyre's (2016) Fraud Combination Theory. Using the red flags or fraud risk indicators set out by the ISA (240:23) and ACFE (2016), auditors will be able to prevent, detect and respond to the risk of fraud.

Samociuk and Iyer (2010:8) state that a comprehensive FRM strategy includes developing an anti-fraud culture, and assessment of fraud risks (preventive FRM practices), detecting fraud (detective FRM), and managing fraud incidents and measuring fraud resistance (responsive FRM practices). Jans, Lybaert, and Vanhoof (2009) highlight that FRM refers to the systems and process used to identify an entity's exposure to fraud risk and to implement procedures, controls, and awareness to detect, prevent and respond to the key risks. Figure 18 below illustrates a comprehensive FRM strategy.



**Source: Kranacher and Riley (2019) and Samociuk and Iyer (2010:8)**

**Figure 18: A Comprehensive Fraud Risk Management Strategy**

The different kinds of FRM practices are discussed below.

### **2.18.1. Detective fraud risk management factors**

Peltier-Rivest and Lanoue (2015) observe that fraud detection mechanisms and strategies aim to effectively, efficiently and promptly identify fraud that has bypassed preventive measures in order for the entity to take corrective action. Dalnial, Kamaluddin, Sanusi, and Khairuddin (2014) state that internal controls, fraud awareness (ethics), internal and external audits, effective fraud risk analysis, fraud hotlines, accounts reconciliations, inventories, and forensic auditing all reduce fraud risks and losses by unearthing fraudulent financial statements and fraudulent transactions when used separately. Halbouni (2015) concurs and adds that financial statement fraud should be detected by analysing the statements. Abdi (2017) surveyed 43 banks in Kenya to establish the influence of forensic audits on FRM practices and fraud risk exposure. The author found that forensic audit techniques play a critical role in detecting financial statement fraud. It is recommended that a forensic investigation team should be carefully selected and should consist of a team leader (forensic investigator) an accountant, legal expert, and an IT expert to be highly effective. However, the study did not consider other factors that influence the adoption of forensic audit services among Kenyan financial institutions.

### **2.18.2. Preventive Fraud Risk Management factors**

Prevention is always better than cure, and fraud prevention and deterrence are less costly than fraud detection (Hemraj, 2004; Omar and Bakar, 2012). Rotich (2017) defines preventive FRM as all

efforts and means to forestall the occurrence of fraud. In other words, preventive FRM's strategic and tactical objectives are to proactively tackle fraud before it occurs in an entity. Sanusi (2015), argues that fraud prevention begins with the identification of weak internal controls, policies and systems and enforcement of sound controls which reduce opportunities for fraud. Garbou (2016) states that anti-fraud policies and procedures, an audit committee, an effective fraud prevention policy like internal controls and fraud vulnerability reviews, limit on transactions and their proper authorisation, and separation of duties, can curb fraud. Adetiloye and Olokoyo (2016) identify clear procedures, policies and improved internal audits and controls as tools and techniques to prevent and deter fraud. Houdek (2017) concurs that fraud could be prevented by means of sound policies and internal audits.

### **2.18.3. Responsive fraud risk management factors**

Krambia Kapardis and Papastergiou (2016) state that organisations should establish a sound and effective fraud response strategy (investigative measures, and sanctions). Biegelman and Bartow (2012) suggest that internal fraud investigators, the internal auditor, audit committee, and forensic auditors are effective responsive strategies.

Vousinas (2015) asserts that organisations should employ the services of fraud or forensic investigators and that such investigators should provide recommendations on preventive and detective strategies and advice on when to prosecute. Biegelman and Bartow (2012) adopt a different view and argue that the response to fraud risks should include avoiding the risk (discontinuation of the practices that cause the fraud risk), transferring the fraud risk (insurance to recoup any losses as a result of fraud), accepting the risk (no response until fraud occurs), and controlling it (reducing the fraud risk to an acceptable level by putting sound controls in place). Osisioma (2006) supports the use of forensic auditing to identify red flags.

Lifestyle audits, which are closely linked to forensic audits, are discussed in the following section.

### **2.19. The concept of Lifestyle audits in forensic auditing**

Van Rooyen (2008) defines a lifestyle audit as the study of a person's living standards to determine whether it is consistent with his or her reported income. Turner (2011:32) argues that the main aim of a lifestyle audit is to compile a financial profile of the person which enables the forensic auditor to identify illicit funds deposited in his/her accounts or expensive purchases. Pasco (2012) cites

Kass-Shraibman and Sampath's (2011) assertion that offender profiling is considered as an essential investigative tool for forensic investigators.

Empirical evidence, though relatively scarce, tends to confirm the importance of lifestyle audits as an indicator of possible fraud and corruption (Knoesen, 2012; Powell, 2011). Bredenkamp (2015) notes that, in response to fraud risks, forensic auditors use lifestyle audits to seek evidence of fraud by digging deeply into related parties' transactions. Such audits are employed to identify leads, perform asset searches and locate interviewees (Bredenkamp, 2015:26). However, Bredenkamp's (2015) findings were not empirically tested or linked to financial statement fraud. Finally, Gillespie's (2014) study revealed that information obtained from lifestyle audits helps forensic auditors to narrow the list of fraud suspects and locate misappropriated assets.

Lifestyle audits in forensic auditing are supported by other scholars such as Sheetz and Howard (2007), Golden (2011), Geldenhuys (2016) and Kapardis and Courakis (2017) who argue that they: (i) identify direct evidence of fraud, (ii) can help forensic auditors to narrow their list of fraud suspects who are living beyond their financial means, (iii) can quickly identify misappropriated assets and funds, (iv) are crucial fraud risk indicators, (v) are an excellent barometer of the extent of the fraud risk in an organisation, (vi) can yield direct evidence of illegal income and hidden assets, (vii) add value to the forensic investigation, and (viii) are tools forensic auditors can use to prove that suspect is generating income from somewhere.

## **2.20. Empirical Literature Review**

### **2.20.1. Introduction**

Amsberry (2008) defines empirical research as real time observation of a phenomenon and experiments. Wangrow, Schepker, and Barker (2015) state that an empirical study is based on measuring phenomena, investigations, and observations, with knowledge gained from factual experience rather than belief or theory. Amsberry (2008) adds that its findings and conclusions are supported by evidence, and are transparent (through adopting a clear and comprehensive methodology). This section reviews empirical studies on the impact of forensic auditing on FRM practices.

### **2.20.2. International Evidence**

Silverstone, Sheetz, Pedneault, and Rudewicz's (2004) research on forensic accounting and fraud investigation concluded that the forensic auditors are experts at preventing, detecting, and documenting fraud based on their attitudes, characteristics, knowledge and experience. However, they did not identify the types of financial statement fraud or other fraudulent activities that are most likely to be committed. Furthermore, their results were not empirically tested, and the study lacks a practical and theoretical base. Surprise lifestyle audits in forensic investigation were only statistically significant in responding to 69% of fraud incidents.

Smith (2005) and Hershensohn and Block's (2005) studies adopted a quantitative research design and noted that forensic investigators use sophisticated software tools that collect digital data without changing it or data extraction tools such as EnCase, SafeBack and On Track's Easy Recovery Software and other system-based techniques. The authors note that, in order to be legally acceptable as irrevocable evidence, such information should be lawfully and carefully collected by a certified computer forensic auditor, certified computer crime investigator or a certified computer forensic technician in E-crime. The process should include forensic Internet and network investigations as such evidence could include electronic fraud, hidden or deleted files, swap file space, emails, and the slack space in clusters and logs from Local Area Networks (LANs) or external networks (Wide Area Networks/WANs). However, this research did not consider whether the use of proactive computer forensic auditing techniques can assist in combatting financial and economic crimes in the NGO sector.

Ryoba (2006) adopted a descriptive research design to establish the feasibility of the National Audit of Tanzania using forensic audits to tackle financial crime. Semi-structured questionnaires and document review were used to gather primary and secondary data. The study concluded that forensic audit services are a powerful tool for fraud deterrence and mitigation in public institutions. However, this research did not investigate how key fraud risk factors and their indicators and linkages could promote robust FRM.

Koh and Arokiasamy's (2009) quantitative study on the relationship between forensic auditing and Malaysian organisations' policies and ethical practices used descriptive and inferential statistics. This study validates the use of fraud policies, ethics training and forensic auditing to prosecute perpetrators of fraud. However, the influence of the key FRM factors on one another was not measured.

DiGabriele (2009) investigated the similarities between forensic auditing and forensic accounting in the United States. Descriptive and inferential statistics were employed and ANOVA (Analysis of Variance) was used to analyse the data, compare the level of agreement in the responses to the questionnaire and to test the hypotheses. The study found that forensic audit services play a critical and significant role in the detection of fraud among entities. However, it did not test whether there is a relationship between forensic auditing/accounting and FRM factors.

Njanike, Dube, and Mashayanye (2009) interviewed 30 forensic auditors to investigate whether forensic auditing skills are useful in prevention, detection, and investigation of bank fraud in Zimbabwe. The study found that forensic auditing and investigative skills play a major role in protecting organisations fixed and liquid assets. The authors recommend the use of forensic audit services for FRM as they enable deeper investigation of fraud and more successful litigation. However, Njanike et al. (2009) did not investigate all highly ranked FRM practices and techniques which could assist in eradicating fraud risks or the main strategies that could be adopted to do so.

Marcella and Menendez's (2010) study on cyber forensics showed that the computer forensic auditor must be knowledgeable about computers and IT. Since much data is created and stored electronically, it recommends that computer forensics focus on computer operating systems and electronic communication equipment to recover deleted files, emails and information transferred to unauthorised computers. Nigrini's (2020) research concluded that the forensic auditor needs to access private databases to which access is restricted. However, the conclusions were not empirically tested and hotlines for anonymous reporting were not mentioned.

Bedard, Johnstone, and Smith (2010) established a correlation between the quality of financial reporting, quality auditing and market responses. They also found that a high-quality audit is a powerful tool to detect audit failure as quality audits play a pivotal role in both quality financial reporting and in eliminating fraud risks. However, Bedard et al. (2010) did not test fraud risk indicators or empirically validate all fraud risk variables.

Golden (2011) showed that the forensic accounting profession has taken steps to close the expectation gap between the public and external auditors. The study recommends the use of forensic accounting to reduce fraudulent activities, especially in relation to financial statement fraud and notes the need to develop appropriate models to address and respond to fraud risks.

However, it does not specify which fraud theory has the most significant impact on assessing these risks.

Similar research was conducted by Peter et al. (2014) on Nigerian banks. A questionnaire, interviews, and document review were used to gather information and the study concluded that forensic audit skills and services are critical tools to uncover financial crimes. Moreover, the findings suggest that fraud detection and responsive strategies include forensic auditing; therefore, Nigerian banks need to incorporate this function. However, FRM in this regard is usually poor and limited to entities' financial operations. Furthermore, they have not been widely adopted in the NGO sector.

Akenbor and Ironkwe (2014) examined the relationship between forensic audits and policies in Nigeria. A structured questionnaire was employed to gather data and regression data analysis was performed. Overall, the study found that FRM policy, and fraud detection, fraud prevention, and fraud control policy within forensic audit departments should strategically guide forensic auditors in fraud detective, preventive and responsive techniques and approaches. The authors conclude that forensic audits play a significant and critical role in the FRM process. However, the study does not offer detailed analysis of proactive forensic auditing approaches to FRM, but focuses on the development of a fraud risks portfolio.

Misra and Walden (2016) focused on forensic financial analysis and showed that proactive advanced forensic data analytics can be a powerful tool to prevent, detect, and investigate financial crimes and respond to the risks of fraud and other non-compliance within entities. Misra and Walden (2016) also found that proactive forensic data analytics is an essential and key component of effective FRM, particularly with respect to FRAs, and fraud prevention, detection and investigation. The authors concluded that proactive forensic audit techniques supplement the rules-based tests performed by traditional auditors. However, the results of these studies depend on participants' perceptions rather than empirical testing. Furthermore, they did not focus on the main drivers of FRM factors, but red flags in financial statements which forensic auditors can identify.

Fortvingler (2016) focused on the interaction between forensic audits and fraud detection among Nigerian NGOs using a questionnaire and interviews to gather data. While the study recommends that forensic audits should be used to uncover fraud, it does not clarify why financial statement fraud occurs in NGOs and how it can be prevented, detected, and investigated. Moreover, it only focuses on two fraud theories.

Aigienohuwa (2017) investigated the role of forensics in FRM and fraud detection techniques and established a correlation between FRM and the effectiveness of forensic auditing skills in Nigeria. The study also found that proactive forensic audits play a significant role in fraud detection, deterrence, investigation and prosecution. However, it focuses on the banking industry and its findings may thus not be relevant to the public and NGO sectors.

Ocansey's (2017) research on forensic auditing to combat economic and financial crimes in Ghana surveyed 66 technical officers at the Economic and Organised Crime Office with questionnaires employed to gather data. Overall, the study found that forensic auditing has a significant impact in fighting financial and economic crimes in the country. It thus recommends that all entities should establish a forensic auditing unit to address internal control issues and ensure effective investigation in order to mitigate, detect and deter such crimes. However, the author did not consider computer forensic skills or lifestyle audits as techniques to combat fraudulent activities.

Uniamikogbo's (2019) case study found that forensic audits are a viable and critical tool in fighting fraudulent activities in Nigeria, a country where external auditors have been heavily criticised for fraud cases. Uniamikogbo (2019) identified the following fraud risk indicators: (i) unrealistic compensation packages, (ii) inadequate board oversight, (iii) unprofitable offshore operations, (iv) poor separation of duties, (v) poor computer security, (vi) inappropriate lifestyle changes, and weak or poor internal controls, and (vii) over-personalised business matters. However, the study did not propose the proactive strategies recommended in the literature to tackle financial statement fraud in the NGO sector. It also failed to test the detection and prevention factors associated with falsified financial statements as was done by Smith and Wright (2009) and did not empirically validate fraud risk factors linked to the prediction of incidents of financial statement fraud among NGOs.

Che, Hope, and Langli (2020) concluded that high quality audits which include inputs (IAAS and auditors' characteristics), processes (well-planned), output and opinion (accurate financial statements and a quality audit opinion), and a post opinion increase the chances of detecting questionable financial reporting practices, revealing misreporting, mitigation of fraudulent activities, and the probability of detecting potential errors, fraud and misstatements in entities' accounts. However, Che et al. (2020) did not consider the principles-based approach when addressing and responding to identified fraud risk factors so as to enhance the quality of entities' financial reports.

### **2.20.3. Fraud risk management research in South Africa**

There is a lack of research on FRM in South Africa. Only four studies were found on commercial forensic investigators and lifestyle audits. Van Rooyen (2008) empirically investigated the generic process for forensic auditors in South Africa and analysed the forensic auditing process' effect on the investigative performance and budgeting process. A questionnaire was used to gather data. The findings revealed that not only for-profit entities, but also public entities should employ the services of forensic auditors as they provide irrevocable and irrefutable evidence. Although this study has implications for the production of high-quality financial reports, it is not clear whether the fraud risks arise from management fraud (financial statement fraud). Furthermore, findings' implications for forensic investigators are not examined. Bredenkamp's (2015) South African study concurs with Powell's (2011) views on the relevance of lifestyle audits in forensic investigations. However, both studies are based on secondary sources and lack empirical evidence.

A recent study by Kranacher (2019) sheds some light on the various techniques, approaches, and processes used by commercial forensic auditors in the country. The author surveyed commercial forensic practitioners by means of an electronic questionnaire. The findings show that the role of the commercial forensic auditor is to collect digital (electronic evidence) and non-digital data, and interrogate and uncover financial crimes for evidentiary procedures. They employ computer applications or software tools such as THC-scan, a password cracker, a port scanner, NetXRay, Nmap, John the Ripper, Tripwire, a file integrity checking tool, EnCase, SafeBack and On Track's Easy Recovery software that helps to capture, analyse and present evidence which can be used in court. However, the author did not explore if forensic auditors in South Africa used the Fraud Combination Theory to assess the risk of financial statement fraud and how they respond to fraud risks.

Akinbowale, Klingelhöfer, and Zerihun's (2020) study concluded that South African forensic auditors require a better understanding of fraud opportunity to assist them in preventing, identifying and investigating fraud. However, the study did not consider the use of forensic auditing as a tool for effective FRM in the NGO sector or identify significant factors that influence FRM.

In summary, none of the studies reviewed in this section focused on the relationship between forensic auditing and FRM practices in the NGO sector. Furthermore, to the best of the researcher's

knowledge, no such research has been conducted among NGOs in eThekweni region. While relatively scarce, empirical evidence tends to confirm the importance of forensic audits through lifestyle audits as an indicator of possible fraud and corruption. The paucity of research on FRM in South Africa motivated the current study on financial statement fraud among NGOs in eThekweni region.

### **2.21. Knowledge gap**

Much of the literature on forensic auditing focuses on for-profit organisations and to some extent, SOEs. The literature sets out broad principles on how to manage fraud risks among for-profit entities. However, there is little guidance on this issue for NGOs and their funders. The gap identified in the current research is the failure of traditional auditing not only to manage and fight fraud risks but also to reduce them in NGOs' financial statements. Only a few studies touch on the relationship between forensic auditing and FRM factors and how these factors directly or indirectly affect the quality of financial statements on the African continent, especially in South Africa (Okoye, 2019). However, none of these studies answers the question of how forensic auditing could help to reduce or eliminate fraudulent activities in the NGO sector. Furthermore, the gap between stakeholders or funders and traditional auditors' perspectives on FRM has widened in recent years and debate continues the precise roles and responsibilities of traditional auditors (Ogweno, 2018). The gap between stakeholders' (donors/beneficiaries and NGOs themselves) expectations and auditors' mandates needs to be closed (Sikka, 2009). Stakeholders believe that a traditional auditor would detect fraud during the traditional auditor's audit (Kassem and Higson, 2016). However, forensic auditing is essential in order for NGOs to reduce financial crimes within the framework of the ISA. The researcher believes that adding forensic auditing techniques to the audit process will assist in closing the expectations gap.

### **2.22. Gap Analysis**

Stakeholders' misunderstanding of the core roles and responsibilities of auditors have created unrealistic expectations and financial statement fraud and audit failures have become burning issues. However, the techniques and procedures applied by external auditors during traditional audits are designed to detect material misstatements, not immaterial fraud, and corruption (Ştirbu et al., 2010). The use of forensic auditors could fill this expectation gap. A forensic audit addresses the shortcomings of traditional audits and controls as forensic auditors investigate and detect misappropriation of assets, financial misstatements, and financial statement fraud. The current

study aimed to address the expectation gap by highlighting the role of forensic auditing techniques as a powerful tool to detect fraud in financial statements in the NGO sector. Drawing on the literature and focusing on NGOs in eThekweni region, it examined the relationship between forensic auditing and the main drivers of FRM.

### **2.23. Major issues arising from the literature review**

This chapter reviewed a range of relevant literature in order to gain insight into current FRM in the public, private and NGO sectors. The review concluded that forensic auditing techniques are critical in detecting financial statement fraud.

Building on the literature, the critical issues addressed in this study are whether or not forensic auditing techniques can prevent and detect the risk of fraudulent financial statement among NGOs; and whether forensic auditing techniques can respond to such fraudulent activities in this sector. The literature review highlighted the strengths of forensic auditing techniques, including the fact that they can prevent, detect, and respond to fraudulent activities within NGOs. However, research on FRM factors mainly focuses on for-profit and government entities and there is a paucity of research on the drivers of different forms of fraud and the fraud risk factors that might motivate management to commit financial statement fraud in the NGO sector, and how forensic auditing may assist. The chapter also examined the issues that have been raised in relation to forensic audit services (Dada, 2014; Greenlee, 2007; Muthusamy, 2011; Owolabi, 2013; Umar and Samsudin, 2016).

### **2.24. Summary of the Literature Review**

The literature highlights a number of motivations for financial statement fraud and other fraudulent activities among NGOs as well as the relevance of forensic audits in FRM. However, the results are mixed as well as inconsistent, leading to inconclusive evidence. Questions have been raised as to whether the traditional audit system is able to deter, detect and respond to fraud risks in organisations. This chapter reviewed the literature on public sector auditing and presented a brief background on forensic auditing in South Africa. It discussed the different fraud theories that underpinned the research and proposed the New Fraud Combination Theory as a robust fraud model that includes, describes, and explains the relevant factors that need to be considered by forensic auditors when performing fraud investigations. The theory will enable forensic auditors to gain a deeper understanding of the reasoning behind fraudsters' actions and effective strategies

to perform fraud risk assessment. It offers valuable insights and a framework that will assist forensic practitioners to find sustainable solutions to reduce or eliminate fraudulent activities. The theory will thus add value to fraud prevention, detection, and response. Many studies focus on FRM drivers without linking them to forensic auditing in the NGO sector. The current study aimed to fill this gap.

It was also concluded that there is a strong relationship between the ISA and FRAs. However, traditional auditors are not suitably equipped to identify, assess, and detect asset misappropriation, corruption, and financial statement fraud because they apply their judgement and make estimates and their major focus is not to identify fraud. The key differences between the work of external auditors and forensic auditors were also highlighted.

The chapter discussed the different types of fraud perpetrated among NGOs as well as financial statement fraud committed by NGOs' management. It elaborated on red flags and indicators of possible financial statement fraud, the link between corporate governance and such fraud, fraud detection and ERM and the key factors and dimensions of FRM. The concept of lifestyle audits within the framework of forensic audits, the relevance of forensic auditing as tool for FRM, and the issues confronted by NGOs in adopting forensic auditing were also examined.

Finally, based on the literature review, this chapter identified the research gap this study aimed to fill. The study contributes to existing knowledge by focusing on four dimensions: (1) how can proactive forensic auditing techniques prevent financial statement fraud in NGOs? (2) how can proactive forensic auditing techniques detect financial statement fraud in NGOs? 3) how can proactive forensic auditing techniques respond to financial statement fraud in NGOs? (4) how does forensic auditing cater for a variety of NGO stakeholders and NGOs themselves?

Having reviewed the relevant literature, the following chapter presents the research methodology and design employed to conduct this study.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1. Introduction**

The third chapter presents the research methodology employed to conduct this study. The literature on quantitative, qualitative, and mixed methods approaches was reviewed to determine the most appropriate robust scientific methodology for this research. The chapter discusses the philosophical assumptions in the Social Sciences and their link to accounting perspectives and describes the adopted critical mainstream and interpretive philosophies. The research design and data collection and analysis are discussed, as well as the research process. The chapter concludes by discussing the ethical considerations taken into account in conducting the study

### **3.2. Research paradigms and philosophical assumptions**

Saunders, Lewis, and Thornhill (2009:44) emphasise that a researcher should be clear about the philosophical assumptions and related paradigms that inform his or her study. They define a paradigm as a world view which guides researchers on what to research, how to research it and how to interpret their research results and findings. Kumar (2019:42) concurs and adds that such assumptions affect the choice of the research strategies and data collection and analysis methods. The following section examines the various research philosophies presented in the literature and the rationale for the choice of the research philosophy adopted for this study.

### **3.3. Research Philosophy**

Opoku, Ahmed, and Akotia (2016:52) identify four philosophical stances. The first, pragmatism, posits that human actions are inextricably linked to past experiences and beliefs based on such experiences. Pragmatists thus reject the use of a single scientific method and support the use of mixed methods (quantitative and qualitative) The second research philosophy, interpretivism, proposes that reality is socially constructed. Therefore, researchers can best understand people's perceptions of their actions by studying them in their social context. Thirdly, positivism holds that reality is defined, fixed, measurable, and observable. Positivist researchers are thus likely to use structured methods and quantifiable observations that can be statistically analysed to generate hypotheses that can be tested. Finally, critical realism is based on the understanding that people's knowledge and understanding of the world are constructed from their perspectives and experiences. According to Saunders et al. (2009:22) it integrates a realist ontology with a constructivist epistemology and most critical realists employ mixed methods. Critical realism was selected as the most appropriate research philosophy for this study.

### 3.4. Research Philosophy of Accounting Research

Shannon-Baker (2016:32) constructed a taxonomy of accounting research by linking these four paradigms to three categories of accounting research, namely, positivist, interpretivist and critical realist strategies. These are outlined in Figure 19 below.



Adapted from: <http://www.qual.auckland.ac.nz>

**Figure 19: Research Philosophical of Accounting Research**

#### 3.1.1. Interpretivist strategy

Saunders et al. (2016:102) defined interpretive analysis as the technique in which accounting is developed and reconstructed through human agency. Major (2017:13) concurs and adds that the interpretive paradigm focuses on how to use accounting, and explores how it interacts with its environment and with different organisational strategies, as well as how it is used to rationalise the adoption of a unique course of action. This study employed an interpretive method to understand how financial statement fraud can be committed by understanding the reasons behind management fraud/financial statement fraud in NGOs that are causing a gap between theory and practice (Evans, Burritt, and Guthrie, 2011).

#### 3.1.2. Positivist strategy

According to Evans (2011:18), accounting research on the field of auditing has, historically, relied on a positivist viewpoint. Major (2017:14) concurs and add that positivism is preferred due to the rigour of the quantitative methods used and the predictive ability of the theories formulated which

accounting is based on. These are socially developed as a result of human interaction. According to Creswell (2014:98), post positivists subscribe to a deterministic philosophy that posits that causes (probably) determine effects or outcomes. Positivists thus place importance on identifying and assessing causes that have a high probability of influencing outcomes. This study adopted positivism to investigate the gap between theory and practice. It aimed to determine whether or not proactive forensic auditing is a tool to enhance NGOs' FRM by identifying a number of factors which influence NGOs' fraud prevention, detection and response strategies and to assess the link between the key factors that influence FRM practices as well as the implications for forensic auditors.

### **3.1.3. Critical realist strategy**

As noted above, Saunders et al. (2009:76) state that critical realism integrates a realist ontology with a constructivist epistemology. It thus favours the use of mixed methods. Critical realism is a robust way of bridging the gap between qualitative and quantitative approaches and their philosophical underpinnings. Thus, critical realism was an appropriate research philosophy for this study.

### **3.5. Philosophical assumptions underpinning this research**

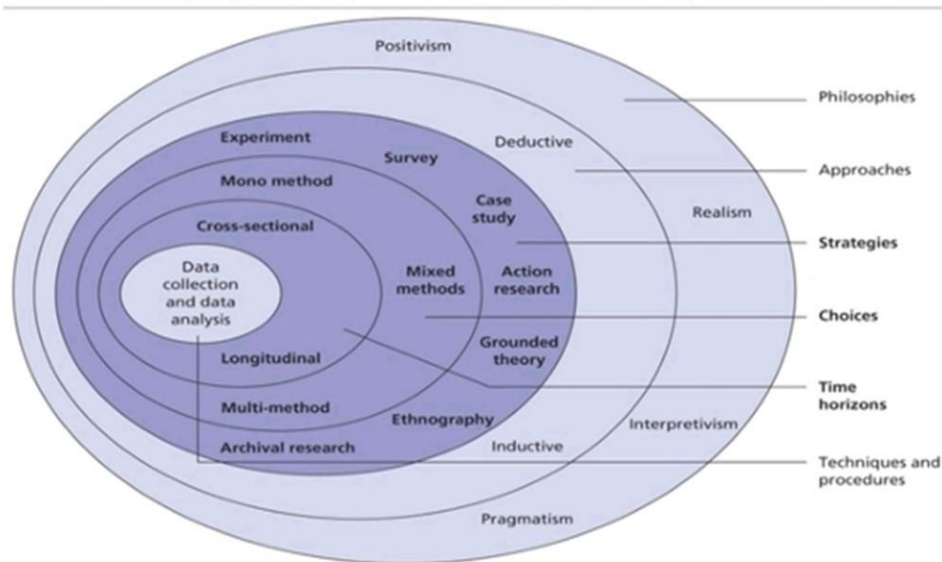
Saunders et al. (2009:47) note that critical realism assists researchers to understand a phenomenon by investigating the acts and social actors involved in it. In turn, this enables recommendations to be made for change. This research philosophy was appropriate as the study aimed to understand how financial statement fraud can be committed by understanding the reasons behind such fraud or management fraud in order to offer recommendations to forensic auditors on how best to mitigate and respond to the risk of fraud in NGOs. It also enabled an investigation of whether or not proactive forensic auditing is a tool to enhance NGOs' FRM by identifying a number of factors which influence their fraud prevention, detection and response to the risk of financial statement fraud and an assessment of the links between these factors as well as the implications for forensic auditors. Critical realism uses a mixed methods approach that bridges the gap between qualitative and quantitative approaches and their philosophical underpinnings (Creswell and Clark, 2017).

The following section discusses the research methodologies employed to examine FRM practices in relation to fraud risk investigations.

### 3.6. Methodologies to research fraud risk management practices

According to Wells (2017:41), research on FRM factors for the prevention, and detection of issues that could lead to fraud and to respond to fraud risks shows that fraud is a complex phenomenon. It is thus necessary to examine the relationships between the different fraud risk management factors that have been identified. The current study employed both quantitative and qualitative research techniques prior to using SEM to identify and evaluate the main drivers of fraudulent activities in NGOs. In order to ensure alignment between the research objectives and the main aim of the study and the research methodology, the research onion proposed by Saunders et al. (2016) was adopted. The layers of the research onion provide a robust framework to close the gap between theory and practice. A deductive or quantitative approach as well as an inductive or qualitative approach was used. A survey and case studies were used to gain a deeper understanding of the phenomenon under study and Interpretive Accounting Research (IAR) and Mainstream Accounting Research (MAR) enabled the researcher to accurately analyse, interpret, and report on the qualitative and quantitative data. Information was gathered by means of interviews and questionnaires. Thus, pragmatism was adopted as the research philosophy and the inter-firm method was employed. The research onion proposed by Saunders et al. (2016:86) is shown in Figure 20 below.

**Research onion proposed by Saunders et al. (2016)**



**Figure 20: Research Onion**

### **3.7. Research strategies and approaches**

According to Tillman and Indergaard (2007:33), the methodologies employed to investigate FRM factors have, to some extent, followed the development of research modelling. However, some researchers switched from descriptive to empirical and advanced quantitative analysis-based models. For example, Apostolou, Hassell, and Webber (2000) and Gressey's (1950) qualitative studies were based on a particular interest and focus. Gressey interviewed trust violators and therefore highlighted trust violation factors. These were then adopted by global professional auditing and standard setters in 2002 when considering FRM factors. Krambia-Kapardis (2002) notes that not only statisticians but also fraud detection, prevention, and deterrence professionals and non-statisticians who conducted field surveys and experimental studies critiqued Gressey's findings and conclusions.

Apostolon and Crumbley (2005:21) note that these critiques highlighted the need for improved empirical methods, and researchers began to employ quantitative research procedures and a descriptive (qualitative) model. Apostolon and Crumbley (2005:109) thus support the use of both qualitative and quantitative methodologies to examine the relationships between the different FRM factors that have been identified. They note that, since there are many different FRM factors and corresponding indicators, qualitative methodologies are not sufficient and the research results from descriptive (qualitative) models should be examined using appropriate quantitative approaches that employ statistical models and that statistically test hypotheses. The qualitative, quantitative and mixed methods approaches and critiques of these methods are discussed below.

#### **3.7.1. Qualitative Method**

Hakim (1997:18) notes that qualitative research deals with people's descriptive accounts of their attitudes, perceptions, views, feelings, and beliefs, etc. It demonstrates how these are organised into a context which links actions, attitudes, and disjointedness, or inconsistencies, between behaviours and attitudes. Merriam and Tisdell (2015:19) highlight that qualitative studies do not rely on statistical methods to arrive at results, while Alan (2016:82) notes that such research employs an inductive approach which involves arguing from the particular (data) to the general (theory).

### **3.7.2. Critiques of the Qualitative Method**

The qualitative method is criticised for its reliance on the researcher's subjective interpretation, which could be biased, especially among novice researchers. The rationale for using a qualitative method is that this study aimed to explain how and why forensic audits would function as tools for FRM. Given that the objective was to gain in-depth understanding of this phenomenon, a qualitative research method was appropriate. The inductive approach assisted the researcher in developing theory or extending knowledge in an area that barely been explored in the extant literature.

### **3.7.3. Quantitative Method**

Borrego, Douglas, and Amelink (2009:38) observe that the quantitative method seeks to statistically and systematically measure the relationship between independent and dependent variables in order to support or reject pre-defined hypotheses. This method has the advantage of producing standardised numerical data that establish greater reliability and provide a strong base for measurement and causality. A quantitative study's findings can also be generalised to the wider population. However, this methodology does not enable one to go beyond mere identification of such relationships. According to Alan (2016:14), quantitative research is often confirmatory in nature and is driven by theory. It thus employs the deductive approach which involves arguing from the general (theory) to the particular (data). Holmes-Smith (2001:13) notes that SEM (or latent variable modelling) is a quantitative technique that uses CFA.

### **3.7.4. Critiques of the Quantitative Method**

Collins (1992:28) points out that the quantitative method neutralises the researcher's role and reduces his or her influence. However, it is weak in dealing with the social complexities of a phenomenon and is inflexible because the same questions must be asked in the same manner and format. Early scholars such as Pearson (1902) and Poincaré (1905) asserted that statistical analysis does not reveal the mechanisms and essence of phenomena. Mathematical tools are used to make predictions without investigating the causes of mathematically expressed factors. The rationale for employing quantitative research was that it was developed some time ago and most accounting researchers and some economists have shifted from inductive (qualitative) to a combination of deductive (quantitative) and inductive (qualitative) approaches to guide auditors' FRM practices. Therefore, to achieve superior results, the researcher formulated FRM factors and fraud risk factors

based on the degree of agreement on framed statements rather than in a binary (Yes or No) format. To this end, the principal component analysis tool that could be used by forensic auditors was employed. Other scholars have employed this methodology in auditing. For example, Sitorus (2008) used a deductive approach to explore fraud risk factors and auditing standards in Indonesia and Loke, Ismail, and Hamid (2016) employed it to ascertain external auditors' perceptions of performance audits in preventing corruption in Malaysia. The deductive approach assisted the researcher to review the relevant literature in the field and gain a proper understanding of the gaps in the literature. This was crucial in designing the research questions used to guide data collection.

### **3.7.5. Mixed Methods (qualitative and quantitative)**

The mixed-method approach combines qualitative and quantitative approaches to collect and analyse data simultaneously or sequentially (chronologically), in order to better comprehend the research problem. According to Johnson and Onwuegbuzie (2007) and Denscombe (2008), it is not just a mix of the qualitative and quantitative methodologies, but rather comprises a third approach that should be clearly distinguished from the quantitative and qualitative approaches. Tashakkori and Creswell (2007:101) note that, in social science research, mixed methods enables triangulation since it incorporates multiple research strategies. The authors add that mixed methods produce rich data and strengthen a study's findings by collecting additional evidence. Furthermore, the use of mixed methods reduces the biases associated with each method and thus improves the researcher's understanding of a phenomenon. Tashakkori and Creswell (2007); Creswell, Plano Clark, Gutmann, and Hanson (2003); Reichardt and Rallis (1994); Brewer and Hunter (1989); and Newman and Benz (1998) support this methodological approach.

### **3.7.6. Critiques of Mixed Methods**

While Tashakkori and Teddlie (2010) describe threats to mixed methods research, they note that these are not insurmountable. These scholars point to psychological (cognitive), practical, cultural, and philosophical threats and map them in the five Ps framework which includes pragmatism, praxis, proficiency, publishing, and paradigm issues.

Brannen (2005:7) asserts that researchers that adopt a mixed methods approach need to acknowledge and rigorously defend their paradigmatic stance. Paradigmatically however, methodological choice does not exist within philosophical paradigms. Johnson (2010:72) argues that those that embrace pragmatism are called on to defend the stance and choices made at the

interface between philosophy and methods. A key criticism relates to epistemological relativism and short-sighted practicality.

Bazeley (2010:432) notes that, in terms of praxis, critiques of mixed methods relate to methodological and data integration. Kelle and Erzberger (2004:172) observe that it is difficult for researchers to be competent and proficient in both qualitative and quantitative methods. The researcher also needs to be skilled and competent in mixed methods and integrated data analysis. A major challenge in this regard is the level of integration between quantitative and qualitative methods that such research achieves or claims to achieve.

Creswell (2010:238) observes that a key issue in relation to the mixed methods approach is the political nature of reporting and publishing such research. Nonetheless, Tashakkori and Teddlie (2010:230) support mixed methods research as it presents a middle position philosophically and in terms of method, offers a practical and outcomes-oriented method of inquiry that is based on action, iteratively leads to further action and the elimination of doubt, and can assist researchers to obtain superior answers to their research questions. Therefore, this study employed pragmatism as the philosophical theory for a mixed methods approach.

The following section discusses the study's research design and the rationale for its selection.

### **3.8. Research Design**

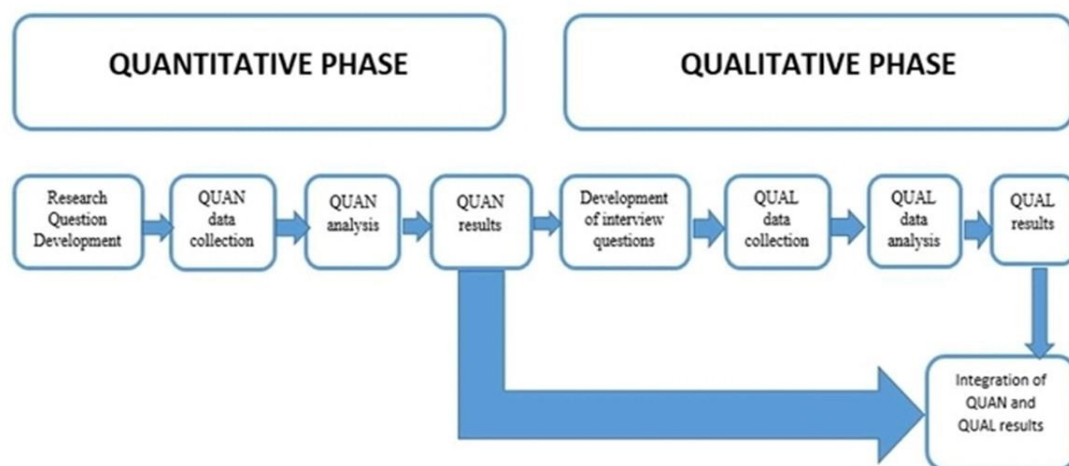
According to Creswell (2017:28), a research design specifies the structure of a research study in order to ensure that the evidence obtained enables the researcher to answer the research questions as unambiguously as possible. Kumar (2019:93) notes that the choice of a research strategy depends on the research questions and objectives, the extent of existing knowledge, the amount of time and other resources available and the study's philosophical underpinnings. As noted previously, this study aimed to understand how financial statement fraud can be committed by investigating the reasons behind it or management fraud in order to offer recommendations to forensic auditors on how to mitigate and respond to the risk of fraud among NGOs. It also sought to determine whether or not proactive forensic auditing is a tool to enhance NGOs' FRM by identifying the factors which influence fraud prevention, detection and responses to the risk of financial statement fraud and assessing the links between these factors. A mixed methods approach (deductive/quantitative and inductive/qualitative) was thus appropriate.

Alan (2016) asserts that, since deduction entails an element of induction, the induction process is likely to entail a modicum of deduction. To a large extent, deductive and inductive strategies are

best thought of as tendencies rather than as distinct approaches. Mixed method designs are required in a situation where neither qualitative nor quantitative approaches on their own would be sufficient to fully explore the research questions (Bryman, 2006). This study combined these methods in different sequencing and in different ways (Morgan, 1998). A sequential mixed research design was employed, with quantitative data gathered prior to qualitative data collection. The findings from the quantitative investigation were used to develop theory and examine the phenomenon (Berman, 2017:6), and they informed the qualitative interviews. The data obtained from the questionnaire was triangulated with that from the interviews.

Practically, in this design, the priority is primarily the quantitative approach to develop theory and examine the phenomenon, and inform the qualitative approach (Berman, 2017:6). This design was considered suitable due to its ability to comprehensively explore the study’s major questions.

For the purpose of corroboration and validation, the qualitative and quantitative methods were triangulated by comparing the qualitative results and quantitative statistical results. The qualitative outcomes were integrated with the quantitative results and the researcher then interpreted the results from the two datasets. Thereafter, the results were synthesised to form a single product. Johnson Onwuegbuzie and Turner (2003:124), and Greene (2007:155) identify the following seven phases of mixed method research analysis: (i) data reduction, (b) data display, (c) data transformation, (d) data correlation, (e) data consolidation, (f) data comparison, and (g) data integration. The research process for this study is presented in Figure 21 below.



Source: Adapted from Hayes, Douglas, and Bonner (2015)

Figure 21: The Research Process followed in the current research

### **3.9. Justification for the choice of a mixed methodology**

The mixed methods approach involves multiple research strategies and thus enables triangulation that renders the outcomes more robust and reliable. Creswell and Clark (2017:39) note that sequential or simultaneous data collection and analysis enables better understanding of the research problem. It promotes a more comprehensive account of the phenomenon under study and ensures that adequate data is collected to answer the research questions. Kumar (2019:172) is of the view that the mixed methods approach addresses the limitations of qualitative and quantitative methodologies. Integration of the thematic and statistical data produces broader conclusions.

While the mixed methods approach has gained traction in accounting research, it has been common in auditing research (Ryan, Scapens, and Theobald, 2002; Smith, 2019). To the best of the researcher's knowledge, it has never been applied to the NGO sector; the current study is thus the first to employ mixed methods to understand the relevance of forensic auditing as a powerful tool to enhance detection of financial statement fraud among NGOs in eThekweni region. The following section briefly describes the research setting.

### **3.10. Research Setting**

Previous research and media reports note the prevalence of fraud among NGOs in eThekweni region. Furthermore, few of these organisations use forensic audits to detect financial statement fraud (Okoye et al., 2019). The majority of large NGOs in the province of KwaZulu-Natal are located in the CBD of its largest city, Durban in eThekweni region. One of the most well-respected NGOs in the city, the KwaZulu-Natal Blind and Deaf Society, was recently embroiled in a fraud scandal and financial crisis. eThekweni region was therefore an appropriate site to conduct this study.

The following section sets out the rationale for selecting the chosen NGOs.

### **3.11. Rationale for the selected NGOs**

There is a paucity of research on fraud, especially financial statement fraud among NGOs in eThekweni region. King IV applies to all entities, irrespective of their form and manner of establishment or incorporation and ten of its 29 principles deal with audit committees.

The rationale for the choice of 30 NGOs in eThekweni region was that NGOs are vulnerable and exposed to financial statement fraud and they could benefit from the services of forensic auditors to detect such fraud. The NGOs were selected because of their relevance to the issue of fraud in eThekweni region. The study included the largest NGOs and excluded those that are registered but inactive. It focused on NGOs with foreign funders or public funding; international or nationwide NGOs with substantial budgets; those that are involved in a wide ranges of activities (complex projects and many staff); those that collaborate with other NGOs, NPOs, and CBOs; and NGOs with internal controls and/or audit committees. Board size was also taken into account.

The following section focuses on the research population.

### **3.12. Research Population**

This research study basically involved an expert survey. The total of 87 research population was key role players in the 30 selected NGOs out of 68 NGOs publicly available from the DSD's NGO database with extensive knowledge of accounting principles and understanding of the application of forensic audit services to fight fraud. It consisted of forensic investigators, managers, internal auditors, Chief Operations Officers, finance managers, accountants NGOs' Boards of Directors, and audit committees. They were chosen as they were able to provide rich, relevant, and insightful data on the key factors that influence FRM among NGOs in eThekweni region, and the FRM practices associated with forensic auditing as a powerful tool to enhance detection, prevention, and responses to financial statement fraud among NGOs.

#### **3.12.1. Inclusion and Exclusion Criteria**

NGOs without auditing, accounting, and management functions were excluded from the sample for three reasons, namely, (1) the study's objective was to contribute to the understanding of forensic auditors and managers' practices to detect fraud in NGOs' financial statements and the respondents were expected to offer insight into FRM practices, (2) forensic investigators were among the respondents, (3) Section 12 of the NPO Act requires all NPOs to comply with international financial reporting and auditing standards and to appoint independent auditors.

### **3.12.2. Sample Size and Sampling techniques**

Ritchie, Lewis, Nicholls, and Ormston (2013:403) explain that sample framing involves selecting appropriate sources of information from which participants are selected. The sample frame was registered NGOs in eThekweni region. The sampling frame was the list of NGOs in the Durban CBD which was obtained online from the DSD's NGO database (Department of Social Development, 2019). In 2019, 68 NGOs were recorded in eThekweni region. However, this list does not include the total number of staff working in such organisations. According to Patton (2002:230-246), a sample is the population from whom data is collected. Malterud, Siersma, and Guassora (2016:17) note that, in sample-based studies, it is crucial to clearly describe the surveyed population and to ensure that the sampled population is representative of the entire study population. A mixed method of theoretical, purposive and convenience sampling was used to select the sample. A letter endorsing the research from UKZN's School of Accounting, Economics, and Finance was sent to the targeted NGOs, requesting them to participate in the study. This facilitated access to the NGO staff that fulfilled the criteria discussed above.

Ten forensic auditors were purposely chosen to determine whom to interview, because it was difficult to specify the sampling frame. Theoretical sampling, which Glaser (1967:69) describes as a strategy to select participants that gives greater priority to including people on a theoretical basis than a statistical one, was employed rather than specifying in advance that "n" number of people should be interviewed to achieve the study's objectives.

### **3.12.3. Quantitative sample**

Convenience sampling, where respondents are selected because they are at the right place at the right time is simple, takes less time and is more cost-effective than probability sampling. Convenience sampling was appropriate for this study as the technique can be used in both quantitative and qualitative studies. Etikan (2016:17) notes that convenience sampling's primary emphasis is on generalisability (ensuring that the knowledge gained is representative of the population from which the sample was drawn). However, since the sampling frame is not known, and the sample is not randomly selected, the inherent bias in convenience sampling means that the sample is unlikely to be representative of the population, thus undermining the ability to make generalisations.

According to Creswell (2017:74), the sample is a fraction of the population, such as 10%, and sample sizes of less than 10 are not recommended. The calculation of the sample size should

specify the level of statistical significance and the desired interval (Creswell, 2017:75). Raosoft software (Raosoft, 2004) was used to calculate a sample size of 87 from a population of 111, with a 95% confidence level and 5% margin of error (Raosoft, 2004). This is illustrated in Figure 22 below.

<b>What margin of error can you accept?</b> 5% is a common choice	<input type="text" value="5"/> %
<b>What confidence level do you need?</b> Typical choices are 90%, 95%, or 99%	<input type="text" value="95"/> %
<b>What is the population size?</b> If you don't know, use 20000	<input type="text" value="111"/>
<b>What is the response distribution?</b> Leave this as 50%	<input type="text" value="50"/> %
<b>Your recommended sample size is</b>	<b>87</b>

Adapted from Raosoft's (2004) sample size calculator

**Figure 22: Calculated Sample Size for the current research**

### 3.12.4. Qualitative sample

This research used theoretical sampling and purposive or purposeful sampling (also known as judgmental, selective sampling). This non-probability sampling selected participants based on the characteristics of the population and the study's objective (Robinson, 2014). Kumar (2019:17) states that due to the fact that interviews produce a wealth of information, it is sufficient to only conduct a small number. Purposive and theoretical sampling were appropriate because only participants that could provide valuable and useful information to answer the research questions were selected.

Ayres (2019:77) asserts that purposeful sampling enables researchers to make generalisations from the sample. It involves multiple phases that build on one another and offers a wider range of non-probability sampling opportunities. Furthermore, it saves time and money and assists the researcher in targeting niche demographic characteristics to obtain specific data. However, it is still possible to achieve the maximum level of variation. Purposeful sampling enables information to be obtained from various extremes of population groups, and the information collected has a low margin of error and produces results that are available in real time.

However, Ayres (2019:16) adds that purposeful sampling is prone to researcher bias and that participants can manipulate the data collected. This technique is ineffective when applied to large population groups and the reliability of experts cannot be evaluated. Purposive sampling can give rise to inaccurate assumptions and it may be challenging to defend the representative nature of the sample. It also produces a significant number of invalid inferential statistical procedures. In order to overcome the draw backs of purposive sampling adopted for this research Maxwell's (2005) four indices of trustworthiness; namely: credibility, confirmability, transferability, and dependability, were used to ascertain trustworthiness in this research. In line with Poole, Mafini and Makhubele (2015), the study's credibility was ensured by using a purposive sampling approach, which ensured that individuals who served the objectives of the study were selected as participants. In addition, all participants were made cognisant of the study's objectives and significance before the interview commenced so that they could answer the questions to the best of their ability.

To promote confirmability, the researcher emailed transcripts of the interviews to selected respondents via email. The emails were also used to thank them for participating in the study. According to Priest, and Traynor (2006), confirmation by participants ensures authenticity, objectivity, and accuracy to substantiate validity and reliability.

According to Corbin and Strauss (2008:50), dependability or reliability relates to the extent to which a researcher can assure readers of the authenticity of his/her findings and the way he/she arrived at them from the raw social context. In this study, dependability was achieved through triangulation. Padgett (2016:86) notes that dependability is enhanced by collecting data from two or more sources in order to achieve a comprehensive picture of a fixed point of reference. The data was triangulated by combining the data collected from interviews with respondents from different departments with quantitative data gathered (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014).

### **3.13. Data collection instruments**

Semi-structured interviews and a well-structured Likert scale questionnaire were used to gather data. The interview schedule is attached as Appendix 6. This questionnaire was based on variables identified in the theoretical framework and the hypotheses. The data was collected in two phases, and quantitative data collection (the online questionnaire survey) preceded qualitative data collection (semi-structured interviews via Zoom meetings). The interviews were conducted with a small group to confirm and enrich the quantitative results.

### **3.13.1. Quantitative Data Collection**

A questionnaire translates concepts into measurable variables (Saunders et al., 2009). In order to ensure that respondents are able to complete the questionnaire without assistance, the questions should be as easy as possible, short, and precise (Bourque and Fielder, 1995). A Likert scale questionnaire was used to gather opinions on the phenomenon. Respondents were asked to rate the degree of proactive forensic auditing techniques for FRM in NGOs. The online questionnaire was divided into seven sections, namely: Section A: Biographical details; Section B: root causes of fraud in the NGO sector; and Section C: categories of fraud confronting NGOs, with Sections B and C comprising a range of questions to capture five levels of fraud risk per dimension (lowest risk, low risk, some risk, high-risk and highest risk); Section D: Preventive FRM practices; Section E: Detective FRM practices; Section F: Responsive FRM practices; and Section G: the main areas of application of proactive forensic audit techniques as detective FRM practices among NGOs. The three main sections, D, E, and F of the questionnaire were designed to test the hypotheses. The questionnaire was validated by qualified, registered fraud practitioners and experts in the field of forensic auditing and auditing (certified fraud examiners) and academics at professorial level. The online questionnaire is attached as Appendix 4.

### **3.13.2. Qualitative Data Collection**

In general, there are four types of personal interviews: structured, semi-structured, unstructured, and focus group interviews (Alan, 2016). This study employed semi-structured interviews via Zoom meetings which were recorded. The questions in semi-structured interviews follow a less rigid format than those in structured interviews. Semi-structured interviews offer flexibility in terms of the sequence of questions, response options, and probing questions. An electronic informed consent form was completed by each interviewee and confidentiality and anonymity were guaranteed. The questions were open-ended and probing in order to obtain in-depth answers. The interview schedule is attached as Appendix 6.

### **3.14. Data Analysis Strategies**

As outlined above, qualitative and quantitative data were gathered using semi-structured interviews and a questionnaire, respectively; calling for different approaches to data analysis. The quantitative data were analysed using SPSS version 27 and SEM. Analysis of Moment Structures (AMOS) software version 27 for CFA and SPSS version 27 were used to estimate statistical models (Green

and Salkind, 2016; Hansen, 2005). NVivo version 12 was used to conduct thematic analysis of the transcripts of the qualitative data.

### **3.15. Quantitative Data Analysis**

#### **3.15.1. Quantitative data analysis in line with the research objectives**

**Research objective 1:** To determine the key factors that influence FRM practices among NGOs in eThekweni region.

To achieve this objective, fraud risk levels were measured using a Likert scale (lowest risk, low risk, some risk, high risk and highest risk) in sections B and C which contained a range of questions on the root causes of fraud and fraudulent practices. This was linked to the three sets of questions on fraud prevention, detection and responsive measures to assess if proactive forensic auditing techniques can assist in preventing, detecting and responding to the risks of financial statement fraud and other fraudulent activities among NGOs. The analysis was conducted using SPSS version 27 for descriptive statistics analysis (means, standard deviations, percentages, frequencies, and cross tabulations) to quantify the relationship between the dependant and independent variables. Inferential statistics (the Chi-Square Test) enabled the researcher to describe the characteristics or average scores and inconsistencies in scores in the sample and to test the hypotheses. Fraud risk management factors (detective, preventive, and responsive factors) were measured using the Likert scale questions under sections D, E, F and G, which comprised a range of questions on these factors to capture the extent to which the respondents perceived FRM factors as important (not at all, small extent, moderate extent; large extent, very large extent). The key FRM factors and measures were empirically tested using SEM techniques with AMOS version 27 to establish construct reliability and validity (Chou et al., 2007). Therefore, CFA, a robust and sophisticated statistical procedure to test complex theoretical data models was carried out using SEM.

**Research objective 2:** To investigate whether or not proactive forensic audit techniques can detect financial statement fraud among NGOs in eThekweni region.

The extent to which the respondents perceived that proactive forensic audit techniques can detect financial statement fraud among NGOs (not at all, small extent, moderate extent, large extent, very large extent) was measured using the Likert Scale questions under section E

The data on the independent variable, detective FRM practices was measured and analysed to determine the influence of forensic auditing techniques on financial statement fraud detection among NGOs in eThekweni Region. The analysis conducted using SPSS version 27 for descriptive statistics analysis (means, standard deviations, percentages, frequencies, and cross tabulation) to quantify the relationship between the dependant and independent variables and inferential statistics (the Chi-Square Test) assisted the researcher to describe the characteristics or average scores and inconsistencies in scores in the sample and to test the hypothesis.

**Research objective 3:** To examine whether or not proactive forensic audit techniques can prevent financial statement fraud among NGOs in eThekweni region.

The extent to which the respondents perceived that proactive forensic audit techniques can prevent financial statement fraud among NGOs (not at all, small extent, moderate extent; large extent, very large extent) was measured by the Likert Scale questions under section E.

The data on the independent variable, preventive FRM practices was measured, and analysed to determine the influence of forensic auditing techniques on financial statement fraud prevention among NGOs in eThekweni region. The analysis conducted using SPSS version 27 for descriptive statistics analysis (means, standard deviations, percentages, frequencies, and cross tabulations) to quantify the relationship between the dependant and independent variables and inferential statistics (the Chi-Square Test) assisted the researcher to describe the characteristics or average scores and inconsistencies in the scores in the sample and to test the hypothesis.

**Research objective 4:** To test whether or not proactive forensic audit techniques respond to the risk of financial statement fraud among NGOs in eThekweni region.

The extent to which the respondents perceived that proactive forensic audit techniques respond to the risk of financial statement fraud among NGOs (not at all, small extent, moderate extent; large extent, very large extent) was measured using the Likert Scale questions under section E.

The data on the independent variable, responsive FRM practices was measured, and analysed to determine the influence of forensic auditing techniques on responses to financial statement fraud among NGOs in eThekweni region. The analysis conducted using SPSS version 27 for descriptive statistics analysis (means, standard deviations, percentages, frequencies, and cross tabulations) to

quantify the relationship between the dependant and independent variables and inferential statistics (the Chi-Square Test) assisted the researcher to describe the characteristics or average scores and inconsistencies in the scores in the sample and to test the hypothesis.

The following section outlines the SEM methodology, and the SEM procedural stages followed in this research study.

### **3.15.2. Scientific research Methodology: Structural Equation Modelling (SEM)**

Sarstedt, Ringle, and Hair (2017:18) note that SEM, also known as latent variable modelling, is an advanced multivariate statistical methodology that combines CFA and regression analysis. It tests an hypothesised set of relationships between latent variables (factors) and is a powerful way of examining a host of interrelated effects. It was selected for this study due to its ability to simultaneously evaluate the interrelationships between various measured constructs.

The researcher sought a robust scientific research methodology to examine multiple potential relationships amongst fraud risk factors, fraud risk indicators and their measures and to evaluate the drivers of fraudulent activities among NGOs (Black and Babin, 2019). Identification of potential direct and indirect effects or factors calls for the use of an advanced multivariate statistical approach. This section sets out the rationale for using SEM to better examine the multiple interrelationships in the field of fraud risks factors.

### **3.15.3. Introduction to Structural Equation Modelling**

Structural Equation Modelling and the regression model are robust in analysing the relationship between a dependent variable and one or more independent variable(s). The major advantage of SEM over multiple regression is its ability to simultaneously test a set of relations among the variables (Chou et al., 2007). It was thus selected to estimate the link between fraud risk models, FRM factors, preventive fraud practices, fraud detective practices and fraud responsive practices and forensic auditing techniques. As with CFA models, the fit measures used for the SEM assessment were Standardised Root Mean Square Residual (SRMSR) supplemented by AMOS.

According to Holmes-Smith (2001:48), the Structural Equation model progresses from Exploratory Factors Analysis (EFA) to CFA, and from CFA to structural modelling (regression analysis). Firstly, the measurement models should be clearly specified and examined using CFA that tests a hypothesised set of relationships between latent variables (factors and components).

Hence, all factors such as fraud risk, level, fraudulent activities, preventive FRM practices, detective FRM practices, and responsive FRM practices were critical foundation components. Confirmatory Factor Analysis was used to check whether all items (questions) captured by the questionnaire fit into their respective component and to identify the weight (factor loading) of each item (question) in each component. This method is a potent and robust tool to examine a host of interrelated effects in any FRM model (Mulaik, 1989). When the researcher needs to examine a set of interrelated questions that can be depicted as a theoretical or causal model, SEM should be considered. This could occur to check if the factor loadings are still in the correct range and importantly if the factor could show a good CFA fit. Each indicator should load highly on a single factor (fraud risk levels, fraudulent activities, preventive FRM, detective FRM and responsive FRM). Thus:

$$\text{FRL} = f(\text{PFRMP}, \text{DFRMP}, \text{RFRMP} \text{ and } \epsilon)$$

Fraud Risk Level is the function of preventive, detective and responsive FRM practices and other factors that significantly influence FRM.

Where:

**FRL:** Fraud Risk Level (Dependent Variable)

**PFRMF:** Preventive Fraud Risk Management Factors (independent variables)

**DFRMF:** Detective Fraud Risk Management Factors (independent variables)

**RFRMF:** Responsive Fraud Risk Management Factors (independent variables)

**ε:** Other factors that influence FRM

**Predictors (Constant):** Forensic audit techniques. Reflective measurement theory means that some of the independent variables can be affected by dependent variables. Hence, the selected SEM captured simultaneous relationships (Ramayah, Cheah, Chuah, Ting, and Memon, 2018).

### 3.16. Qualitative Data Analysis

Grounded theory involves read and rereading the text. The following steps were followed to analyse the qualitative data (1) The researcher listened to the audio interviews, transcribed them verbatim and produced transcripts. (2) Each transcript was read and reread to get a sense of what the participants were saying before breaking it into parts. Open coding was used to identify, name, categorise and describing phenomena found in the text. It is performed by line, sentence, and paragraph. Coding the transcripts for major themes assisted the researcher in understanding the data and ensuring that it was relevant to answer the research questions. (3) The themes were

grouped into manageable sub-themes. Javadi and Zarea (2016:194) state that themes are crucial tools in enabling the reader to understand a phenomenon.

### **3.16.1. Qualitative Data Analysis in line with the research Themes**

The following three themes assisted the researcher in deciding what aspects to emphasise and in ensuring that the data was relevant in answering the research questions:

The first theme was proactive forensic auditing as a tool to enhance prevention of financial statement fraud prevention among NGOs in eThekweni region.

QA. Is proactive forensic auditing a tool to prevent financial statement fraud among NGOs? (Open-ended set of questions).

The second theme was proactive forensic auditing as a tool to enhance detection of financial statement fraud among NGOs in eThekweni region.

QB. Is proactive forensic auditing a tool to detect financial statement fraud among NGOs? (Open-ended set of questions).

The third theme was proactive forensic auditing as a tool to enhance responses to financial statement fraud among NGOs in eThekweni region.

QC. Is proactive forensic auditing a tool to respond to financial statement fraud among NGOs? (Open-ended set of questions).

A summary of the data corpus is presented in Table 4 below.

#### **Table 4: Summary of the Data Corpus**

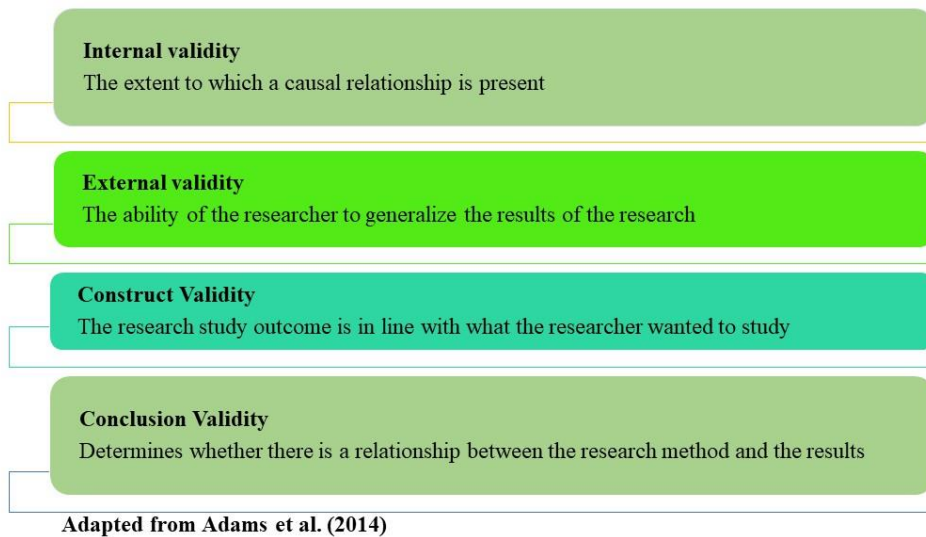
Research Questions	Research Objectives	Research approach	Data Collection Instruments	Methods of analysis
Research Question 1	Research Objective 1	Quantitative	Questionnaire (Survey Instrument)	Descriptive Statistics (SPSS27), SEM (AMOS27 for CFA)
Research Question 2	Research Objective 2	Quantitative and Qualitative	Questionnaire, and Semi-structured interviews Schedule	Descriptive Statistics (SPSS27), SEM (AMOS27 for CFA, NVivo 12 for qualitative analysis Transcripts analysis, Thematic analysis
Research Question 3	Research Objective 3	Quantitative and Qualitative	Questionnaire, and Semi-structured interviews Schedule	Descriptive Statistics (SPSS27), SEM (AMOS27 for CFA), NVivo 12 for qualitative analysis Transcripts analysis, Thematic analysis
Research Question 4	Research Objective 4	Quantitative and Qualitative	Questionnaire, and Semi-structured interviews Schedule	Descriptive Statistics (SPSS27), SEM (AMOS27 for CFA, NVivo 12 for qualitative analysis. Transcripts analysis, Thematic analysis

### 3.17. Triangulation

Triangulation refers to the use of multiple methods or data sources in qualitative research to develop a comprehensive understanding of phenomena (Carter, Bryant-Lukosius, DiCenso, Blythe, and Neville, 2014). This study employed triangulation as qualitative and quantitative methods were used to gather data (Polit and Beck, 2010), with the results from the questionnaire and semi-structured interviews synthesised to form a single product.

### 3.18. Measures of Trustworthiness

Cronbach's Alpha is a test reliability technique that requires only one administration to provide an estimate of the reliability of a given test. Cronbach's Alpha is the average value of the reliability coefficients one would obtain for all possible combinations of items when splitting them into two half-tests (Gliem and Gliem, 2003). In this study, Cronbach Alpha less than 0.50 was not accepted, Cronbach Alpha less than 0.50 and greater than 0.60 was regarded as significant, and Cronbach Alpha greater than 0.70 was regarded as good. Roberts, Priest, and Traynor's (2006) four indices of trustworthiness, namely, transferability, credibility, dependability, and confirmability were used in this research. The measures of trustworthiness are illustrated in Figure 23 below.



**Figure 23: Measures of Trustworthiness**

### 3.19. Validity, reliability, and generalisability

Adams, Khan, and Raeside (2014:29) note that there are four types of validity, namely, internal, external, construct and conclusion validity. Internal validity refers to the extent to which a causal relationship is present, while external validity refers to the ability of the researcher, in adherence to the research design, to produce findings which are applicable to other situations, countries, organisations and people. In other words, the study’s results can be generalised. Construct validity means that the study outcomes are in line with what the researcher sought to study, while conclusion validity determines whether there is relationship between the research method and the results. Thus, the research design that was used to gather data determines whether the findings and results are reliable, valid, and generalisable.

### 3.20. Research Process

#### 3.20.1. Gaining Access

Heath, Charles, Crow, and Wiles (2007:88) highlight that researchers should negotiate access to a research site with influential gatekeepers at multiple points or multiple gatekeepers at different sites. Access is thus based on building a relationship with key gatekeepers. In the first instance, the researcher sought access to the NGO, Hand in Hand Southern Africa where the primary evidence was gathered. He then aimed to gain access to other selected NGOs by meeting with key

influential leaders to requests access to their team members who met the inclusion criteria. Access was primarily negotiated with Directors, CEOs and COOs. Using this approach, access was successfully negotiated to 30 NGOs. Thirdly, the researcher identified forensic investigators who meet the inclusion criteria through the leaders of their organisations. This was difficult in some entities as they had not previously accommodated Ph.D. researchers. Furthermore, it was clear that they regarded forensic auditing as tool to enhance NGOs' FRM as a sensitive topic. For example, the researcher was required to first provide an official letter from the UKZN Human and Social Sciences Research Ethics Committee to guarantee that anonymity, confidentiality, and all other ethical requirements would be strictly adhered to, before access was granted.

Various strategies were employed to gain access to the 87 participants. These included gaining a better understanding of the NGOs where respondents work before planning the research design, addressing their organisational concerns, clearly explaining the purpose of the research, and highlighting the possible benefits to the NGOs and participants. Each of these strategies is discussed in detail below.

### **3.20.2. Understanding the nature of NGOs in eThekweni region**

The nature of NGOs in eThekweni region was thoroughly researched before designing the data collection methods and approaching prospective respondents. This involved browsing their websites. Gaining access to the gatekeepers of the 30 largest and well-structured NGOs that were selected was easy.

### **3.20.3. Overcoming organisational concerns**

All organisational concerns were addressed, including the time and resources that the organisation would be required to commit to the study, the sensitivity of the topic and other concerns about data protection. It was explained that, in order to maintain confidentiality, all personal data collected would be anonymous and that a reference number or code would be assigned to the participants, with the data filed under the code rather than their name.

The participants were also informed that all electronic data would be protected, and that they had the right to request that their data be removed from the study before the final report was produced. They were also assured that the report would not use their names and that no information would be included that would enable them to be identified.

#### **3.20.4. Explaining the purpose of the research**

As recommended by Navalta, Stone, and Lyons (2019:58), an email was sent to the gatekeepers to seek their consent and to confirm that they were willing to grant access to their team members at their NGOs to participate in the study. The researcher's supervisors were copied in the email to ensure authenticity and gain credibility. The email included a clear explanation of the purpose of the study. The anonymous online questionnaire and interview schedule included an information sheet that explained the main aim of the study, why participants were chosen and what was expected of them.

#### **3.20.5. Benefits to the participants, or the organisations**

Fraud in general, and financial statement fraud, in particular, has always been of concern to auditing professionals. The overall goal of this research was to empirically investigate the relationship between forensic auditing skills and FRM dimensions (preventive FRM, detective FRM, and responsive FRM) among NGOs. The findings will assist NGOs to understand the use of forensic audits to address financial statement fraud. Thus, the information provided by the study participants was essential in building an accurate picture of the issues that forensic auditors or auditors might face in assessing the risk of financial statement fraud in NGOs. Furthermore, this information informed the framework proposed in this study to prevent, detect and respond to risks arising from financial statement fraud in NGOs, which might give them a competitive advantage. Once these benefits were highlighted, the participants became aware of the advantages of taking part in the study, and many requested a summary of the findings upon completion.

#### **3.21. The role of the researcher**

The researcher ensured that his communication with the leaders of NGOs was professional and informative. He collaborated with the selected NGOs' CEOs and directors to identify/prepare a list of participants in their organisations and to ensure that they fully understood the nature of the study. The researcher also adhered to all ethical requirements.

The CEOs and directors provided the email addresses of participants within their organisations and the online survey was sent to them. Many participants referred the researcher to others who could provide useful information.

Sanchez (2016:61) notes that websites and the Internet play a significant role in contemporary research. An IT expert was employed to create a temporary website where the online survey was posted. The researcher tested the survey link to ensure it was working properly and saved it for future deployment. The informed consent section of the email and the link to the survey was sent to the sampled NGOs. The questionnaire included a question at the end asking participants if they were willing to be interviewed. Sending the online survey to participants using their personal emails enabled the researcher to check who took part in the survey and enhanced the reliability of the data. There was no direct interaction with the participants for completion of the online survey. After sending the online survey to participants, the researcher received their responses which were downloaded to a Microsoft Excel spreadsheet and coded. The spreadsheet, which contained the codes of all the closed-ended questions was then imported into SPSS version 27 for statistical analysis.

### **3.22. Pilot Study**

According to Adams et al. (2014:14), a pilot study involves using a small number of informants to check the suitability and comprehension of the questions. Creswell and Clark (2017:28) cite Viechtbauer et al. (2015:11) who observe that a pilot study is conducted to identify potential challenges during data collection relating to the research design, data collection tools, ethical aspects, and other issues. Any shortcomings identified can be addressed before the main study commences.

Prior to pilot testing, the questionnaire was shared with three Ph.D. holders to validate the content, and its readability, clarity, and completeness. They were selected based on their experience in the industry. This assisted the researcher to establish content validity and the reliability of the data and enabled the necessary amendments to be made prior to pilot testing. Their recommendations included adding definitions of some technical terminology and changing the term “fraud perpetrators” to “fraudsters”, which they considered more suitable for academic writing. Their comments were incorporated and the questionnaire was updated.

The questionnaire was pilot tested with five internal auditors at five different big businesses with more than five years’ experience. They were requested to assess whether the questions read well and were appropriate, and whether any other questions or subjects should be included. Amongst other things, they were asked whether the instructions were clear, which, if any, questions were

unclear or ambiguous, which, if any, questions they felt uneasy about answering, whether there were any major omissions and whether the layout was clear and attractive. Positive feedback was received from all five internal auditors with no changes suggested. The researcher's supervisors also provided comments and suggestions.

### **3.23. Brief Description of participants**

According to Martínez-Mesa, González-Chica, Duquia, Bonamigo, and Bastos (2016:41), it is crucial that researcher carefully and adequately describe the study participants as this proves their credibility. Pickering (2017:59) notes that careful description of the study participants' qualities and characteristics impacts on the research design and enables identification of inclusion and exclusion criteria (Pickering, 2017:64) Careful description of the research participants also enhances the quality of a study's findings (Pickering, 2017:88). The following nine groups of participants were purposively selected as it was anticipated that they would offer the most relevant answers and provide insight into the matters addressed in the study.

Forensic auditors were selected as they have the ability to prevent, identify, detect, and investigate issues including financial and economic crimes. They conduct complex and sensitive investigations, develop fraud prevention, detection and investigation programmes and manage an entity's fraud risk assessment plans. Forensic auditors are able to offer unique insight into forensic auditing's role in the detection and deterrence of financial statement fraud in NGOs and the weaknesses of internal controls and traditional audits in reducing such fraud. This group of participants was thus central in achieving the study's objectives. Furthermore, they have sound knowledge and understanding of the application of forensic auditing services and are members of reputable forensic investigation organisations and of accounting professional bodies that are bound by professional codes of ethics and conduct.

Internal auditors, and Evaluation and Monitoring Officers were selected as they are equipped to identify and detect financial statement fraud as well as red flags. They are experts in performing FRAs and have unique insight into abnormal transactions. The internal auditors were expected to provide rich, relevant, and insightful data with regard to financial statement fraud detection due to their extensive knowledge and involvement in internal controls and internal audits as well as financial accounting practices.

Managers were chosen because they have considerable knowledge of their organisations as well as the ability to identify fraud risk factors and internal control weaknesses that enable fraudulent practices to occur. They are involved in compiling annual financial reports and work closely with finance staff to enhance the quality of such reports.

Audit committees were selected because they are made up of suitably skilled, experienced, independent non-executive directors who oversee the accuracy and completeness of integrated financial reports, ensuring that ethical standards are adhered to, and are fully responsible for overseeing the internal audit. They also recommend the appointment of the external auditor and oversee the external audit process. Audit committees are an integral part of the FRM process in terms of financial reporting and they report to the board and stakeholders on their activities.

Chief Operational Officers, Chief Finance Officers, accountants and bookkeepers were included in the study because they offer unique insight into financial management and financial accounting practices in NGOs. These experts provided rich, relevant data.

Chief Executive Officers and directors were selected as they offer insight into NGOs' governance, management philosophy and operating style.

Finally, IT forensic officers were chosen due to their expert knowledge of cybercrimes such as electronic fraud, deleted files, swap file space, emails, and the slack space in clusters and logs from local area networks (LANs) or external networks (wide area networks (WANs)).

### **3.24. Administration of the questionnaire and Response rate**

Regulations and protocols issued in terms of the National State of Disaster due to the COVID-19 pandemic had to be complied with in gathering data for this study. The researcher thus adopted remote data collection strategies.

An experienced IT expert was hired to provide a link to the questionnaire that the respondents could click on to access it and to submit the completed questionnaire. All the online questionnaires were stored in one place and were accessible to the researcher and supervisors. Apart from complying with COVID-19 requirements, this was a quick and inexpensive method that was user friendly. It was also very secure, as only the researcher had the password to access the responses.

The link was sent to the NGOs' CEOs and directors via email with the request that they ask their staff to complete the survey. Once the respondents read the email and content, they had the option to click on the survey link as acknowledgement of their consent to participate. They were advised to raise any concerns via email. The survey link remained active until the researcher was ready to start analysing the data. The researcher sent a follow up email to the CEOs and directors asking them to remind staff to complete the questionnaire. In order to identify participants to interview, the online questionnaire included participants' consent to be interviewed. Once the sample size was met, this yielded a response rate of approximately 100% (questionnaires received/total questionnaires sent out) and the researcher was able to commence data analysis. Saunders et al. (2009) state that the likely response rate from an Internet mediated questionnaire is 11% or lower and this is one of the biggest disadvantages of online questionnaires, while Kumar (2014:10) sets it higher at 20 to 50%.

### **3.25. Ethical considerations**

According to Ghauri and Grønhaug (2010:108), research ethics refers to questions about how the researcher formulates and clarifies the research topic, designs the research and gains access, collects, processes and stores the data, and analyses it and writes up the findings. Ghauri and Grønhaug (2010) add that ethical issues include preserving anonymity, avoiding exposing participants to mental stress, refraining from asking questions that are detrimental to participants' self-interests, involving participants in research without their consent, the use of deception, and depriving participants of their right to withdraw from the study at any time.

The researcher followed Saunders et al.'s (2009:82) recommendations to ensure adherence to these ethical principles. No pressure was placed on individuals to participate in the study and prospective participants were informed that their participation was voluntary. Informed consent was obtained prior to the distribution of the anonymous questionnaire. Credibility was established by providing detailed information to all participants on the purpose of the research study, what was expected from participants, why they were chosen and how the data would be protected and stored. The information sheet also gave the assurance that confidentiality and anonymity would be maintained. Finally, the participants were informed that they had the right to withdraw from the study at any time.

Three NGOs expressed concern about confidentiality and the use of the data, but were assured that it would remain confidential and be anonymised throughout the research process and in the final report. The results relating to individual NGOs are not tabulated in this thesis and the final results will be made available to all participants. As the study involved human subjects, the researcher was required to strictly conform to the requirements of UKZN's Human and Social Sciences Research Ethics Committee.

### **3.26. Ethical Measures**

According to Sekaran and Bougie (2016:103), ethics relates to the researcher's conduct or expected behaviour while conducting research. The three main objectives are to protect human participants; to ensure that the research is conducted in a way that serves the interests of individuals, groups and/or society as a whole; and to promote ethical soundness through management of risk, protection of confidentiality and informed consent. Confidentiality and anonymity must always be assured.

The researcher strictly complied with UKZN research procedures and principles from inception to completion of the study. Once the study was approved by the Accounting, Economics, and Finance Research Committee of the School of Accounting at UKZN, the University's Human and Social Sciences Research Ethics Committee (HSSREC) indicated that, the researcher must comply with the preventive measures adopted by the government to curb the spread of COVID-19. In accordance with the UKZN HSSREC notice dated 26 June 2020, the researcher adopted online data collection strategies.

Ethical clearance was obtained from the UKZN HSSREC prior to distribution of the online questionnaire (Hewitt, 2007; Holloway and Wheeler, 1995). Permission was received on 2 March 2021 and the survey commenced on 3 March 2021 (see Appendix 6). The researcher approached the 30 NGOs selected in eThekweni region for permission to conduct the research (Shenton and Hayter, 2004) and gatekeepers' letters were obtained from all of them. At the end of the online questionnaire survey, participants were asked if they were interested in participating in a personal interview and if so, to provide their cell phone number and email address. Each participant selected for a virtual semi-structured interview was called or emailed and the researcher introduced himself and determined the most suitable time for the Zoom meeting. The participants were also asked to consent to the interview being audio recorded.

Participant were assured that all data would be secure and only made public using fictitious names. Each participant was assigned a pseudonym and the interview were personally transcribed by the researcher to protect the interviewees' anonymity. Hard copy questionnaires were kept in a secure place with restricted access (Wiles, Crow, Heath, and Charles, 2006).

### **3.27. Chapter Summary**

This chapter presented the research philosophy and methodology employed to conduct this study. Pragmatism was adopted as it is in line with the purpose of management and accounting research which is in most cases aims to understand the reasons for a phenomenon in order to recommend change. This was appropriate as the study's overall aim was to investigate the role of forensic auditing as tool to enhance NGOs' FRM and to gain in-depth understanding of the motivations behind financial statement fraud. Data was gathered using mixed research methods, namely, semi-structured interviews, and an online survey. An online questionnaire was designed using Google forms and was administered to 87 participants, with a response rate of 100% which is much higher than the common response rate of 11% or lower from Internet mediated questionnaires (Saunders et al., 2009).

This questionnaire survey included a question at the end asking participants if they would be prepared to be interviewed. Fifteen forensic auditors expressed interest in doing so, of whom 10 were interviewed. In accordance with the regulations and protocols issued in terms of the National State of Disaster to curb the spread of COVID-19, interviews were conducted using either Zoom or Google Meet and were digitally recorded.

The following chapter analyses the data gathered by means of the online questionnaire and presents the results.

## **CHAPTER FOUR: ANALYSIS OF QUESTIONNAIRE DATA AND PRESENTATION OF RESULTS**

### **4.1.Introduction**

As set out in the previous chapter, data was gathered by means of mixed methods, namely, an online questionnaire and semi-structured interviews. This chapter analyses, interprets and discusses the quantitative data gathered by means of the online questionnaire (survey).

### **4.2.Types of Data, Variables, and Measurement Scales**

Quantitative data can be subdivided into numerical and categorical data. Kumar (2018:48) notes that numerical data such as interval and ratio data has values that are measured or counted numerically as quantities, while categorical data's values cannot be measured numerically but can be either classified into categories or placed in rank order. According to Zikmund, Carr, and Griffin (2013:32), categorical data can be further subdivided into nominal (descriptive) and ordinal (ranked) data. Therefore, categorical data can be measured using nominal scales and ordinal scales. The FRM scale items and types used in previous studies were tested to ensure that they provided a sufficient level of validity in a different context.

The researcher developed multi-item scales to measure each fraud risk factor applicable to the NGO context and employed attitude scales (ranging from 1 = "Not at All" to 5 = "A Very Large Extent") and numerical values of 5 = Lowest Risk to 1= Highest Risk.

The set of questions in Sections B, C, D, E, and F of the online questionnaire (Appendix 3) used ordinal scales, with the respondents required to rate their answers on a 5-point Likert style. Robustness analysis was performed using SPSS Version 27, AMOS version 27 and NVivo version 12. The quantitative data was coded and then analysed using SPSS version 27 alongside AMOS version 27.

### **4.3. Response rate**

After obtaining ethical clearance, data was gathered in 30 selected NGOs. Mangione (1995:33) states that a response rate in the range of 70% to 85% is regarded as very good. A total of 87 online questionnaires were distributed and the response rate was 100%. The numerically coded questionnaire with 87 responses was recorded in an SPSS version 27 secure dataset. This was

followed by an assessment of normality using SPSS and AMOS. Therefore, the data was ready to be analysed using CFA, and SEM using AMOS.

#### 4.4. Missing Data

Missing data is a common issue in SEM. While software such as AMOS, and MPLUS suffer from inadequacies in addressing this problem, linear structural relations (LISREL) offers full information and multiple imputations, all of which assume missing at random (MAR). According to Little and Rubin (2019:16), the researcher should plan for an increase in sample size to offset any problem in relation to missing data. There were no missing data in this research study that achieved a response rate of 100%. The number of respondents is shown in Table 5 below.

**Table 5: Missing Data**

N	Valid	87
	Missing	0

Source: Online Survey (2021), SPSS Version 27

#### 4.5. Reliability of measurement scales

According to Pallant (2011:18), the reliability of scales is the degree to which the items that make up the scale all measure the underlying attribute. This is known as internal consistency. Pallant (2011) adds that reliability can be measured by means of Cronbach's Alpha, which provides an indication of the average correlation among all the items that make up the scale. The Cronbach's Alpha Reliability Statistics are presented in Table 6 below.

**Table 6: Cronbach's Alpha Reliability Statistics**

##### 4.5.1. Cronbach's Alpha Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.893	.895	129

Source: Online Survey (2021), SPSS Version 27

The above table shows that, the Cronbach's Alpha for the scales used in this study was 0.893, which suggests a high level of internal consistency. Ghauri and Grønhaug (2010) note that Cronbach's Alpha values of 0.7 and above indicate that a scale is reliable.

#### 4.6. Statistical Analysis Techniques

The quantitative data was analysed using SPSS version 27 after coding to facilitate analysis. In line with Reinhart's (2016) recommendation, normality testing was first undertaken to determine the distribution of data so that proper statistics could be selected for analysis. Given that the

quantitative data was measured using nominal and ordinal scales, nonparametric statistics was the most appropriate choice for the analysis.

In line with Pallant's (2011) recommendation, a test of normality was also carried out for some variables to ensure that the data was normally distributed, and that nonparametric statistics was the correct choice. The results showed a significance value of .893. Hess and Hess (2017:27) state that a non-significant result (a sig value of more than .05) indicates normality, while a sig value of .000 indicates that the data are not normally distributed. The quantitative data was thus analysed using nonparametric statistics.

#### **4.7. Coding and Editing of Questionnaire Data**

The data gathered via the questionnaire was checked and thoroughly inspected in order to identify errors or missing responses and to ensure that it was ready for analysis. As noted earlier, the online survey (questionnaire) was designed using Google forms. It prevented respondents from being directed to the wrong set of questions by providing them with clear instructions and did not allow them to miss a question. Inspection of the quantitative data revealed no missing values or errors.

The coding of all the closed-ended questions was straightforward and easy to quantify (Zikmund et al., 2013). Each choice given to respondents was assigned a number. Questions that used a 5-point Likert style rating scale were coded as follows: Not at All and Very Large Extent, and lowest risk and highest risk scales with numerical values of 1 = Not at All through to 5 = Very Large Extent, and numerical values of 5 = Lowest Risk through to 1 = Highest Risk, respectively. Yes, or No Questions were also coded using '1' for Yes and '0' for No.

The following section discusses the respondents' demographic characteristics.

#### **4.8. Respondents' demographic characteristics**

Section A of the online survey contained questions relating to the respondents' demographic characteristics, including their gender; age group; ethnic group; highest educational qualification; professional registration; department; position held; and work experience. The respondents were also asked to state their NGO's annual budgeted income, its registration status, and the number of employees. Table 8 below shows the respondents' gender.

#### 4.8.1. Respondents' gender (Question 1)

**Table 7: Respondents' Gender**

<i>Respondents' gender</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Males	51	58.6	58.6	58.6
Females	36	41.4	41.4	100.0
Total	87	100.0	100.0	

**Source:** Online Survey (2021), SPSS Version 27

As shown in the above table, 58,6% (n=51) of the respondents are men, and 41,4% (n=36) women. Thus, there were more males than females.

#### 4.8.2. Respondents' Age Group (Question 2)

**Table 8: Respondents' Age Group**

<i>Respondents' Age Group</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 26-35	26	29.9	29.9	29.9
36-48	47	54.0	54.0	83.9
49-55	10	11.5	11.5	95.4
56-65	3	3.4	3.4	98.9
Above 65	1	1.1	1.1	100.0
Total	87	100.0	100.0	

**Source:** Online Survey (2021), SPSS Version 27

Table 8 above illustrates that, 54% (n=47) of the respondents were between the ages of 36 and 48; 29.9% (n=26) were aged 26 to 35; 11.5% (n=10) fell into the age group 49 to 55; 3.4% (n=3) were between the ages of 56 and 65, and 1.1% (n=1) was over 65 years of age. Thus, the majority of the respondents were between 36 and 48 years old.

#### 4.8.3. Respondents' Ethnic Group (Question 3)

**Table 9: Respondents' Ethnic Group**

<i>Respondents' Ethnic Group</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Valid African	42	48.3	48.3	48.3
Indian	14	16.1	16.1	64.4
White	31	35.6	35.6	100.0
Total	87	100.0	100.0	

**Source:** Online Survey (2021), SPSS Version 27

Black African respondents made up 48.3% (n=42) of the sample, with Whites representing 35.6% (n=31), and Indians 16.1% (n=14). Therefore, the majority of the respondents were Black Africans.

#### 4.8.4. Respondents' Highest Educational Qualification (Question 4)

**Table 10: Respondents' Highest Educational Qualification**

<i>Respondents' Highest Educational Qualification</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Diploma	3	3.4	3.4	3.4
Degree	22	25.3	25.3	28.7
Honours	39	44.8	44.8	73.6
Masters	15	17.2	17.2	90.8
Doctorate	8	9.2	9.2	100.0
Total	87	100.0	100.0	

**Source:** Online Survey (2021), SPSS Version 27

The above table 10 illustrates that, 44.8% (39) of the respondents held an honours in accounting sciences, 25.3% (22) a BCom. (Accounting sciences and finance), 17.2% (15) a Master's in accounting and management, and 9.2% (8) a Ph.D.. Furthermore 3.4% (3) of the respondents held a certificate in project management.

#### 4.8.5. Respondents' professional registration (Question 5)

**Table 11: Respondents' Professional Registration**

<i>Respondents' Professional Registration</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SAICA	24	27.6	27.6	27.6
SAIPA	17	19.5	19.5	47.1
IRBA	11	12.6	12.6	59.8
IIA SA	7	8.0	8.0	67.8
ACCA	28	32.2	32.2	100.0
Total	87	100.0	100.0	

**Source:** Online Survey (2021), SPSS Version 27

The above table shows that 24 (27.6%) of the respondents that participated in the online survey were registered with SAICA; 17 (19.5%) with the South African Institute of Professional Accountants (SAIPA); 11 (12.6%) with the IRBA; 7 (8.0%) with the Institute of Internal Auditors (IIA SA); and 28 (32.2%) were registered with ACCA.

**4.8.6. Respondents' Work department (Question 6)**

**Table 12: Respondents' Work Department**

<i>Respondents' Work Department</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Forensic	10	11.5	11.5	11.5
Auditing	19	21.8	21.8	33.3
Finance	21	24.1	24.1	57.5
Management	19	21.8	21.8	79.3
Accounting	18	20.7	20.7	100.0
Total	87	100.0	100.0	

Source: Online Survey (2021), SPSS Version 27

Table 14 above reveals that 24.1% (21) of the respondents were in the finance department, 21.8% (19) in management, 20.7% (18) in the accounting department, 21.8% (19) in the auditing department, and 11.5% (10) in forensic investigation.

**4.8.7. Respondents' Position (Question 7)**

**Table 13: Respondents' Position**

<i>Respondents' Position</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Director	5	5.7	5.7	5.7
Computer Forensic Officer	1	1.1	1.1	6.9
Chief Executive Officer	8	9.2	9.2	16.1
Forensic Auditor	14	16.1	16.1	32.2
Internal Auditor	10	11.5	11.5	43.7
Projects Manager	6	6.9	6.9	50.6
Chief Finance Officer	16	18.4	18.4	69.0
Accountant	27	31.0	31.0	100.0
Total	87	100.0	100.0	

Source: Online Survey (2021), SPSS Version 27

**4.8.8. Respondents' Work Experience (Question 8)**

It was crucial to gauge if the respondents had relevant work experience in accounting, finance, forensic auditing, auditing, leadership and management. Table 14 below illustrates the distribution.

**Table 14: Respondents' Work Experience**

<i>Respondents' Work Experience</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 3 Years	1	1.1	1.1	1.1
Less than 5 Years	2	2.3	2.3	3.4
Less than 10 Years	32	36.8	36.8	40.2
Over 10 Years	52	59.8	59.8	100.0
Total	87	100.0	100.0	

Source: Online Survey (2021), SPSS Version 27

#### 4.8.9. NGOs' annual budgeted income (Question 9)

**Table 15: NGOs' annual budgeted income**

<i>NGOs' annual budgeted income</i>				
Questionnaire Items	Frequency	Percent	Valid Percent	Cumulative Percent
Less than ZAR 2 million	6	6.9	6.9	6.9
ZAR 2 - ZAR 10 million	19	21.8	21.8	28.7
ZAR 10 - ZAR 20 million	6	6.9	6.9	35.6
ZAR 20 - ZAR 30 million	11	12.6	12.6	48.3
ZAR 30 - ZAR 40 million	21	24.1	24.1	72.4
ZAR 40 - ZAR 50 million	9	10.3	10.3	82.8
More than ZAR 50 million	15	17.2	17.2	100.0
Total	87	100.0	100.0	

Source: Online Survey (2021), SPSS Version 27

Table 15 above shows that 6.9% (6) of the NGOs the respondents were employed by had an annual budgeted income of less R2 million; 21.8% (19) R2 to R9 million, and between R10 and R20 million, respectively; 12.6% (11) from R20 to R30 million; 24.1% (21) R30 to R40 million; 10.3% (9) between R40 and R50 million; and 17.2% had an annual budgeted income of more than R50 million.

#### 4.8.10. NGOs Registration Status (Question 10)

**Table 16: NGOs' Registration Status**

<i>NGOs' Registration Status</i>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	87	100.0	100.0	100.0

Source: Online Survey (2021), SPSS Version 27

All the respondents indicated that their NGO was registered with either the DSD or the Companies Intellectual Property Commission (CIPC) in South Africa.

#### 4.8.11. Number of employees (Question 11)

**Table 17: Number of Employees**

<i>Number of Employees</i>					
Questionnaire Items		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10	13	14.9	14.9	14.9
	Less than 20	20	23.0	23.0	37.9
	Less than 30	23	26.4	26.4	64.4
	Less than 40	18	20.7	20.7	85.1
	More than 50	13	14.9	14.9	100.0
	Total	87	100.0	100.0	

**Source:** Online Survey (2021), SPSS Version 27

The above table illustrates that 14.9% (13) of the surveyed NGOs had less than 10 employees; 23% less than 20; 26.4% (23) less than 30; 20.7 % (18) less than 40, and only 14.9% (13) had more than 50 employees, excluding volunteers.

#### 4.9. Descriptive analysis of the root causes of financial statement fraud among NGOs in the Thekwini region

The survey posed questions on the types of fraud frequently cited in the reviewed literature and the factors contributing to the risk of financial statement fraud. This section examines all the variables relating to the fraud risk profile or fraud risk levels as well as the relationship between fraud risk factors and fraud risk indicators (red flags). The respondents were asked to express their views on the root causes of fraud in their NGOs using a Likert scale of 1 to 5 (where 1 = Lowest Risk, 2 = Low Risk, 3 = Some Risk, 4 = High-Risk and 5 = Highest Risk). These were used to capture the level of fraud risk factors.

The descriptive results indicate that many fraud risk factors were regarded as having the highest risk levels in the variables measured and they appear to be drivers of fraud in the NGO sector. The means and standard deviations for all 21 questions in Section B were used to measure the level of agreement. The responses are presented in Table 18 below.

**Table 18: Descriptive analysis of the root causes of financial statement fraud among NGOs in eThekweni region**

Item N <sup>o</sup>	Questionnaire items	Mean	Std. Deviation
1	Corporate financial pressure	2.28	1.387
2	External financial pressure	2.51	1.066
3	Poor accounting systems	1.97	.946
4	Leverage	1.94	.894
5	Systematic differences in reporting requirements	2.44	1.227
6	Lack of proper authorisation and approval procedures	2.08	.955
7	Weak governance	2.02	.915
8	Poor and weak internal controls	1.71	.820
9	Non-existent internal controls	1.71	.761
10	Overriding internal controls	1.75	.766
11	Employees' arrogance	1.79	.823
12	Employees' lack of conscience	2.13	.913
13	Fraudsters' ability to override systems	2.26	1.017
14	Poor and improper oversight	2.26	1.017
15	A lack of or ineffective audit committee	1.79	.734
16	Lack of fraud awareness	1.95	.888
17	Lack of surprise audits	2.45	.886
18	Lack of forensic audits	1.71	.987
19	Low salaries	1.93	.912
20	Failure to prosecute fraudsters	2.87	1.032
21	Lack of appropriate punishment of fraudsters	2.68	1.136

**Source:** Online Survey (2021), SPSS Version 27

To validate whether the respondents were conscious of their organisations' fraud risk factors, the first test examined which fraud risks were ranked the highest and the lowest.

The results indicate that failure to prosecute fraudsters has the highest risk level with a mean of 2.87 and standard deviation of 1.032. The mean and standard deviation, respectively, for the other fraud risk factors are, appropriate punishment of fraudsters, 2.68 and 1.136; external financial

pressure, 2.51 and .946; lack of surprise audits, 2.45 and .886; systematic differences in reporting requirements, 2.44 and 1.227; corporate financial pressure, 2.28 and 1.387; fraudsters' ability to override systems, 2.26 and 1.017; lack of proper oversight by the Board of Directors, 2.26 and 1.017; employees' arrogance, 1.79 and .823; employees' lack of conscience, 2.13 and .913; lack of proper procedures for authorisation and approval, 2.08 and .955; weak governance, 2.02 and .915; poor accounting systems, 1.97 and .946; lack of fraud awareness, 1.95 and .888; leverage, 1.94 and .894; low salaries, 1.93 and .912; lack of or ineffective audit committee, 1.79 and the lowest standard deviation of .734; overriding of internal controls by top management, 1.75 and .766; lack of forensic audits, 1.71 and 987; non-existent internal controls, 1.71 and .761; and poor and weak internal controls with a mean of 1.71 and standard deviation of .820.

The findings show that all the fraud indicators measured by each risk measure are significantly associated with the fraud risk factors. This implies that all the fraud risk factors cited above affect the quality of financial statements and lead to financial statement fraud among NGOs in eThekweni region. Thus, in order to reduce the risk of fraud in their financial statements, they need to manage its root causes.

The results show that the majority of the respondents agreed that failure to prosecute fraudsters is the primary cause of fraud in NGOs, followed by a lack of appropriate punishment of fraudsters, external financial pressure, lack of surprise audits, and systematic differences in reporting requirements. There is statistically significant agreement amongst the respondents on the root causes of financial statement fraud and other fraudulent activities among NGOs in eThekweni region as the means of all the responses are 1.5 and the variations among responses are low, with the highest at 1.387, depicting consensus.

This finding correlates with the ACFE's (2016) classification of financial statement fraud, which included all the above questionnaire items as major root causes of fraud across all sectors. However, it contradicts Akenbor's (2013) finding that greed was the foremost fraud risk factor within Nigeria's financial sector.

This result correlates with and supports the New Fraud Combination Theory (a combination of all fraud theories) proposed by the researcher which is considered to be the most effective theory to assist auditors and forensic auditors to effectively identify fraud risks factors and red flags in financial reports. The findings also support Kassem's (2016) conclusion that fraudsters' ability to

exploit and override weak internal controls, accounting systems and weak or poor corporate governance had the highest fraud risk level, which made it even more difficult for external auditors to pick up fraud in Egypt.

#### 4.9.1. Respondents' rating of the root cause of financial statement fraud among NGOs in eThekweni Region

The study sought to determine the respondents' views on the root cause of fraud among NGOs in eThekweni region using a Likert scale of 1 to 5 (where 1 = Lowest Risk, 2 = Low Risk, 3 = Some Risk, 4 = High-Risk and 5 = Highest Risk), with the data statistically analysed using frequency distributions and percentages. The results are set out in Table 19 below.

**Table 19: Respondents' rating of the root cause of fraud among NGOs in eThekweni Region**

Item N°	Questionnaire Items	Responses					Total
		Highest risk	High Risk	Some Risk	Low Risk	Lowest Risk	
1	Corporate financial pressure	36 41.4%	19 21.8%	14 16.1%	8 9.2%	10 11.5%	87 100%
2	External financial pressure	11 12.6%	42 48.3%	19 21.8%	9 10.3%	6 6.9%	87 100%
3	Poor accounting systems	34 39.1%	27 31.0%	22 25.3%	3 3.4%	1 1.1%	87 100%
4	Leverage	29 33.3%	42 48.3%	8 9.2%	8 9.2%	0 0%	87 100%
5	Systematic differences in reporting	24 27.6%	24 27.6%	23 26.4%	9 10.3	7 8.0%	87 100%
6	Lack of proper authorisation and approval procedures	26 29.9%	37 42.5%	16 18.4%	7 8.0%	1 1.1%	87 100%
7	Weak governance	30 34.5%	30 34.5%	22 25.3%	5 5.7%	0 0%	87 100%
8	Poor and weak internal controls	41 47.1%	33 37.9%	11 12.6%	1 1.1%	1 1.10%	87 100%
9	Non-existent internal controls	39 44.8%	36 41.4%	10 11.5%	2 2.3%	0 0%	87 100%
10	Overriding internal controls	38 43.7%	34 39.1%	14 16.1%	1 1.1%	0 0%	87 100%
11	Employees' arrogance	38 43.7%	31 35.6%	16 18.4%	2 2.3%	0 0%	87 100%
12	Employees' lack of conscience	22 25.3%	40 46.0%	18 20.7%	6 6.9%	1 1.1%	87 100%
13	Fraudsters' ability to override systems	24 27.6%	28 32.2%	23 26.4%	12 13.8%	0 0%	87 100%
14	Poor and improper oversight	24 27.6%	28 32.2%	23 26.4%	12 13.8%	0 0%	87 100%

15	A lack of or ineffective audit committee	32 36.8%	43 49.4%	10 11.5%	2 2.3%	0 0%	87 100%
16	Lack of fraud awareness	28 32.2%	41 47.1%	14 16.1%	2 2.3%	2 2.3%	87 100%
17	Lack of surprise audits	12 13.8%	34 39.1%	32 36.8%	8 9.2%	1 1.1%	87 100%
18	Lack of forensic audits	48 55.2%	24 27.6%	9 10.3%	4 4.6%	2 2.3%	87 100%
19	Low salaries	33 37.9%	33 37.9%	15 17.2%	6 6.9%	0 0%	87 100%
20	Failure to prosecute fraudsters	10 11.5%	25 28.7%	26 29.9%	25 28.7%	1 1.1%	87 100%
21	Lack of appropriate punishment of fraudsters	14 16.1%	28 32.2%	21 24.1%	20 23.0%	4 4.6%	87 100%

**Source:** Online Survey (2021), SPSS Version 27

The table 19 shows that, 36 (41.4%) respondents rated corporate financial pressure at the highest level of fraud risk, followed by 19 (21.8%) at a high level; 14 (16.1%) at some level; 8 (9.2%) at a low level; and 10 (11.5%) at the lowest level of fraud risk. This implies that corporate financial pressure is highly correlated with the occurrence of fraud among NGOs in eThekweni region.

Furthermore, 11 (12.6%) respondents cited external financial pressure as being at the highest level of fraud risk, and 42 (48.3%) opted for a high level; 19 (21.8%) for some level; 9 (10.3%) for a low level; and 6 (6.9%) for the lowest level of fraud risk. This suggests that external financial pressure is highly correlated with the occurrence of fraud among NGOs in eThekweni region.

The table 19 illustrates that 34 (39.1%) respondents agreed that poor accounting systems pose the highest level of fraud risk, while 27 (31.0%) identified it as posing a high level; 22 (25.3%) some level; 3 (3.4%) a low level; and 1 (1.1%) the lowest level of fraud risk. It can thus be inferred that poor accounting systems are highly correlated with the occurrence of fraud among NGOs in eThekweni region.

A total of 29 (33.3%) respondents agreed that leverage represents the highest level of fraud risk, with 42 (48.3%) identifying it as a high level; 8 (9.2%) some level; and 8 (9.2%) as a low level fraud risk. None of the respondents were of the view that leverage is at the lowest level of fraud risk. This implies that leverage is highly correlated to the occurrence of fraud among NGOs in eThekweni region

In terms of systematic differences in reporting, 24 (27.6%) of the respondents agreed that this is at the highest level of fraud risk, 24 (27.6%) at a high level; 23 (26.4%) some level; 9 (10.3%) at a low level; and 7 (8.0%) at the lowest level of fraud risk. This suggests that systematic differences in reporting are highly correlated with the occurrence of fraud among NGOs in eThekweni region. Moreover, 26 (29.9%) respondents agreed that a lack of proper authorisation and approval procedures was at the highest level of fraud risk; 37 (42.5%) at a high level; 16 (18.4%) at some level; 7 (8.0%) at a low level; and 1 (1.1%) at the lowest level of fraud risk. This implies that a lack of proper authorisation and approval procedures is highly correlated with the occurrence of fraud among NGOs in eThekweni region.

The table 19 illustrates that 30 (34.5%) respondents agreed that weak governance was at the highest level of fraud risk, 30 (34.5%) at a high level; 22 (25.3%) some level; and 5 (5.7%) at a low level of fraud risk. None of the respondents felt that weak governance was at lowest level of fraud risk. It can thus be inferred that weak governance is highly correlated with the occurrence of fraud among NGOs in eThekweni region.

Forty-one (47.1%) respondents concurred that poor and weak internal controls represent the highest level of fraud risk, with 33 (37.9%) opting for a high level; 11 (12.6%) for some level; and 1 (1.1%) for a low level and lowest level, respectively. This implies that poor and weak internal controls are highly correlated with the occurrence of fraud among NGOs in eThekweni region.

Furthermore, 39 (44.8%) respondents agreed that non-existent internal controls were at the highest level of fraud risk, with 36 (41.4%) at a high level; 10 (11.5%) some level; 2 (2.3%) a low level of fraud risk, and none at the lowest level of fraud risk. It can thus be inferred that non-existent internal controls are highly correlated with the occurrence of fraud among NGOs in eThekweni region.

A total of 38 (43.7%) respondents agreed that overriding internal controls was at the highest level of fraud risk, 34 (39.1%) at a high level; 14 (16.1%) at some level; and 1 (1.1%) at a low level of fraud risk, with none of the view that overriding internal controls was at lowest level of fraud risk. This suggests that overriding internal controls is highly correlated with the occurrence of fraud among NGOs in eThekweni region.

Thirty-eight (43.7%) respondents agreed that employees' arrogance poses the highest level of fraud risk, while 31 (35.6%) opted for a high level; 16 (18.4%) for some level; 2 (2.3%) for a low level

and none for the lowest level of fraud risk. This implies that employees' arrogance is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

The table shows that 22 (25.3%) respondents agreed that employees' lack of conscience stood at the highest level of fraud risk, 40 (46.0%); at a high level; 18 (20.7%) at some level; 6 (6.9%) at a low level; and 1 (1.1%) at the lowest level of fraud risk. Therefore, it can be inferred that employees' lack of conscience is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

Moreover, 24 (27.6%) respondents agreed that fraudsters' ability to override systems represents the highest level of fraud risk, 28 (32.2%) placed it at a high level; 23 (26.4%) at some level; and 12 (13.8%) at a low level of fraud risk. None of the respondents felt that fraudsters' ability to override systems was at the lowest level of fraud risk. This suggests that fraudsters' ability to override systems is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

Similar to fraudsters' ability to override systems, 24 (27.6%) respondents concurred that poor and improper oversight is at the highest level of fraud risk, 28 (32.2%) at a high level; 23 (26.4%) at some level; 12 (13.8%) at a low level and none at the lowest level of fraud risk. This implies that poor and improper oversight is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

A total of 32 (36.8%) respondents agreed that a lack of or ineffective audit committee represents the highest level of fraud risk, while 43 (49.4%) placed it at a high level; 10 (11.5%) at some level; and 2 (2.3%) at a low level of fraud risk. None of the respondents were of the view that a lack of or ineffective audit committee represented the lowest level of fraud risk. It can thus be inferred that a lack of or ineffective audit committee is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

Twenty-eight (32.2%) respondents agreed that a lack of fraud awareness was at the highest level of fraud risk, 41 (47.1%) at a high level; 14 (16.1%) at some level; and 2 (2.3%) at a low and the lowest level of fraud risk, respectively, suggesting that a lack of fraud awareness is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

The table 19 shows that 12 (13.8%) respondents concurred that a lack of surprise audits stood at the highest level of fraud risk, while 34 (39.1%) opted for a high level; 32 (36.8%) for some level; 8 (9.2%) for a low level; and 1 (1.1%) for the lowest level of fraud risk. Based on this finding, it can be inferred that a lack of surprise audits is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

The lack of forensic audits was identified by 48 (55.2%) respondents as being at the highest level of fraud risk, while 24 (27.6%) placed it at a high level; 9 (10.3%) at some level; 4 (4.6%) at a low level; and 2 (2.3%) at the lowest level of fraud risk. This suggests that a lack of forensic audits is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

Thirty-three (37.9%) respondents agreed that poor salaries were rated at the highest level of fraud risk, while 33 (37.9%) rated it at a high level; 15 (17.2%) at some level; and 6 (6.9%) at a low level of fraud risk. None of the respondents were of view that poor salaries should be rated at the lowest level of fraud risk. This implies that poor salaries are highly correlated with the occurrence of fraud among NGOs in eThekwini region.

Moreover, 10 (11.5%) respondents concurred that failure to prosecute fraudsters should be rated at the highest level of fraud risk, with 25 (28.7%) opting for a high level; 26 (29.9%) for some level; 25 (28.7%) for a low level of fraud risk; and 1 (1.1%) for the lowest level of fraud risk. It can thus be inferred that failure to prosecute fraudsters is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

Finally, while 14 (16.1%) of the respondents agreed that the lack of appropriate punishment of fraudsters stood at the highest level of fraud risk, 28 (32.2%) situated it at a high level; 21 (24.1%) at some level; 20 (24.1%) at a low level; and 4 (4.6%) at the lowest level of fraud risk. This suggests that a lack of appropriate punishment of fraudsters is highly correlated with the occurrence of fraud among NGOs in eThekwini region.

Anichebe et al.'s (2019) research on the major motivations to commit financial statement fraud and other fraudulent activities concluded that the corporate financial pressure, external financial pressure, poor accounting systems, poor and weak internal controls, non-existent internal controls, overriding internal controls, employees' arrogance, employees' lack of conscience, fraudsters' ability to override systems, poor and improper oversight, a lack of or ineffective audit committee,

and lack of fraud awareness were key fraud risk factors in assessing the risk of financial statement fraud and other fraudulent activities.

The respondents' rating of the root cause of fraud among NGOs in eThekwini region reveals that 48 (55.2%) respondents rated the lack of surprise audits as either the highest or a high fraud risk. This is the same percentage as those who rated the lack of appropriate punishment of fraudsters as either the most significant risk or a significant risk in Misra and Walden's (2016) study. This suggests a possible link between surprise audits and appropriate punishment of fraudsters.

The findings also support Kassem's (2016) conclusion that poor corporate governance, non-existent internal controls, employees' arrogance, fraudsters' ability to override systems, employees' lack of conscience, and internal and external financial pressure were at the highest financial statement fraud risk levels: (27 (32.9%); 38 (46.3%); 52 (63.4%), 48 (58.6%); 68 (82.9%); and 69 (84.1%), respectively).

#### **4.10. Descriptive analysis of the prevalence of fraudulent activities among NGOs in eThekwini Region**

To validate whether fraudulent activities were prevalent among NGOs, all fraud risks were measured on a five-point scale from lowest risk (1) to highest risk (5), with framed statements to assist the analysis. Variables placed at the higher risk levels thus signal red flags. The means and standard deviations for the 35 questions in Section C that were used to measure the magnitude of agreement are presented in Table 20 below.

**Table 20: Descriptive analysis of the prevalence of fraudulent activities among NGOs in eThekwini Region item No Questionnaire items Mean**

<b>Item N<sup>o</sup></b>	<b>Questionnaire Items</b>	<b>Mean</b>	<b>Standard Deviation</b>
1	Fictitious inventories	1.86	1.163
2	Online payment fraud	2.70	1.132
3	Double dipping	2.15	.971
4	Financial irregularities	1.97	.908
5	Extortion of bribes or other benefits	2.51	1.109
6	Ghost employees or beneficiaries	2.72	1.117
7	Skimming	2.33	1.107
8	Theft of donated items or goods	2.24	1.078

9	Falsification of financial statements	2.07	1.129
10	Credit card abuse	2.83	1.091
11	Ghost or fictitious vendors	2.72	1.075
12	Misreporting of expenses	1.97	1.136
13	Payroll fraud	2.68	1.186
14	Overstatement of hours worked	2.01	.982
15	Misappropriation of assets	2.76	1.161
16	Vendor or supplier fraud	2.20	1.098
17	Kickbacks and conflicts of interest	3.03	1.136
18	Kickbacks from subcontracted vendors	2.28	.973
19	Misrepresenting the portion of donations	2.29	.987
20	Misleading donors through misclassifying expenses	2.06	1.103
21	Misleading donors through misclassification of restricted donations	1.91	1.117
22	Non-disclosure of transactions with significantly related parties	1.99	1.062
23	Inflating revenue	1.91	1.106
24	Stolen cheques	2.37	1.101
25	Stolen bank cards	2.89	1.289
26	Misuse of accounts	3.21	1.163
27	Forged cheques	2.02	1.239
28	Management fraud	2.95	1.187
29	Occupational fraud	2.34	1.119
30	Payroll fraud	2.95	1.066
31	Fraudulent register disbursement	2.67	1.085
32	Understatement of expenses	2.68	1.146
33	Wire transfer fraud	2.03	1.017
34	Computer fraud	2.93	1.032
35	Inflated fundraising costs	2.77	1.138

**Source:** Online Survey (2021), SPSS Version 27

The above table presents the distribution, means and standard deviations for all 35 questions to measure the magnitude of agreement on the extent of prevalence of fraudulent activities among NGOs in eThekweni region. The results indicate that higher fraud risks were associated with the misuse of accounts with a mean of 3.21 and standard deviation of 1.63; kickbacks, skimming and conflicts of interest with a mean of 3.03 and standard deviation of 1.136; management or financial statement fraud with a mean of 2.95 and the highest the standard deviation of about 1.187; payroll fraud with a mean of 2.95 and standard deviation of 1.066; computer fraud with a mean of 2.93 and standard deviation of 1.032; stolen bank cards with a mean of 2.89 and standard deviation of 1.289; credit card abuse with a mean of 2.83 and standard deviation of 1.091; inflating or

overstating the fundraising costs of projects in order to overstate the expense ratio with a mean of 2.77 and standard deviation of 1.138; misappropriation of assets with a mean of 2.76 and standard deviation of 1.161; ghost employees or beneficiaries with a mean of 2.72 and standard deviation of 1.117; online payment fraud/theft with a mean of 2.70 and standard deviation of 1.132; understatement of expenses, failing to correctly value donated assets; inventory, receivables, and liabilities, unsplit interest or gift annuity obligations with a mean of 2.68 and standard deviation of 1.146; ghost or fictitious vendors with a mean of 2.72 and standard deviation of 1.075; payroll fraud with a mean of 2.68 and standard deviation of 1.186; fraudulent register disbursement with a mean of 2.67 and standard deviation of 1.085; extortion of bribes or other benefits with a mean of 2.51 and standard deviation of 1.109; stolen cheques with a mean of 2.37 and standard deviation of 1.101; occupational fraud with a mean of 2.34 and standard deviation of 1.119; skimming with a mean of 2.33 and standard deviation of 1.107; misrepresenting the portion of donations with a mean of 2.29 and standard deviation of .987; kickbacks from subcontracted vendors with a mean of 2.28 and standard deviation of .973; theft of donated assets or goods with a mean of 2.24 and standard deviation of 1.078; double-dipping (seeking or accepting funds from more than one donor for the same project) with a mean of 2.15 and the lowest standard deviation of about .971; misleading donors through misclassification of expenses with a mean of 2.06 and standard deviation of 1.103; falsification of an NGO's financial statements with a mean of 2.07 and standard deviation of 1.129; wire transfer fraud with a mean of 2.03 and standard deviation of 1.017; forgery and altered cheques with a mean of 2.02 and standard deviation of 1.239; overstatement of hours worked with a mean of 2.01 and standard deviation of .982; non-disclose of transactions with significantly related parties with a mean of 1.99 and standard deviation of 1.062; misreporting of expenses with a mean of 1.97 and standard deviation of 1.136; financial irregularities with a mean of 1.97 and standard deviation of .908; misleading donors through misclassification of restricted donations with a mean of 1.91 and standard deviation of 1.117; inflating revenue with a mean of 1.91 and standard deviation of 1.106; and risk associated with fictitious inventories with a mean of 1.86 and standard deviation of 1.163.

There is thus statistically significant agreement amongst the respondents that NGOs in eThekweni have fallen victim to financial statement fraud and other fraudulent activities as the means of all responses are 1 and the variations among them are low, with the highest at 1.289, depicting consensus. These results suggest that fraudulent activities are prevalent to a large extent within these NGOs. They also imply that the above-cited fraud risk indicators and red flags are prevalent at the highest fraud risk level.

This finding concurs with Peter et al. (2014), who calculated means and standard deviations of 2.57 and 1.026; 2.85 and 1.092; 2.42 and 1.089; 2.28 and 1.078; 2.71 and 1.891; 2.82 and .987; 2.00 and .865; 2.28 and .994; and 3.14 and 1.116 for questionnaire items 1, 4, 9, 12,15, 20, 27, 28, and 34, respectively. Moreover, it supports the findings of other studies such as Buckhoff and Parham (2009), Caton (2014) Chorvatovičová and Saxunová (2016), and Aranda (2020) that concluded that most of the above questionnaire items were major causes of financial statement fraud and other fraudulent activities in the NGO sector (at either the highest or high fraud risk levels).

#### 4.10.1. Respondents' rating of the prevalence of fraudulent activities among NGOs in eThekweni Region

The respondents were asked to rate the extent of the prevalence of fraudulent activities among NGOs and the data gathered was statistically analysed using frequency distributions and percentages. The findings are presented in Table 21 below:

**Table 21: Respondents' rating of the prevalence of fraudulent activities among NGOs in eThekweni Region**

Item N°	Questionnaire Items	Responses					Total
		Highest Risk	High Risk	Some Risk	Low Risk	Lowest Risk	
1	Fictitious inventories	46 52.9%	22 25.3%	8 9.2%	7 8.0%	4 4.6%	87 100%
2	Online payment fraud	10 11.5%	35 40.2%	20 23.0%	15 17.2%	7 8.0%	87 100%
3	Double dipping	23 26.4%	37 42.5%	21 24.1%	3 3.4%	3 3.4%	87 100%
4	Financial irregularities	26 29.9%	46 52.9%	10 11.5%	2 2.3%	3 3.4%	87 100%
5	Extortion of bribes	16 18.4%	32 36.8%	23 26.4%	11 12.6%	5 5.7%	87 100%
6	Ghost employees or beneficiaries	12 13.8%	29 33.3%	21 24.1%	21 24.1%	4 4.6%	87 100%
7	Skimming	23 26.4%	28 32.2%	24 27.6%	8 9.2%	4 4.6%	87 100%
8	Theft of donated items	22 25.3%	38 43.7%	15 17.2%	8 9.2%	4 4.6%	87 100%
9	Falsification of financial statements	34 39.1%	27 31.0%	16 18.4%	6 6.9%	4 4.6%	87 100%
10	Credit card abuse	10 11.5%	26 29.9%	24 27.6%	23 26.4%	4 4.6%	87 100%
11	Fictitious vendors	13 14.9%	21 24.1%	35 40.2%	13 14.9%	5 5.7%	87 100%
12	Misreporting of expenses	38	29	9	7	4	87

		43.7%	33.3%	10.4%	8.0%	4.6%	100%
13	Payroll fraud	19 21.8%	17 19.5%	29 33.3%	17 19.5%	5 5.7%	87 100%
14	Overstatement of hours worked	28 32.2%	40 46.0%	12 13.8%	4 4.6%	3 3.4%	87 100%
15	Misappropriation of assets	16 18.4%	19 21.8%	26 29.9%	22 25.3%	4 4.6%	87 100%
16	Supplier fraud	24 27.6%	40 46.0%	8 9.2%	12 13.8%	3 3.4%	87 100%
17	Kickbacks and conflicts of interest	11 12.6%	17 19.5%	21 24.1%	34 39.1%	4 4.6%	87 100%
18	Kickbacks from subcontracted vendors	17 19.5%	41 47.1%	20 23.0%	6 6.9%	3 3.4%	87 100%
19	Misrepresenting the portion of donations	19 21.8%	35 40.2%	25 28.7%	5 5.7%	3 3.4%	87 100%
20	Misleading donors through misclassifying expenses	32 36.8%	32 36.8%	13 14.9%	4 4.6%	6 6.9%	87 100%
21	Misleading donors through misclassifying restricted donations	41 47.1%	26 29.9%	4 4.6%	11 12.6%	5 5.7%	87 100%
22	Non-disclosure of transactions with significantly related parties	34 39.1%	31 35.6%	15 17.2%	3 3.4%	4 4.6%	87 100%
23	Inflating revenue	39 44.8%	31 35.6%	7 8.0%	4 4.6%	6 6.9%	87 100%
24	Stolen cheques	20 23.0%	32 36.8%	23 26.4%	7 8.0%	5 5.7%	87 100%
25	Stolen bank cards	16 18.4%	16 18.4%	30 34.5%	12 13.8%	13 14.9%	87 100%
26	Misuse of accounts	9 10.3%	15 17.2%	33 37.9%	21 24.1%	9 10.3%	87 100%
27	Forged cheques	42 48.3%	20 23.0%	10 11.5%	11 12.6%	4 4.6%	87 100%
28	Management fraud	12 13.8%	16 18.4%	33 37.9%	16 18.4%	10 11.5%	87 100%
29	Occupational fraud	20 23.0%	36 41.4%	17 19.5%	9 10.3%	5 5.7%	87 100%
30	Payroll fraud	20 23.0%	36 41.4%	17 19.5%	9 10.3%	5 5.7%	87 100%
31	Fraudulent register disbursement	12 13.8%	30 34.5%	24 27.6%	17 19.5%	4 4.6%	87 100%
32	Understatement of expenses	14 16.1%	26 33.3%	19 21.8%	4 4.6%	21 24.1%	87 100%
33	Wire transfer fraud	28 32.2%	39 44.8%	13 14.9%	3 3.4%	4 4.6%	87 100%
34	Computer fraud	9 10.3%	15 17.2%	43 49.4%	13 14.9%	7 8.0%	87 100%
35	Inflated fundraising costs	10 11.5%	32 36.8%	19 21.8%	20 23.0%	6 6.9%	87 100%

Source: Online Survey (2021), SPSS Version 27

The table shows that 46 (52.9%) respondents rated fictitious inventories at the highest level of fraud risk, followed by 22 (25.3%) at a high level; 8 (9.2%) at some level; 7 (8%) at a low level; and 4 (4.6%) at the lowest level of fraud risk. This implies that fictitious inventories are prevalent at the highest fraud risk level among NGOs in eThekwini region.

Furthermore, 35 (40.2%) respondents agreed that online payment fraud stood at a high level of fraud risk, with 20 (23.0%) at some level; 15 (17.2%) at a low level 10 (11.5%) at the highest level; and 8 (8.0%) at the lowest level of fraud risk. This suggests that online payment fraud is prevalent at the highest fraud risk level among NGOs in eThekwini region.

The findings show that 37 (42.5%) respondents concurred that double dipping should be rated at a high level of fraud risk, while 23 (26.4%) opted for the highest level, 21 (24.1%) some level; 3 (3.4%) a low level of fraud risk, and 3 (3.4%) the lowest level of fraud risk. It can thus be concluded that double dipping is prevalent at the highest fraud risk level among NGOs in eThekwini region.

Financial irregularities were identified by 26 (29.9%) respondents as being at the highest level of fraud risk, while 46 (52.9%) opted for a high level; 10 (11.5%) for some level; 2 (2.3%) for a low level; and 3 (3.4%) for the lowest level of fraud risk. This implies that financial irregularities are prevalent at the highest fraud risk level among NGOs in eThekwini region.

A total of 16 (18.4%) respondents rated extortion of bribes at the highest level of fraud risk, with 32 (36.8%) at a high level; 23 (26.4%) at some level; 11 (12.6%) at a low level; and 5(5.7%) at the lowest level of fraud risk. Thus, it can be inferred that extortion of bribes is prevalent at the highest fraud risk level among NGOs in eThekwini region.

It was also found that 12 (13.8%) respondents agreed the ghost employees or beneficiaries stood at the highest level of fraud risk, with 29 (33.3%) opting for a high level; 21 (24.1%) some level; 21 (24.1%) a low level; and 4 (4.6%) the lowest level of fraud risk. This suggests that ghost employees or beneficiaries are prevalent at the highest fraud risk level among NGOs in eThekwini region.

Twenty-three (26.4%) respondents agreed that skimming should be rated at the highest level of fraud risk; with 28 (32.2%) at a high level; 24 (27.6%) at some level; 8 (9.2%) at a low level; and

4(4.6%) at the lowest level of fraud risk. Therefore, it can be concluded that skimming is prevalent at the highest fraud risk level among NGOs in eThekwini region.

The table shows that 22 (25.3%) respondents opted for the highest level when it came to the risk of theft of donated items, while 38 (43.7%) opted for a high level; 15 (17.2%) for some level; 8 (9.2%) for a low level; and 4 (4.6%) for the lowest level of fraud risk. This implies that theft of donated items or assets is prevalent at the highest fraud risk level among NGOs in eThekwini region.

Furthermore, 34 (39.1%) respondents agreed that falsification of financial statements should be placed at the highest level of fraud risk, and 27 (31.0%) selected a high level; 16 (18.4%) some level; 6 (6.9%) a low level; and 4 (4.6%) the lowest level of fraud risk. It can be inferred that falsification of financial statements is prevalent at the highest fraud risk level among NGOs in eThekwini region.

Credit card abuse was identified by 10 (11.5%) respondents as being at the highest level of fraud risk, whereas 26 (29.9%) placed it at the high level; 24 (27.6%) at some level; 23(26.4%) at a low level; and 4 (4.6%) at the lowest level of fraud risk. This suggests that credit card abuse is prevalent at the high fraud risk level among NGOs in eThekwini region.

Thirteen (14.9%) respondents agreed that fictitious vendors stood at the highest level of fraud risk, while 21 (24.1%) chose a high level; 35 (40.2%) some level; 13 (14.9%) a low level; and 5 (5.7%) the lowest level of fraud risk, leading to the conclusion that fictitious vendors are prevalent to some extent among NGOs in eThekwini region.

A total of 38 (43.7%) respondents concurred that misreporting expenses was at the highest level of fraud risk, 29 (33.3%) at a high level; 9 (10.4%) at some level; 7 (8.0%) at a low level; and 4 (4.6%) at the lowest level of fraud risk. This implies that misreporting expenses is prevalent at the highest fraud risk level among NGOs in eThekwini region.

Moreover, 19 (21.8%) respondents rated payroll fraud at the highest level of fraud risk, with 17 (19.5%) selecting the high level; 29 (33.3%) some level; 17 (19.5%) the low level; and 5 (5.7%) the lowest level of fraud risk. It can therefore be inferred that payroll fraud is prevalent to some extent among NGOs in eThekwini region.

Overstatement of hours worked was identified by 28 (32.2%) respondents as being at the highest level of fraud risk, with 40 (46.0%) selecting the high level; 12 (13.8%) some level; 4 (4.6%) a low level; and 3 (3.4%) the lowest level of fraud risk. This implies that overstatement of hours worked is prevalent to a large extent among NGOs in eThekweni region.

The table shows that 16 (18.4%) respondents chose to rate misappropriation of assets at the highest level of fraud risk, while 19 (21.9%) opted for a high level; 26 (29.9%) some level; 22 (25.3%) for a low level; and 4 (4.6%) the lowest level of fraud risk. This suggests that misappropriation of assets is prevalent to some extent among NGOs in eThekweni region.

Twenty-four (27.6%) respondents agreed that supplier fraud stood at the highest level of fraud risk, 40 (46.0%) at a high level; 8 (9.2%) some level; 12 (13.8%) a low level; and 3(3.4%) the lowest level of fraud risk. It can thus be inferred that supplier fraud is prevalent to a large extent among NGOs in eThekweni region.

Only 11 (12.6%) respondents agreed that kickbacks and conflicts of interest should be rated at the highest level of fraud risk, with 17 (19.5%) selecting the high level; 21 (24.1%) some level; 34 (39.1%) the low level; and 4 (4.6%) the lowest level of fraud risk. This implies that kickbacks and conflicts of interest are prevalent to a small extent among NGOs in eThekweni region.

In terms of kickbacks from subcontracted vendors, 17 (19.5%) respondents selected the highest level of fraud risk, 41 (47.1%) the high level; 20 (23.0%) some level; 6 (6.9%) the low level; and 3 (3.4%) the lowest level of fraud risk. This suggests that kickbacks from subcontracted vendors are prevalent to a large extent among NGOs in eThekweni region.

Nineteen (21.8%) respondents opted for the highest level of fraud risk when it came to misrepresenting the portion of donations, while 35 (40.2%) chose the high level; 25 (28.7%) some level; 5 (5.7%) the low level; and 3 (3.4%) the lowest level of fraud risk. It can thus be inferred that misrepresenting the portion of donations is prevalent at the high fraud risk level among NGOs in eThekweni region.

The results show that 32 (36.8%) respondents rated misleading donors through misclassification of expenses at the highest level of fraud risk, with 32 (36.8%) at the high level; 13 (14.9%) at some level; 4 (4.6%) at the low level; and 3 (3.4%) at the lowest level of fraud risk. This implies that

misleading donors through misclassification of expenses is prevalent at the highest fraud risk level among NGOs in eThekwini region.

A total of 41 (47.1%) respondents agreed that misleading donors through misclassification of restricted donations should be placed at the highest level of fraud risk, with 26 (29.9%) at the high level; 4 (4.6%) at some level; 11 (12.6%) at the low level; and 5 (5.7%) at the lowest level of fraud risk. Therefore, it can be concluded that misleading donors through misclassification of restricted donations is prevalent to a very large extent among NGOs in eThekwini region.

Thirty-four (39.1%) respondents selected the highest level of fraud risk for non-disclosure of transactions with significantly related parties, while 31 (35.6%) selected the high level; 15 (17.2%) some level; 3 (3.4%) the low level; and 4 (4.6%) the lowest level of fraud risk. This suggests that non-disclosure of transactions with significantly related parties is prevalent at the highest fraud risk level among NGOs in eThekwini region.

Furthermore, 39 (44.8%) respondents agreed that inflating revenue was at the highest level of fraud risk; 31 (35.6%) at the high level; 7 (8.0%) at some level; 4 (4.6%) at the low level; and 6 (6.9%) at the lowest level of fraud risk. It can thus be inferred that inflating revenue is prevalent at the highest fraud risk level among NGOs in eThekwini region.

The table shows that 20 (23.0%) respondents agreed that stolen cheques should be rated at the highest level of fraud risk, with 32 (36.8%) opting for the high level; 23 (26.4%) some level; 7 (8.0%) the low level; and 5 (5.7%) the lowest level of fraud risk. This implies that stolen cheques are prevalent to very large extent among NGOs in eThekwini region.

Stolen bank cards were identified by 16 (18.4%) respondents as being at the highest level of fraud risk, while 16 (18.4%) selected the high level; 30 (34.5%) some level; 12 (13.8%) the low level; and 13 (14.9%) the lowest level of fraud risk. This suggests that stolen bank cards are prevalent to some extent among NGOs in eThekwini region.

Nine (10.3%) respondents ranked misuse of accounts at the highest level of fraud risk, with 15 (17.2%) at the high level; 33 (37.9%) at some level; 21 (24.1%) at the low level, and 9 (10.3%) at the lowest level of fraud risk, leading to the conclusion that misuse of accounts is prevalent to some extent among NGOs in eThekwini region.

A total of 42 (48.3%) respondents agreed that forged cheques posed the highest level of fraud risk, and 20 (23.0%) selected the high level; 10 (11.5%) some level; 11 (12.6%) the low level; and 4 (4.6%) the lowest level of fraud risk. Thus, it can be inferred that forged cheques are prevalent at the highest fraud risk level among NGOs in eThekweni region.

Furthermore, 12 (13.8%) respondents placed management fraud or financial statement fraud at the highest level of fraud risk, while 16 (18.4%) opted for the high level; 33 (37.9%) some level; 16 (18.4%) the low level and 10 (11.5%) the lowest level of fraud risk. This implies that management fraud or financial statement fraud is prevalent to a very large extent among NGOs in eThekweni region.

Twenty (23.0%) respondents agreed the occupational fraud should be rated at the highest level of fraud risk, with 36 (41.4%) selecting the high level; 17 (19.5%) some level; 9 (10.3%) the low level; and 5 (5.7%) the lowest level of fraud risk. The table shows that the results were identical for payroll fraud. The conclusion can therefore be reached that occupational fraud and payroll fraud are prevalent at the higher fraud risk level among NGOs in eThekweni region.

The results show that 12 (13.8%) respondents placed fraudulent register disbursement at the highest level of fraud risk, and 30 (34.5%) placed it at the high level; 24 (27.6%) at some level; 17 (19.5%) at the low level; and 4 (4.6%) at the lowest level of fraud risk. It can be inferred that fraudulent register disbursement is prevalent at the higher fraud risk level among NGOs in eThekweni region.

Understatement of expenses was identified by 14 (16.1%) respondents as being at the highest level of fraud risk, while 26 (33.3%) selected the high level; 19 (21.8%) some level; 4 (4.6%) the low level; and 21 (24.1%) the lowest level of fraud risk. This implies that understatement of expenses is prevalent to a large extent among NGOs in eThekweni region.

Twenty-eight (32.2%) respondents agreed the wire transfer fraud should be ranked at the highest level of fraud risk, and 39 (44.8%) chose the high level; 13 (14.9%) some level; 3 (3.4%) the low level; and 4 (4.6%) the lowest level of fraud risk. It can thus be concluded that wire transfer fraud is prevalent to a large extent among NGOs in eThekweni region.

A total of 10 (10.3%) respondents placed computer fraud at the highest level of fraud risk, while 15 (17.2%) placed it at the high level; 43 (49.4%) at some level; 13 (14.9%) at the low level; and 4 (8.0%) at the lowest level of fraud risk. This suggests that computer fraud is prevalent at the highest fraud risk level among NGOs in eThekweni region.

Finally, the table shows that 10 (11.5%) respondents ranked inflation of fundraising costs at the highest level of fraud risk, 32 (36.8%) at the high level; 19 (21.8%) at some level; 20 (23.0%) at the low level; and 6 (6.9%) at the lowest level of fraud risk. Therefore, it can be inferred that inflation of fundraising costs is prevalent at the higher fraud risk level among NGOs in eThekweni region.

These findings support those of previous studies that concluded that questionnaire items 1, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 15, 17, 21, 24, 34, and 35 were common forms of fraud in NGO and other contexts (Zack, 2012; Amin and Harris, 2017; Holtfreter, 2008; Keating, 2007; Johnson, 2015; Caton, 2014; Aranda, 2020; Kumar, 2015; Chorvatovičová and Saxunová, 2016; Buckhoff and Parham, 2009). They also support the ACFE’s 2016 study that concluded that senior managers were involved in 62,5% of the fraud cases reported by the sector.

**4.11. Descriptive analysis of the extent to which proactive forensic audits can be used as preventive fraud risk management practices in NGOs (Means and Standard deviations ratings)**

The study sought to determine the respondents’ views on the extent to which proactive forensic audits can be used by NGOs to prevent and deter fraud. A Likert scale of 1 to 5 (Where 1 = Not at all, 2 = Small Extent, 3 = Moderate Extent; 4 = Large Extent, and 5 = Very Large Extent) was used as the basis for analysis. Table 22 below sets out the means and standard deviations for the 14 questions in Section D.

**Table 22: Descriptive analysis of the extent to which proactive forensic audits can be used as preventive fraud risk management practices in NGOs (Means and Standard deviations ratings)**

Item N <sup>o</sup>	Questionnaire Items	Mean	Std. Deviation
1	A proactive forensic audit can guarantee strategic prevention of fraud	4.46	.860

2	A proactive forensic audit can help to build an efficient internal controls system to prevent future occurrence of fraud	4.09	.583
3	A proactive forensic can help to prevent fraud as far as possible	4.07	.846
4	A proactive forensic audit can help in establishing anti-fraud policy in the NGO	4.03	.813
5	A proactive forensic audit can help in applying fraud opportunities tests	4.22	.868
6	A proactive forensic audit can help to address weaknesses in internal audit and audit committee	4.10	.683
7	A proactive forensic lifestyle audit	4.11	.982
8	A proactive forensic audit can help in building an inventory of fraud opportunities	4.09	.830
9	A proactive forensic audit on employment screening	4.25	.810
10	A proactive forensic audit can help in using IT to prevent electronic fraud	4.32	.755
11	A proactive forensic audit can help in building sound policies to prevent the future occurrence of fraud	4.24	.777
12	A proactive forensic audit can address unethical practices	4.30	.764
13	A proactive forensic audit can prevent financial irregularities	4.29	.820
14	A proactive forensic audit can help in building an effective anti-fraud policy	4.34	.874

**Source:** Online Survey (2021), SPSS Version 27

The results show that the respondents expressed significant agreement that proactive forensic audits can be used to prevent and deter the risks of financial statement fraud and other fraudulent activities in NGOs. This is demonstrated by the following means and standard deviations for the different items: the respondents agreed, to a very large extent, with a proactive forensic audit as a tool to guarantee strategic prevention of fraud in NGOs with a mean of 4.46 and standard deviation of .860; a proactive forensic audit as a tool to build an effective anti-fraud policy with a mean of 4.34 and standard deviation of .874; proactive forensic audit can help in using IT to prevent electronic fraud with a mean of 4.32 and standard deviation of .755; and a proactive forensic audit can be used to address unethical practices with a mean of 4.34 and standard deviation of .764.

The results also reveal that the respondents agreed, to a large extent, with a proactive forensic audit as a tool to: prevent financial irregularities with a mean of 4.29 and standard deviation of .820; conduct employment screening with a mean of 4.25 and standard deviation of .810; build sound policies to prevent the future occurrence of fraud irregularities with a mean of 4.24 and standard deviation of .777; apply fraud opportunities tests with a mean of 4.22 and standard deviation of

.868; conduct lifestyle audits with a mean of 4.11 and the highest standard deviation of about .982; address weaknesses in internal audit and the audit and risk committee with a mean of 4.10 and standard deviation of .683; build an inventory of fraud opportunities with a mean of 4.09 and standard deviation of .830; build an efficient internal controls system to prevent the future occurrence of fraud with a mean of 4.09 and the lowest standard deviation of about .583; prevent fraud as far as possible with a mean of 4.07 and standard deviation of .846, and to establishing anti-fraud policy in the NGO with a mean of 4.03 and standard deviation of .813.

The means of all the responses are above 4 and there is little variation among them as the highest standard deviation is 0.982, which depicts consensus. This suggests that the adoption of proactive forensic auditing techniques will assist in preventing fraudulent activities among NGOs in eThekwini region.

Furthermore, the findings presented in Table 22 above point to strong conformity in the respondents' views on the relevance of proactive forensic auditing as a tool for preventive FRM among NGOs in eThekwini region. There was statistically significant agreement that NGOs should use proactive forensic auditing techniques in order to prevent fraudulent practices and financial statement fraud in particular. As shown in Chapter 6, the analysis of the data gathered by means of interviews confirmed these findings. The frequency distribution of the responses to the open-ended questions revealed that all ten interviewees agreed on this issue.

These results concur with Ocansey's (2017) finding that proactive forensic auditing had a positive significant relationship with FRM in Ghana. They also support the findings of other studies that concluded that proactive forensic auditing is an essential measure to prevent financial statement fraud and detect fraudulent activities in different contexts (Aiken, 2016; Amah, 2018; Eyisi, 2014; Oyedokun, 2016; Uniamikogbo, 2019; Walden, 2016), as well as Smith (2005), Hershensohn and Block (2005), and Thomopoulos (2013) who found that proactive computer forensic audits are effective in preventing electronic fraud.

#### **4.11.1. Respondents' rating of the extent to which proactive forensic audits can be used as preventive fraud risk management practices among NGOs in eThekwini region.**

The respondents were requested to rate the extent to which proactive forensic audit techniques can be used as preventive fraud risk management practices in NGOs. The data in this section were

analysed using frequency distributions and percentages and the findings are presented in Table 23 below:

**Table 23: Respondents' rating of the extent to which proactive forensic audits can be used as preventive fraud risk management practices among NGOs in eThekweni region.**

Item N°	Questionnaire Items	Responses					Total
		Very Large Extent	Large Extent	Moderate Extent	Small Extent	Not at All	
1	A proactive forensic audit can guarantee strategic prevention of fraud	58 66.7%	14 16.1%	12 13.8%	3 3.4%	0 0.0%	87 100%
2	A proactive forensic audit can help to build an efficient internal controls system to prevent future occurrence of fraud	19 21.8%	57 65.5%	11 12.6%	0 0.0%	0 0.0%	87 100%
3	A proactive forensic can help to prevent fraud as far as possible	33 37.9%	28 32.2%	25 28.7%	1 1.1%	0 0.0%	87 100%
4	A proactive forensic audit can help in establishing anti-fraud policy in the NGO	26 29.9%	42 48.3%	15 17.2%	4 4.6%	0 0.0%	87 100%
5	A proactive forensic audit can help in applying fraud opportunities tests	40 46.0%	30 34.5%	13 14.9%	4 4.6%	0 0.0%	87 100%
6	A proactive forensic audit can help to address weaknesses in internal audit and audit committee	24 27.6%	49 56.3%	13 14.9%	1 1.1%	0 0.0%	87 100%
7	A proactive forensic lifestyle audit	41 47.1%	21 24.1%	19 21.8%	6 6.9%	0 0.0%	87 100%
8	A proactive forensic audit can help in building an inventory of fraud opportunities	32 36.8%	33 37.9%	20 23.0%	2 2.3%	0 0.0%	87 100%
9	A proactive forensic audit on employment screening	40 46.0%	31 35.6%	14 16.1%	2 2.3%	0 0.0%	87 100%
10	A proactive forensic audit can help in using IT to prevent electronic fraud	41 47.1%	35 40.2%	9 10.3%	2 2.3%	0 0.0%	87 100%
11	A proactive forensic audit can help in building sound policies to prevent the future occurrence of fraud	39 44.8%	30 34.5%	18 20.7%	0 0.0%	0 0.0%	87 100%
12	A proactive forensic audit can address unethical practices	40 46.0%	35 40.2%	10 11.5%	2 2.3%	0 0.0%	87 100%
13	A proactive forensic audit can prevent financial irregularities	43 49.4%	28 32.2%	14 16.1%	2 2.3%	0 0.0%	87 100%

14	A proactive forensic audit can help in building an effective anti-fraud policy	49 56.3%	23 26.4%	11 12.6%	4 4.6%	0 0.0%	87 100%
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**Source:** Online Survey (2021), SPSS Version 27

The table 23 illustrates that 58 (66.7%) respondents agreed that proactive forensic audit techniques can guarantee strategic prevention of fraud in NGOs to a very large extent; 14 (16.1%) to a large extent; 12 (13.8%) to a moderate extent; and 3 (3.4%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot guarantee strategic prevention of fraud in NGOs. This implies that prevention of fraud can be guaranteed among NGOs through proactive forensic auditing techniques.

Nineteen (21.8%) respondents concurred that proactive forensic audit techniques can help to build an efficient internal controls system to prevent future occurrence of fraud in NGOs to a very large extent; 57 (65.5%) to a large extent; and 11 (12.6%) to a moderate extent. None of the respondents indicated that proactive forensic audit techniques can help to build an efficient internal controls system to prevent future occurrence of fraud in NGOs to a small extent or not at all. This suggests that the use of proactive forensic auditing techniques and skills to build stronger internal controls is a strategic option for fraud prevention among NGOs in eThekwini region.

The table 23 shows that 33 (37.9%) respondents agreed that proactive forensic audit techniques can help to prevent fraud as far as possible to a very large extent; 28 (32.2%) to a large extent; 25 (28.7%) to a moderate extent; and 1 (1.1%) to a small extent, while none indicated that forensic audit techniques cannot help at all in preventing fraud as far as possible in NGOs. It can thus be inferred that fraudulent activities can be prevented among NGOs in eThekwini region through the use of proactive forensic auditing techniques and skills.

Furthermore, 26 (29.9%) respondents concurred that proactive forensic audit techniques can assist in establishing anti-fraud policy in NGOs to a very large extent, 42 (48.3%) to a large extent; 15 (17.2%) to a moderate extent; and 4 (4.6%) to small extent, with none indicating that forensic audit techniques cannot help at all in establishing anti-fraud policy in NGOs. It can therefore be concluded that the use of proactive forensic auditing techniques and skills to establish sound anti-fraud policy is a strategic option for fraud prevention among NGOs in eThekwini region.

The results show that 40 (46.0%) respondents agreed that proactive forensic audit techniques can facilitate the application of fraud opportunities tests in NGOs to a very large extent; 30 (34.5%) to a large extent; 13 (14.9%) to a moderate extent, and 4 (4.6%) to a small extent. None of the respondents indicated that forensic audit techniques cannot help at all in applying fraud opportunities tests in NGOs. This implies that fraudulent activities among NGOs can be prevented by applying fraud opportunities tests through proactive forensic auditing techniques and skills.

A total of 24 (27.6%) respondents concurred that proactive forensic audit techniques can assist in building effective internal audits and audit committees in NGOs to a very large extent; 49 (56.3%) to a large extent; 13 (14.9%) to a moderate extent; 1 (1.1%) to small extent, and none indicated that forensic audit techniques cannot help at all in building effective internal audits and audit committees in NGOs. This suggests that the use of proactive forensic auditing techniques and skills to build internal audits and audit committees is a strategic option for fraud prevention among NGOs in eThekweni region.

The findings reveal that 41 (47.1%) respondents agreed that lifestyle audits can prevent fraud in the future to a very large extent; 21 (24.1%) to a large extent; 19 (21.8%) to a moderate extent; and 6 (6.9%) to a small extent. None of the respondents indicated that lifestyle audits cannot prevent future occurrence of fraud at all in NGOs. It can thus be inferred that future fraudulent activities among NGOs can be prevented by lifestyle audits through proactive forensic auditing techniques and skills.

Thirty-two (36.8%) respondents concurred that proactive forensic audit techniques can help to build an inventory of fraud opportunities in NGOs to a very large extent; 33 (37.9%) to a large extent; 20 (23.0%) to a moderate extent, and 2 (2.3%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot help at all in building an inventory of fraud opportunities in NGOs. It can therefore be concluded that fraudulent activities among NGOs can be prevented by building an inventory of fraud opportunities through proactive forensic auditing techniques and skills.

Table 23 illustrates that 40 (46.0%) respondents agreed that proactive forensic audit techniques can play a vital role in employment screening to a very large extent; 31 (35.6%) to large extent; 14 (16.1%) to a moderate extent; and 2 (2.3%) to a small extent, and none indicated that proactive forensic audit techniques cannot play any role in employment screening in NGOs. This implies

that fraudulent activities among NGOs can be prevented by using employment screening through proactive forensic auditing techniques and skills.

Furthermore, 41 (47.1%) respondents concurred that proactive forensic audit techniques can facilitate the use of IT to prevent electronic fraud in NGOs to a very large extent; 35 (40.2%) to a large extent; 9 (10.3%) to a moderate extent; and 2 (2.3%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot help at all in using IT to prevent electronic fraud in NGOs. This suggests that fraudulent activities in NGOs can be prevented by using IT through proactive forensic auditing techniques and skills.

The results show that 39 (44.8%) respondents agreed that proactive forensic audit techniques can help to build sound policies to prevent fraud in the future in NGOs to a very large extent; 30 (34.5%) to a large extent; and 18 (20.7%) to a moderate extent, while none of the respondents indicated that proactive forensic audit techniques can help to build sound policies to prevent fraud in the future in NGOs to a small extent or not at all. It can thus be inferred that the use of proactive forensic auditing techniques and skills to build sound policies is a strategic option for fraud prevention among NGOs in eThekweni region.

Furthermore, 40 (46.0%) respondents concurred that proactive forensic audit techniques can address unethical practices in NGOs to a very large extent; 35 (40.2%) to a large extent; 10 (11.5%) to a moderate extent; and 2 (2.3%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot address unethical practices in NGOs at all. It can therefore be concluded that fraudulent activities among NGOs can be prevented by addressing unethical practices through proactive forensic auditing techniques and skills.

Table 23 reveals that 43 (49.4%) respondents agreed that proactive forensic audit techniques can prevent financial irregularities in NGOs to a very large extent; 28 (32.2%) to a large extent; 14 (16.1%) to a moderate extent; and 2 (2.3%) to a small extent. None of the respondents indicated that forensic audit techniques cannot prevent financial irregularities in NGOs at all. This implies that financial irregularities among NGOs can be prevented through the application of proactive forensic auditing techniques and skills.

Finally, 49 (56.3%) respondents concurred that proactive forensic audit techniques can help to formulate an effective anti-fraud policy in NGOs to a very large extent; 23 (26.4%) to a large

extent; 11 (12.6%) to a moderate extent; and 4 (4.6%) to a small extent, with none indicating that forensic audit techniques cannot help at all to build an effective anti-fraud policy in NGOs. This suggests that the uses of proactive forensic auditing techniques and skills to build effective anti-fraud policy is a strategic option for fraud prevention among NGOs in eThekweni region.

These quantitative results were confirmed by the analysis of the qualitative data gathered by means of interviews that is presented in Chapter 6. They are also in line with Njanike, Dube, and Mashayanye (2009) and Ogutu and Ngahu’s (2016) studies that advocated for the use of proactive forensic auditing techniques to prevent financial and economic crimes and to reduce the number of financial scandals, fraudulent financial practices, manipulation of the figures reported in financial reports, cybercrimes and misappropriation of assets within entities. The results also support Ştirbu et al.’s (2010) finding that forensic auditors can identify and prevent fraud risks. This implies that an increase in proactive forensic auditing would lead to increased prevention of financial and economic crimes and financial statement fraud among NGOs in eThekweni region. It also suggests that forensic auditors enhance the effectiveness of internal controls by preventing financial statement fraud.

**4.12. Descriptive analysis of the extent to which proactive forensic audits can be used as detective fraud risk management practices in NGOs (Means and Standard deviations ratings)**

The study sought to establish the respondents’ views on the extent to which NGOs could adopt detective FRM practices to deter fraud. A Likert scale of 1 to 5 (Where 1 = Not at all, 2 = Small Extent, 3 = Moderate Extent; 4 = Large Extent, and 5 = Very Large Extent) was used as the basis for the analysis. The means and standard deviations for the 13 questions in Section E are presented in Table 24 below.

**Table 24: Descriptive analysis of the extent to which proactive forensic audits can be used as detective fraud risk management practices in NGOs (Means and Standard deviations ratings)**

Item No	Questionnaire Items	Mean	Std. Deviation
1	Proactive forensic audits can guarantee prompt detection of fraud	4.48	.874
2	Proactive forensic audit can help in detecting financial statement fraud	4.22	.655

3	Lifestyle audits would assist forensic investigations	4.02	.940
4	Proactive forensic auditing is a novel model used in South Africa for detection of fraud in NGOs	4.21	.794
5	Proactive forensic audits can safeguard assets from unauthorised use	4.17	.838
6	Proactive forensic audits build sound internal audits to detect fraudulent claims	4.20	.760
7	Proactive forensic audits can enhance strategic detection of fraud	4.18	.815
8	Proactive forensic audits can enhance fraud risk awareness	4.33	.872
9	Proactive forensic audits can detect, deter, and mitigate fraud in NGOs	4.24	.762
10	Proactive forensic audits can help in reviewing weak internal audits	4.20	.875
11	Proactive forensic audits can help to build stronger financial reporting systems	4.23	.788
12	Proactive forensic audits can help to address the weaknesses of internal controls	4.25	.810
13	Proactive forensic audits can guarantee stronger financial management	4.43	.772

**Source:** Online Survey (2021), SPSS Version 27

The results show that the respondents expressed significant agreement that proactive forensic audits can be used as a detective FRM practice by NGOs. This is demonstrated by the following means and standard deviations for the different items: the respondents agreed, to a very large extent, with proactive forensic audits as a tool to guarantee prompt detection of fraud in NGOs with a mean of 4.48 and standard deviation of .874; proactive forensic audits as a tool to guarantee stronger financial management in NGOs with a mean of 4.43 and standard deviation of .772; proactive forensic audits as a tool to enhance fraud risk awareness in NGOs with a mean of 4.33 and standard deviation of .872; a proactive forensic audit can address the weaknesses of internal controls in the NGO with a mean of 4.425 and standard deviation of .810; a proactive forensic audit can detect, deter, and mitigate fraud in NGOs with a mean of 4.24 and standard deviation of .762; and a proactive forensic audit can help to build a stronger financial reporting system in NGOs with a mean of 4.23 and standard deviation of .788.

The results also reveal that the respondents agreed, to large extent, with a proactive forensic audit as a tool to detect financial statement fraud with a mean of 4.22 and the lowest standard deviation

of about .655; a proactive forensic audit is a novel model used in South Africa to detect fraud in NGOs with a mean of 4.21 and standard deviation of .794; a proactive forensic audit as a tool to build sound internal audits to detect fraudulent claims in NGOs with a mean of 4.20 and standard deviation of .760; a proactive forensic audit can help in reviewing weak internal audits with a mean of 4.20 and standard deviation of .875; proactive forensic audits can enhance strategic detection of fraud in NGOs with a mean of 4.18 and standard deviation of .815; a proactive forensic audit can help to safeguard assets from unauthorised use in NGOs with a mean of 4.17 and standard deviation of .838; and lifestyle audits would assist forensic investigations in NGOs with a mean of 4.02 and the highest standard deviation of about .940.

The means of all the responses are above 4 and there is little variation among the responses, with the highest standard deviation at 0.940, which depicts consensus. This implies that forensic auditors enhance detection of fraudulent activities in NGOs, and thus expose the weaknesses of organisations' systems and unethical practices. It also implies that proactive forensic auditors enhance detective FRM measures as, by detecting financial statement fraud, forensic auditing will proactively detect fraudulent activities among NGOs in eThekweni region. This analysis of the data gathered by means of interviews confirmed the results from the quantitative analysis. The frequency distribution of the responses to the open-ended questions indicates that all ten interviewees agreed that proactive forensic audit techniques will lead to strategic fraud detection among NGOs in eThekweni region.

These results are in line with the current body of knowledge that states that lifestyle audits during forensic auditing are useful as they: (i) identify direct evidence of fraud, (ii) can quickly help forensic auditors to narrow their list of fraud suspects who are living beyond their financial means, (iii) can quickly identify misappropriated assets and funds, (iv) are crucial fraud risk indicators, (v) are an excellent barometer of the extent of the fraud risk in an organisation, (vi) can yield direct evidence of illegal income and hidden assets, (vii) add value to the forensic investigation, and (viii) are tools forensic auditors can use to prove that a suspect is generating income from somewhere (Gillespie, 2014; Bredenkamp, 2015; Geldenhuys and Magazine, 2016; Kapardis and Courakis 2017).

The findings are also in line with Ohando and Ronald (2015) whose means and standard deviations for questionnaire items 1, 2, 5, 6, 9, 10, 11, and 12, respectively were 4.34 and .745; 4.18 and .820; 4.15 and .807; 4.62 and .609; 4.25 and .762; 4.06 and .981, 4.53 and .621; and 4.03 and .808.

**4.12.1. Respondents’ rating of the extent to which proactive forensic audits can be used as detective fraud risk management practices in NGOs**

The respondents were asked to indicate the extent to which they agreed that proactive forensic audit techniques can be used as detective FRM practices in their NGOs. The frequency distributions and percentages are shown in Table 25 below.

**Table 25: Respondents’ rating of the extent to which proactive forensic audits can be used as detective fraud risk management practices in NGOs**

Item N°	Questionnaire Items	Responses					Total
		Very Large Extent	Large Extent	Moderate Extent	Small Extent	Not at All	
1	A proactive forensic audit can guarantee prompt detection of fraud in the NGO	59 67.8%	16 18.4%	7 8.0%	5 5.7%	0 0.0%	87 100%
2	A proactive forensic audit can help in detecting financial statement fraud in the NGO	30 34.5%	46 52.9%	11 12.6%	0 0.0%	0 0.0%	87 100%
3	Lifestyle audits would help in forensic investigations in the NGO	33 37.9%	29 33.3%	19 21.8%	6 6.9%	0 0.0%	87 100%
4	A proactive forensic audit is a novel model used in South Africa to detect fraud in NGOs	35 40.2%	38 43.7%	11 12.6%	3 3.4%	0 0.0%	87 100%
5	A proactive forensic audit can safeguard assets from unauthorised use in the NGO	37 42.5%	30 34.5%	18 20.7%	2 2.3%	0 0.0%	87 100%
6	A proactive forensic audit builds sound internal audits to detect fraudulent claims in the NGO	33 37.9%	40 46.0%	12 13.8%	2 2.3%	0 0.0%	87 100%
7	A proactive forensic audit can enhance strategic detection of fraud in NGOs	34 39.1%	39 44.8%	10 11.5%	4 4.6%	0 0.0%	87 100%
8	A proactive forensic audit can enhance fraud risk awareness in NGOs	46 52.9%	29 33.3%	8 9.2%	3 3.4%	1 1.1%	87 100%
9	A proactive forensic audit can detect, deter, and mitigate fraud in NGOs	37 42.5%	35 40.2%	14 16.1%	1 1.1%	0 0.0%	87 100%
10	A proactive forensic audit can help in reviewing weak internal audits	35 40.2%	37 42.5%	12 13.8%	3 3.4%	0 0.0%	87 100%
11	A proactive forensic audit can help to build stronger financial reporting system in NGOs	36 41.4%	38 43.7%	10 11.5%	3 3.4%	0 0.0%	87 100%
12	A proactive forensic audit can help in addressing the weaknesses of internal controls	39 44.8%	34 39.1%	11 12.6%	3 3.4%	0 0.0%	87 100%

13	A proactive forensic audit can guarantee stronger financial management	49 56.3%	29 33.3%	6 6.9%	3 3.4%	0 0.0%	87 100%
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**Source:** Online Survey (2021), SPSS Version 27

The table above shows that 59 (67.8%) respondents agreed that proactive forensic audit techniques can guarantee prompt detection of fraud in NGOs to a very large extent; 16 (18.4%) to a large extent; 7 (8.0%) to a moderate extent; and 5 (5.7%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot guarantee prompt detection of fraud in NGOs. This implies that fraudulent activities among NGOs in eThekweni region can be detected using forensic audit techniques and skills.

Thirty (34.5%) respondents concurred that proactive forensic audit techniques can help to detect financial statement fraud in NGOs to a very large extent; 46 (52.9%) to a large extent; and 11 (12.6%) to a moderate extent, with none indicating that proactive forensic audit techniques can help to detect financial statement fraud in NGOs to a small extent or not at all. This suggests that there is a need for proactive forensic auditing techniques and skills to detect financial statement fraud among NGOs in eThekweni region.

Furthermore, 33 (37.9%) respondents agreed that lifestyle audits would assist forensic investigations in NGOs to a very large extent; 29 (33.3%) to a large extent; 19 (21.8%) to a moderate extent; and 6 (6.9%) to a small extent, while none of the respondents indicated that lifestyle audits would not assist forensic investigations in NGOs. It can thus be inferred that proactive forensic auditing through lifestyle audits is positively and highly correlated with fraud detection among NGOs in eThekweni region.

The results show that 35 (40.2%) respondents concurred that a proactive forensic audit is a novel model used in South Africa to detect fraud in NGOs to a very large extent; 38 (43.7%) to a large extent; 11 (12.6%) to a moderate extent; and 3 (3.4%) to a small extent, and none of the respondents indicated that a proactive forensic audit is not a novel model used in South Africa to detect fraud in NGOs. Therefore, it can be concluded that proactive forensic auditing is an effective tool to detect fraudulent activities among NGOs in eThekweni region.

A total of 37 (42.5%) respondents agreed that proactive forensic audit techniques can safeguard assets from unauthorised use in NGOs to a very large extent; 30 (34.5%) to a large extent; 18 (20.7%) to a moderate extent; and 2 (2.3%) to a small extent, while none of the respondents indicated that proactive forensic audit techniques cannot safeguard assets from unauthorised use in NGOs. This implies that proactive forensic auditing safeguards assets from unauthorised use among NGOs in eThekweni region.

Moreover, 33 (37.9%) respondents concurred that proactive forensic audit techniques build sound internal audits to detect fraudulent claims in NGOs to a very large extent; 40 (46.0%) to a large extent; 12 (13.8%) to a moderate extent; and 2 (2.3%) to a small extent, with none indicating that proactive forensic audit techniques cannot build sound internal audits to detect fraudulent claims in NGOs. This suggests that proactive forensic auditing will result in sound internal audits that enable the detection of fraudulent claims among NGOs in eThekweni region.

Table 25 shows that 34 (39.1%) respondents agreed that proactive forensic audit techniques can enhance strategic detection of fraud in NGOs to a very large extent; 39 (44.8%) to large extent; 10 (1.5%) to a moderate extent; and 4 (4.6%) to a small extent, while none of the respondents indicated that proactive forensic audit techniques cannot enhance strategic detection of fraud in NGOs. It can thus be inferred that proactive forensic auditing will lead to strategic fraud detection processes among NGOs in eThekweni region.

Forty-six (52.9%) respondents concurred that proactive forensic audit techniques can enhance fraud risk awareness in NGOs to a very large extent; 29 (33.3%) to a large extent; 8 (9.2%) to a moderate extent; and 3 (3.4%) to a small extent. One (1.1%) respondent indicated that proactive forensic audit techniques cannot enhance fraud risk awareness in NGOs. Therefore, it can be concluded that proactive forensic auditing will enhance fraud risk awareness among NGOs in eThekweni region.

Furthermore, 37 (42.5%) respondents agreed that proactive forensic audit techniques can detect, deter, and mitigate fraud in NGOs to a very large extent; 35 (40.2%) to a large extent; 14 (16.1%) to a moderate extent; and 1 (1.1%) to a small extent, with none indicating that proactive forensic audit techniques cannot detect, deter, and mitigate fraud in NGOs. This implies that proactive forensic auditing will lead to strategic fraud detection processes among NGOs in eThekweni region which tend to deter, detect and mitigate fraudulent activities.

The results show that 35 (40.2%) respondents concurred that proactive forensic audit techniques can assist in reviewing weak internal audits in NGOs to a very large extent; 37 (42.5%) to a large extent; 12 (13.8%) to a moderate extent; and 3 (3.4%) to a small extent, while none of the respondents indicated that proactive forensic audit techniques cannot assist at all in reviewing weak internal audits in NGOs. This suggests that proactive forensic auditing will lead to strategic fraud detection process among NGOs in eThekweni region which tend to detect fraudulent claims and enhance the effectiveness of internal audit systems.

A total of 36 (41.4%) respondents agreed that proactive forensic audit techniques can help to build stronger financial reporting systems in NGOs to a very large extent; 38 (43.7%) to a large extent; 10 (11.5%) to a moderate extent; and 3 (3.4%) to a small extent, with none indicating that proactive forensic audit techniques cannot help to build stronger financial reporting systems in NGOs. It can thus be inferred that financial reporting systems among NGOs in eThekweni region can be enhanced by the adoption of proactive forensic auditing techniques and skills.

Moreover, 39 (44.8%) respondents concurred that proactive forensic audit techniques can help to address weaknesses in NGOs' internal controls to a very large extent; 34 (39.1%) to large extent; 11 (12.6%) to a moderate extent; and 3 (3.4%) to a small extent, while none of the respondents indicated that proactive forensic audit techniques cannot help at all to address weaknesses in internal controls in NGOs. Therefore, it can be concluded that weaknesses in internal controls among NGOs in eThekweni region can be addressed through the application of proactive forensic auditing techniques and skills.

Finally, 49 (56.3%) respondents agreed that proactive forensic audit techniques can guarantee stronger financial management in NGOs to a very large extent; 29 (33.3%) to a large extent; 6 (6.9%) to a moderate extent; and 3 (3.4%) to a small extent, with none agreeing that proactive forensic audit techniques cannot guarantee stronger financial management in NGOs. This implies that stronger financial management can be achieved by NGOs in eThekweni region through the application of proactive forensic auditing techniques and skills.

These findings concur with those of Falie (1999), Walden (2016) and Aiken (2016) that revealed that proactive forensic auditing has a significant positive relationship with the detection of financial statement fraud. They also support the prior discussion on the positive link between proactive

forensic auditing and FRM among for-profit entities (Onodi, Okafor, and Onyali, 2015; Oyedokun, 2016).

**4.13. Descriptive analysis of the extent to which proactive forensic audits can be used as responsive fraud risk management practices (Means and Standard deviations ratings)**

This study sought the respondents' views on the extent to which they believed that proactive forensic audits can be used as responsive FRM practices. A Likert scale of 1 to 5 (Where 1 = Not at all, 2 = Small Extent, 3 = Moderate Extent; 4 = Large Extent, and 5 = Very Large Extent) was used as the basis for the analysis. The means and standard deviations for the seven questions in Section F are presented in Table 26 below.

**Table 26: Descriptive analysis of the extent to which proactive forensic audits can be used as responsive fraud risk management practices (Means and Standard deviations ratings)**

Item N <sup>o</sup>	Questionnaire Items	Mean	Std. Deviation
1	Proactive forensic audits would help in conducting lifestyle audits on NGO staff	4.47	.926
2	Proactive forensic audits would help in conducting internal investigations in the NGO	4.10	.683
3	Proactive forensic audits would help management to take appropriate action	4.06	.867
4	Proactive forensic audits would help to disclose the results of internal and external investigations in court	4.18	.856
5	Proactive forensic audits would help in bringing offenders to justice	4.29	.761
6	Proactive forensic audits would help in prosecuting the offender	4.47	.745
7	Proactive forensic audits would help in identifying prejudice and stolen funds and assets	4.64	.664

Source: Online Survey (2021), SPSS Version 27

The results show that the respondents expressed significant agreement that forensic audit techniques can assist in responding to the risk of financial statement fraud and other fraudulent activities among NGOs in eThekweni region. This is demonstrated by the following means and standard deviations for the different items: a proactive forensic audit would help to identify prejudice, and stolen funds and assets with a mean of 4.64 and the lowest standard deviation of

about .664; a proactive forensic audit would help in conducting lifestyle audits on NGO staff with a mean of 4.47 and the highest standard deviation of about .926; a proactive forensic audit would help in prosecuting the offender with a mean of 4.47 and standard deviation of .745; a proactive forensic audit would help in bringing offenders to justice with a mean of 4.29 and standard deviation of .761; a proactive forensic audit would help in disclosing the results of internal and external investigations in court with a mean of 4.18 and standard deviation of .856; a proactive forensic audit would help in conducting internal investigations in the NGO with a mean of 4.10 and standard deviation of .683; and a proactive forensic audit would help management to take appropriate action with a mean of 4.06 and standard deviation of .867. Therefore, the respondents were in significant agreement that proactive forensic audits can be used to respond to the risks of fraud in NGOs as the means of all responses are above 4 and the standard variations are low, with the highest at 0.926, depicting consensus. This implies that an increase in proactive forensic auditing techniques enhances responses to the risk of fraud among NGOs in eThekweni region.

These quantitative results were confirmed by the analysis of the qualitative data gathered by means of interviews which is presented in Chapter 6. The frequency distribution of the responses to the open-ended interview questions shows that all ten interviewees confirmed that proactive forensic audit techniques will lead to a strategic fraud response process among NGOs in eThekweni region.

The findings are in line with Tanim's (2016) study that calculated means and standard deviations, respectively, of 4.01 and .812; 4.15 and .764; 4.85 and .787; 4.04 and 4.08; 4.93 and .996; 4.28 and .841; and 4.87 and .957 for questionnaire items 2, 3, 4, 5, 6 and 7. However, they contradict Eyisi (2014) and Utomwen (2015) whose studies on forensic auditors' fraud risk responsiveness indicated insignificant agreement in the Kenyan financial sector. Previous studies that support the findings include Boateng (2014); Saidu (2015), and Mehta and Bhavani, (2017).

#### **4.13.1. Respondents' rating of the extent to which proactive forensic audits can be used as responsive fraud risk management practices in NGOs**

The respondents were asked to indicate the extent to which they agreed that proactive forensic audits can be used as responsive FRM practices in their organisations. A Likert scale of 1 to 5 (Where 1 = Not at all, 2 = Small Extent, 3 = Moderate Extent, 4 = Large Extent, and 5 = Very Large Extent) was used as the basis for analysis. The frequency distributions and percentages are presented in Table 27 below.

**Table 27: Respondents' rating of the extent to which proactive forensic audits can be used as responsive fraud risk management practices in NGOs**

Item N°	Questionnaire Items	Responses					Total
		Very Large Extent	Large Extent	Moderate Extent	Small Extent	Not at All	
1	A proactive forensic audit would help in conducting lifestyle audits on NGO staff	60 69.0%	15 17.2%	5 5.7%	7 8.0%	0 0.0%	87 100%
2	A proactive forensic audit would help in conducting internal investigations in the NGO	25 28.7%	46 52.9%	16 18.4%	0 0.0%	0 0.0%	87 100%
3	A proactive forensic audit would help management to take appropriate action	34 39.1%	25 28.7%	27 31.0%	1 1.1%	0 0.0%	87 100%
4	A proactive forensic audit would help in disclosing the results of internal and external investigations in court	36 41.4%	36 41.4%	10 11.5%	5 5.7%	0 0.0%	87 100%
5	A proactive forensic audit would help to bring offenders to justice	39 44.8%	36 41.4%	10 11.5%	2 2.3%	0 0.0%	87 100%
6	A proactive forensic audit would help in prosecuting the offender	53 60.9%	23 26.4%	10 11.5%	1 1.1%	0 0.0%	87 100%
7	A proactive forensic audit would help in identifying prejudice, and stolen funds and assets	64 73.6%	16 18.4%	6 6.9%	1 1.1%	0 0.0%	87 100%

Source: Online Survey (2021), SPSS Version 27

The table 27 illustrates that 60 (69.0%) respondents agreed that proactive forensic audit techniques are tools that help to conduct lifestyle audits on NGO staff to a very large extent; 15 (17.2%) to a large extent; 5 (5.7%) to a moderate extent; and 7 (8.0%) to a small extent, while none of the respondents was of the view that forensic audit techniques would not help in conducting lifestyle audits on NGO staff. This implies that proactive forensic auditing will assist in conducting lifestyle audits, which will reduce fraudulent activities.

Moreover, 25 (28.7%) respondents concurred that proactive forensic audit techniques would help in conducting internal investigations in NGOs to a very large extent; 46 (52.9%) to large extent; and 16 (18.4%) to a moderate extent, while none of the respondents was of view that proactive forensic audit techniques would help to conduct internal investigations in NGOs to a small extent

or would not help at all in this regard. This suggests that proactive forensic auditing would assist in conducting internal investigations into fraudulent activities among NGOs in eThekweni region. A total of 34 (39.1%) respondents agreed that proactive forensic audit techniques would help management to take appropriate decisions to a very large extent; 25 (28.7%) to a large extent; 27 (31.0%) to a moderate extent; and 1(1.1%) to a small extent, with none of the view that proactive forensic audit techniques would not help management to take appropriate decisions. It can thus be inferred that proactive forensic auditing will lead to management taking appropriate decisions in response to fraudulent activities in NGOs in eThekweni region.

Thirty-six (41.4%) respondents concurred that proactive forensic audit techniques would help in disclosing the results of internal and external investigations in court to a very large extent and to a large extent, respectively; 10 (11.5%) to a moderate extent; and 5 (5.7%) to a small extent, with none of the respondents indicating that proactive forensic audit techniques would not help at all in disclosing the results of internal and external investigations in court. Therefore, it can be concluded that proactive forensic auditing will enable NGOs in eThekweni region to disclose the results of internal and external investigations in court as a response to fraudulent activities.

Table 27 shows that 39 (44.8%) respondents agreed that proactive forensic audit techniques would help in bringing offenders to justice to a very large extent; 36 (41.4%) to a large extent; 10 (11.5%) to a moderate extent; and 2 (2.3%) to a small extent. No respondent agreed that proactive forensic audit techniques would not help in bringing offenders to justice. This implies that proactive forensic auditing will assist NGOs in eThekweni region in bringing offenders to justice as a response to fraudulent activities.

Furthermore, 53 (60.9%) respondents concurred that proactive forensic audit techniques would help in prosecuting the offender to a very large extent; 23 (26.4%) to a large extent, 10 (11.5%) to a moderate extent; and 1 (1.1%) to a small extent, while none of the respondents indicated that proactive forensic audit techniques would not help at all in prosecuting the offender. This suggests that proactive forensic auditing will enable NGOs in eThekweni region to prosecute the offender in response to fraudulent activities.

Finally, 64 (73.6%) respondents agreed that proactive forensic audit techniques would help in identifying prejudice, and stolen funds and assets to a very large extent; 16 (18.4%) to a large extent; 6 (6.9%) to a moderate extent; and 1 (1.1%) to a small extent. None were of the view that

proactive forensic audit techniques would not help at all in identifying prejudice, and stolen funds and assets. It can thus be inferred that proactive forensic auditing would assist NGOs in eThekweni region to identify prejudice, and stolen funds and assets in response to fraudulent activities.

This result is in consonance with the findings of Ryoba’s (2006) study in Tanzania and Koh and Arokiasamy’s (2009) in Malaysia. Ryoba (2006) calculated frequency distributions and percentages, respectively, of 30 (28,6%); 40 (47,6%); 18 (23,8%); 36 (42,9%); 7 (33.3%); 44 (52,40) and 27 (42,90) for questionnaire items 1, 2, 3, 4, 5, 6, and 7. For their part, Koh and Arokiasamy (2009) found 40 (38,10%); 45 (44,20%); 25 (23,80%); 35 (33.30%); 24 (38,10%); 32 (58,10%); and 53 (68,41%) as frequency distributions and percentages for questionnaire items 3, 1, 4, 6, 5,7, and 2, respectively. These are very similar to the results of the current study, where the respondents rated proactive forensic auditing techniques as either most significant or significant to a very large extent (64 (73.6%). This points to a link between proactive forensic auditing techniques and proactive responses to fraud risks. It implies that increased proactive forensic auditing leads to an increase in proactive responses to financial statement fraud and other fraudulent activities among NGOs in eThekweni region.

**4.14. Descriptive analysis of measures that are currently in place to detect fraudulent activities among NGOs (Means and Standard deviations ratings) (Question 12)**

**Table 28: Descriptive analysis of measures that are currently in place to detect fraudulent activities among NGOs (Means and Standard deviations ratings)**

<b>Item N<sup>o</sup></b>	<b>Questionnaire Items</b>	<b>Mean</b>	<b>Standard. Deviation</b>
1	Fraud risk assessment	.47	.502
2	Fraud risk register	.53	.502
3	Internal controls	.38	.488
4	Internal audits	.49	.503
5	Audit committees	.36	.482
6	External audits	.60	.493
7	Forensic audits	.23	.423
8	An anonymous reporting method	.00	.000
9	No measures	.21	.407

Source: Online Survey (2021), SPSS Version 27

The respondents were asked to indicate whether any of the fraud detection measures listed in the above table were in place when their NGO experienced occurrences of fraud. The findings reveal that fraud risk assessment has a mean of .47 and standard deviation of .502, indicating little substantial variation, while a fraud risk register has a mean of .53 and the highest standard deviation of about .502, with the other variables also indicating some level of variability. Internal controls have a mean of .38 and standard deviation of .488; while the mean for internal audits is .49 and standard deviation is .503. For audit committees, external audits and forensic audits, the means are .36, .60 and .23, respectively, while the standard deviation is .482, .493, and .423, respectively. However, none of respondents indicated an anonymous reporting method with a mean of .00 and no or the lowest standard deviation of .000, and the NGOs had no fraud detection measures with a mean of .21 and standard deviation of .407.

These findings support previous studies that found that some NGOs do not adopt aggressive strategies to reduce the risk of financial losses from fraud, which creates a vicious cycle, trapping these entities in a precarious situation (Tschakert and Needles, 2016; Zamzami, Nusa, and Timur, 2016). Fortvingler (2016) and Mock (2017) propose that existing FRM tools and practices and theories from for-profit entities should be applied to NGOs. They add that NGOs require guidance on proactive audit techniques to prevent, detect and respond to the risk of financial statement and other fraud.

#### 4.14.1. Respondents' rating of the fraud detection measures in place among NGOs

**Table 29: Respondents' rating of the fraud detection measures in place among NGOs**

Item N <sup>o</sup>	Questionnaire Items	Responses		Total
		No	Yes	
1	Fraud risk assessment	46(52.9%)	41(47.1%)	87(100.0%)
2	Fraud risk register	41(47.1%)	46(52.9%)	87(100.0%)
3	Internal controls	54(62.1%)	33(37.9%)	87(100.0%)
4	Internal audits	44(50.6%)	43(49.4%)	87(100.0%)
5	Audit committees	56(64.4%)	31(35.6%)	87(100.0%)
6	External audits	35(40.2%)	52(59.8%)	87(100.0%)
7	Forensic audits	67(77.0%)	20(23.0%)	87(100.0%)
8	An anonymous reporting method	87(100.0%)	-	87(100.0%)
	No measures	69(79.3%)	18(20.7%)	87(100.0%)

Source: Online Survey (2021), SPSS Version 27

The table shows that 41 (47.1%) respondents agreed that fraud risk assessment was in place while 46 (52.9%) disagreed. This implies that fraud risk assessment is a viable means of managing NGOs' fraud risks.

Forty-six (52.9%) respondents indicated that a fraud risk register was in place when their NGO was a victim of fraud, with 41 (47.1%) stating that there was no fraud risk register. This suggests that a fraud risk register is a viable means of detecting NGOs' fraud risks and fits well with the FRM model.

Furthermore, 33 (37.9%) respondents said that internal controls were used by the NGO at the time fraud took place, while 54 (62.1%) noted that this was not the case. This implies that effective internal controls are a viable means of detecting NGOs' fraud risks and fit well with the FRM model.

A total of 43 (49.4%) respondents indicated that internal audits were used to detect fraud, and 44 (50.6%) said that no internal audits were in place when their NGOs were victims of fraud. Since internal audits were empirically supported, this suggests that effective internal audits are a viable means of detecting NGOs' fraud risks and fit perfectly well with the FRM model.

Thirty-one (35.6%) respondents indicated that audit committees were in place and 56 (64.4%) said that they were not in place when their NGOs were victims of fraud. Since audit committees were empirically supported, this implies that effective audit committees are a viable means of detecting NGOs' fraud risks and fit well with the FRM model.

Moreover, 52 (59.8%) respondents agreed that external audits were used for fraud detection and 35 (40.2%) noted that they were not used when their NGOs were victims of fraud. Since external audits were empirically supported, this suggests that effective external audits are a viable means of detecting NGOs' fraud risks and fit perfectly well with the FRM model.

Table 29 illustrates that 20 (23.0%) of the respondents indicated that forensic audits were in place to detect fraud, while 67 (77.0%) reported that there were no forensic audits when fraud was detected in their organisation. Since forensic audits were empirically supported, this implies that that effective forensic audits are a viable means of detecting NGOs' fraud risks and fit well with the FRM model.

All 87 (100.0%) respondents stated that their NGOs had no anonymous reporting mechanisms in place when their NGOs were victims of fraud. Since an anonymous reporting measure was not empirically supported, this suggests that it is not a viable means of detecting NGOs' fraud risks and fits poorly with the FRM model.

Only 18 (20.7%) of the respondents indicated that their NGOs had other strategic measures in place for fraud detection, while 69 (79.3%) said that their NGO had no other measures in place when they fell victim to fraud. Since other strategic measures were empirically supported, this implies that other strategic measures that apply proactive forensic auditing techniques and skills in relation to FRM are viable tools to detect fraud risks among NGOs.

These findings are in line with those of Bredenkamp (2015) and Kapardis and Kourakis (2017). They imply that an increase in fraud detection measures leads to a decrease in fraudulent activities among NGOs in eThekweni region. The results also suggest these measures enhance detective fraud risk management measures by exposing the risks of fraud in the NGO sector.

#### **4.15. Descriptive analysis of the main areas of application of forensic audit techniques in NGOs (Means and Standard deviations ratings)**

The respondents were requested to state the extent to which their NGOs applied proactive forensic audit techniques to prevent, detect and respond to the risks of fraud. A five-point Likert scale where 1 = Not at all, 2 = a Small Extent, 3 = a Moderate Extent, 4 = a Large Extent, and 5 = a Very Large Extent was used as the basis for analysis. The means and standard deviations for the 18 questions in Section G are presented in Table 30 below.

**Table 30: Descriptive analysis of the main areas of application of forensic audit techniques in NGOs (Means and Standard deviations ratings)**

<b>Item N°</b>	<b>Questionnaire Items</b>	<b>Mean</b>	<b>Std. Deviation</b>
1	Decrease the occurrence of financial statement fraud	4.18	.638
2	Enhance the quality of financial reporting	4.15	.896
3	Detection of financial statement fraud	4.01	.896
4	Enhancing the detection of employee theft	4.24	.792
5	Enhancing the detection of employees' financial crimes	4.09	1.063
6	Monitoring and evaluating internal controls in the NGO	4.13	.833
7	Ensuring compliance with the law, and rules, and regulations in the NGO	4.11	.827

8	Enhancing the detection of financial irregularities in the NGO	4.10	.822
9	Detection of procurement fraud in the NGO	4.18	.829
10	Detection of fraudulent travel claims	4.15	.843
11	Detection of fraudulent withdrawals	4.11	.799
12	Detection of theft by directors	4.32	.828
13	Detection of payroll fraud	4.26	.769
14	Improving internal controls	4.31	.782
15	Enhancing internal audit efficacy	4.62	.669
16	Reducing or eliminating fraudulent practices	4.20	.833
17	Highly relevant over accounting areas	4.21	.879

**Source:** Online Survey (2021), SPSS Version 27

The table above illustrates that enhancing internal audit efficacy was the main area of application of forensic audit techniques with a mean of 4.62 and standard deviation of .669, followed by detection of theft by directors with a mean of 4.32 and standard deviation of .828, and improving internal controls with a mean of 4.31 and standard deviation of .782. The means and standard deviations, respectively, for other areas of application of forensic audit techniques are: detection of payroll fraud, 4.26 and .769; enhancing the detection of employee theft, 4.24 and .792; highly relevant over accounting areas, 4.21 and .879; reducing or eliminating fraudulent practices, 4.20 and .833; decrease the occurrence of financial statement fraud, 4.18 and the lowest standard deviation of about .638; detection of procurement fraud, 4.18 and .829; enhancing the quality of financial reporting, 4.15 and .896; detection of fraudulent travel claims, 4.15 and .843; monitoring and evaluating internal controls, 4.13 and .833; detection of fraudulent withdrawals, 4.11 and .799; ensuring compliance with the law, and rules and regulations in the NGO, 4.11 and .827; enhancing the detection of financial irregularities in the NGO, 4.10 and .822; detection of financial statement fraud, 4.01 and .896; and enhancing the detection of employees' financial crimes with a mean of 4.09 and the highest standard deviation of about 1.063. The respondents were in significant agreement that proactive forensic audits are highly relevant to prevent, detect and respond to the risks of fraud in NGOs as the means of all the responses are above 4 and the variations among them are low, with the highest at 1.063 which depicts consensus. This implies that an increase in proactive forensic auditing techniques enables NGOs in eThekweni region to better manage fraud risks. The analysis of the data from the interviews which is presented in Chapter 6 confirmed these results. The frequency distribution of the responses to the open-ended questions in the interviews indicates that all 10 respondents confirmed that proactive forensic audit techniques will lead to strategic FRM among NGOs in eThekweni region.

This finding is empirically supported and articulated in the extent literature (See, for example, Aiken, 2016; Jackson and Stent, 2010; Kranacher, 2019; Rooyen, 2008; Saidu, 2015). Citing Mehta and Bhavani's (2017) analysis of the advantages of surprise lifestyle audits and forensic audits, Kranacher (2019:48) states that a forensic investigation team should consist of a team leader (forensic investigator) an accountant (forensic auditor), legal expert, and an IT expert (computer forensic auditor) to be highly effective in the detection and prevention of financial statement fraud and other fraudulent activities. The findings imply that an increase in proactive forensic auditing leads to a decrease in financial statement fraud among NGOs. They also imply that forensic auditors enhance FRM measures in many ways by preventing, detecting, and responding to the risks of financial statement fraud among NGOs in eThekweni region.

#### 4.15.1. Respondents' rating of the extent to which proactive forensic auditing is applied among NGOs

The respondents were requested to rate the degree of application of proactive forensic audit techniques in fighting fraudulent activities in their NGOs. The findings are presented in Table 31 below.

**Table 31: Respondents' rating of the extent to which proactive forensic auditing is applied among NGOs**

Item N°	Questionnaire Items	Responses					Total
		Very Large Extent	Large Extent	Moderate Extent	Small Extent	Not at All	
1	Decrease the occurrence of financial statement fraud	26 29.9%	52 59.8%	8 9.2%	1 1.1%	0 0.0%	87 100%
2	Enhance the quality of financial reporting	38 43.7%	28 32.2%	17 19.5%	4 4.6%	0 0.0%	87 100%
3	Detection of financial statement fraud	29 33.3%	36 41.4%	16 18.4%	6 6.9%	0 0.0%	87 100%
4	Enhancing the detection of employees' theft	62 71.3%	18 20.7%	6 6.9%	1 1.1%	0 0.0%	87 100%
5	Enhancing the detection of employees' financial crimes	38 43.7%	30 34.5%	12 13.8%	3 3.4%	4 4.6%	87 100%
6	Monitoring and evaluating internal controls	34 39.1%	32 36.8%	19 21.8%	2 2.3%	0 0.0%	87 100%
7	Ensuring compliance with the law, and rules, and regulations in the NGO	33 37.9%	33 37.9%	19 21.8%	2 2.3%	0 0.0%	87 100%
8	Enhancing the detection of financial irregularities in the NGO	31 35.6%	37 42.5%	16 18.4%	3 3.4%	0 0.0%	87 100%
9	Detection of procurement fraud	36 41.4%	34 39.1%	14 16.1%	3 3.4%	0 0.0%	87 100%

10	Detection of fraudulent travel claims	34 39.1%	36 41.4%	13 14.9%	4 4.6%	0 0.0%	87 100%
11	Detection of fraudulent withdrawals	32 36.8%	34 39.1%	20 23.0%	1 1.1%	0 0.0%	87 100%
12	Detection of theft by directors	45 51.7%	28 32.2%	11 12.6%	3 3.4%	0 0.0%	87 100%
13	Detection of payroll fraud	39 44.8%	33 37.9%	14 16.1%	1 1.1%	0 0.0%	87 100%
14	Improving internal controls	42 48.3%	32 36.8%	11 12.6%	2 2.3%	0 0.0%	87 100%
15	Enhancing internal audit efficacy	62 71.3%	18 20.7%	6 6.9%	1 1.1%	0 0.0%	87 100%
16	Reducing or eliminating fraudulent practices	38 43.7%	30 34.5%	17 19.5%	2 2.3%	0 0.0%	87 100%
17	Highly relevant over accounting areas	38 43.7%	30 34.5%	18 20.7%	1 1.1%	0 0.0%	87 100%

**Source:** Online Survey (2021), SPSS Version 27

The table 31 illustrates that 26 (29.9%) respondents concurred with the framed statement that proactive forensic audit techniques can decrease the occurrence of financial statement fraud in NGOs to a very large extent; 52 (59.8%) to a large extent; 8 (9.2%) to a moderate extent; and 1 (1.1%) to a small extent, while none of the respondents indicated that forensic audit techniques would not decrease the occurrence of financial statement fraud in NGOs. This implies that proactive forensic auditing will lead to strategic FRM among NGOs in eThekwini region which tends to lead to detection of financial statement fraud and fraudulent activities.

Thirty-eight (43.7%) respondents agreed that proactive forensic audit techniques can enhance the quality of financial reporting in NGOs to a very large extent; 28 (32.2%) to a large extent, 17 (19.5%) to a moderate extent; and 4 (4.6%) to a small extent, with none indicating that forensic audit techniques cannot enhance the quality of financial reporting in NGOs. This suggests that proactive forensic auditing will lead to strategic FRM among NGOs in eThekwini region which tends to enhance the quality of financial reporting.

Furthermore, 29 (33.3%) respondents concurred that proactive forensic audit techniques can detect financial statement fraud in NGOs to a very large extent; 36 (41.4%) to a large extent; 16 (18.4%) to a moderate extent; and 6 (6.9%) to a small extent, while none of the respondents stated that forensic audit techniques cannot detect financial statement fraud in NGOs at all. It can thus be inferred that proactive forensic auditing will lead to strategic fraud detection among NGOs in eThekwini region which tends to reduce fraudulent activities.

A total of 62 (71.3%) respondents agreed that proactive forensic audit techniques can enhance the detection of employees' theft in NGOs to a very large extent; 18 (20.7%) to a large extent; 6 (6.9%) to a moderate extent, and 1 (1.1%) to a small extent, with none indicating that forensic audit techniques cannot enhance the detection of employees' theft in NGOs at all. Therefore, it can be concluded that proactive forensic auditing will lead to strategic fraud detection among NGOs in eThekweni region which tends to enhance the detection of employees' theft.

Table 31 shows that 38 (43.7%) respondents concurred that proactive forensic audit techniques can enhance the detection of employees' financial crimes in NGOs to a very large extent; 30 (34.5%) to large extent; 12 (13.8%) to a moderate extent; and 3 (3.4%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot enhance the detection of employees' financial crimes in NGOs at all. This implies that proactive forensic auditing will lead to strategic fraud detection among NGOs in eThekweni region which tends to enhance the detection of employees' financial crimes.

Moreover, 34 (39.1%) respondents agreed that proactive forensic audit techniques can help in monitoring and evaluating internal controls in NGOs to a very large extent; 32 (36.8%) to a large extent; 19 (21.8%) a moderate extent; and 2 (2.3%) to a small extent, with none stating that forensic audit techniques cannot help at all in monitoring and evaluating internal controls in NGOs. This suggests that proactive forensic auditing will lead to strategic FRM among NGOs in eThekweni region which tends to enable the monitoring and evaluation of internal controls.

Thirty-three (37.9%) respondents concurred that proactive forensic audit techniques can help in ensuring compliance with the law, and the rules, and regulations in NGOs to a very large extent and large extent, respectively; 19 (21.8%) to a moderate extent; and 2 (2.3%) to a small extent, while none of the respondents were of the view that forensic audit techniques cannot help at all in ensuring compliance with the law, and the rules, and regulations in NGOs. It can thus be inferred that proactive forensic auditing will lead to strategic FRM among NGOs in eThekweni region which tends to ensure compliance with the law, and the rules, and regulations.

The results illustrate that 31 (35.6%) respondents agreed that proactive forensic audit techniques can help to enhance detection of financial irregularities in NGOs to a very large extent; 37 (42.5%) to a large extent; 16 (18.4%) to a moderate extent; and 3 (3.4%) to a small extent, while none stated that forensic audit techniques cannot help at all in enhancing detection of financial irregularities in

NGOs. Therefore, it can be concluded that proactive forensic auditing will lead to strategic FRM among NGOs in eThekweni region which tends to enhance detection of financial irregularities.

Furthermore, 36 (41.4%) respondents concurred that proactive forensic audit techniques can help in the detection of procurement fraud in NGOs to a very large extent; 34 (39.1%) to a large extent; 14 (16.1%) to a moderate extent; and 3 (3.4%) to a small extent. No respondents indicated that forensic audit techniques cannot help at all in the detection of procurement fraud in NGOs. This implies that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in eThekweni region which tends to lead to detection of procurement fraud.

A total of 34 (39.1%) respondents agreed that proactive forensic audit techniques can help in the detection of fraudulent travel claims in NGOs to a very large extent; 36 (41.4%) to a large extent; 13 (14.9%) to a moderate extent; and 4 (4.6%) to a small extent, and none of the respondents stated that forensic audit techniques cannot help at all in the detection of fraudulent travel claims in NGOs. This suggests that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in eThekweni region which tends to lead to detection of fraudulent travel claims.

Table 31 shows that 32 (36.8%) respondents concurred that proactive forensic audit techniques can help in the detection of fraudulent withdrawals in NGOs to a very large extent; 34 (39.1%) to a large extent; 20 (20.3%) to a moderate extent; and 1 (1.1%) to a small extent. None of the respondents were of the view that forensic audit techniques cannot at help all in the detection of fraudulent withdrawals in NGOs. It can thus be inferred that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in eThekweni region which tends to lead to detection of fraudulent withdrawals.

The table also illustrates that 45 (51.7%) respondents agreed that proactive forensic audit techniques can assist detection of theft by directors in NGOs to a very large extent; 28 (32.2%) to large extent; 11 (12.6%) to a moderate extent; and 3 (3.4%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot assist at all in detecting theft by directors in NGOs. Therefore, it can be concluded that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in eThekweni region which tends to lead to detection of theft by directors.

Furthermore, 39 (44.8%) respondents concurred that proactive forensic audit techniques can assist detection of payroll fraud in NGOs to a very large extent; 33 (37.9%) to a large extent; 14 (16.1%) to a moderate extent; and 1 (1.1%) to a small extent. None of the respondents stated that forensic audit techniques cannot assist at all in detection of payroll fraud in NGOs. This implies that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in eThekweni region which tends to lead to detection of payroll fraud.

Forty-two (51.7%) respondents agreed that proactive forensic audit techniques can help in improving internal controls in NGOs to a very large extent; 32 (36.8%) to a large extent; 11 (12.6%) to a moderate extent; and 2 (2.3%) to a small extent, while none of the respondents were of the view that that forensic audit techniques cannot help at all in improving internal controls in NGOs. This suggests that proactive forensic auditing will lead to a strategic FRM process among NGOs in eThekweni region which tends to improve internal controls.

Moreover, 62 (71.3%) respondents concurred that proactive forensic audit techniques can enhance the efficiency of internal audits in NGOs to a very large extent; 18 (20.7%) to a large extent; 6 (6.9%) to a moderate extent; and 1 (1.1%) to a small extent, with none stating that forensic audit techniques cannot enhance the efficiency of internal audits in NGOs. It can thus be inferred that proactive forensic auditing will lead to a strategic FRM process among NGOs in eThekweni region which tends to enhance the efficiency of internal audits.

The findings illustrate that 38 (43.7%) respondents agreed that proactive forensic audit techniques can help in reducing or eliminating fraudulent practices in NGOs to a very large extent; 30 (34.5%) to a large extent; 17 (19.5%) to a moderate extent; and 2 (2.3%) to a small extent, while none of the respondents indicated that forensic audit techniques cannot help at all in reducing or eliminating fraudulent practices in NGOs. Therefore, it can be concluded that proactive forensic auditing will lead to a strategic FRM process among NGOs in eThekweni region which tends to reduce or eliminate fraudulent practices.

Similarly, 38 (43.7%) respondents concurred that proactive forensic audit techniques are highly relevant over accounting areas in NGOs to a very large extent; 30 (34.5%) to a large extent; 18 (20.7%) to a moderate extent; and 1 (1.1%) to a small extent. No respondents agreed that forensic audit techniques are not at all highly relevant over accounting areas in NGOs. This implies that proactive forensic auditing will lead to a strategic FRM process among NGOs in eThekweni region which tends to be highly relevant over accounting areas.

These results are in line with previous studies that found that forensic auditors are not only deeply involved in preventing and detecting fraud, but generally employ a much wider variety of FRM practices (Aiken, 2016; Walden, 2016; Knežević, 2015; Gillespie, 2014; Geldenhuys, 2016; Kapardis and Courakis, 2017). This implies that an increase in proactive forensic auditing leads to a decrease in financial statement fraud among NGOs. It also implies that forensic auditors enhance FRM measures by preventing, detecting, and responding to the risks of financial statement fraud among NGOs in eThekweni region.

#### 4.16. Correlation Analysis

According to Gogtay and Thatte (2017:31), correlation is a statistical measure that shows whether and how strongly pairs of variables are related. The measure of the correlation coefficient (r) ranges from -1.0 to +1.0. If r is closer to zero, this means that there is no relationship among the variables. If r is positive, it means that the variables move in the same direction, i.e., if one variable increases the other increases and vice versa. If r is negative, this shows that the variables move in the opposite direction, i.e., if one variable increases the other decreases and vice versa.

In the context of this study, the correlation of preventive, detective and responsive FRM is presented in Table 32 below.

**Table 32: Pearson Correlation Coefficients (Full Sample; N: 87)**

		Proactive Forensic audit	Preventive fraud risk measures	Detective fraud risk measures	Responsive fraud risk measures
Proactive forensic audits	Pearson Correlation	1	.994**	.846**	.798**
	Sig. (2-tailed)		.642	.521	.540
	N	87	87	87	87
Preventive fraud risk management	Pearson Correlation	.994**	1	.962**	.858**
	Sig. (2-tailed)	.841		.625	.714
	N	87	87	87	87
Detective fraud risk management	Pearson Correlation	.982**	.875**	1	.934**
	Sig. (2-tailed)	.567	.654		.368
	N	87	87	87	87
Responsive fraud risk management	Pearson Correlation	.945**	.976**	.975**	1
	Sig. (2-tailed)	.695	.528	.597	.576
	N	87	87	87	87

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

Source: Online Survey (2021), SPSS Version 27

The analysis of the study's results in the above table reveals that the correlation between preventive, detective and responsive FRM measures is statistically significant. Preventive FRM has the strongest positive (Pearson correlation coefficient = .994\*\*) influence on fraud reduction in NGOs in eThekweni region. Detective fraud risk measures and responsive fraud risk measures are also positively correlated with reducing or eliminating fraud risks in NGOs in eThekweni region as measured by proactive forensic audits (Pearson correlation coefficient = .982\*\* and .945\*\*).

This implies that an increase in the use of forensic audit services is closely associated with fraud prevention, fraud detection and responding to the risks of fraud. There is statistically significant strong evidence that proactive forensic audit services are significant in fraud deterrence, prevention, and detection and in responding to the risks of fraud. If the use of forensic audit services reduces fraud risks, what specific strategies by NGOs are most effective in enhancing FRM?

#### 4.17. Hypotheses Testing

The study explored five hypotheses which address the gaps identified in the literature review. In line with Allen's (2017) recommendations, the researcher tested each hypothesis by creating a contingency table and then solved for the Chi-square goodness-of-fit-test. He then solved for the critical value and P-value. The researcher tested the NGOs' FRM and the use of proactive forensic auditing techniques to determine whether or not there is a statistically significant relationship and whether the P-value is statistically significant to gauge if there is correlation. In this research study, the chi-square, critical value, and P-value were analysed for statistical significance showing a relationship between variables. This is elaborated on for each hypothesis below:

##### 4.17.1. Testing Hypothesis 1

Extent of testing of  $H_0$ : The first hypothesis posits that the key factors that greatly influence FRM practices among NGOs in eThekweni region are not measured appropriately.

The contingency table on FRM factors is shown in Table 33 below.

**Table 33: Contingency table on fraud risk management factors**

	Degree of freedom	With fraud risk management measures
Chi-Square	9	12.58
Critical value	9	4.89
P-Value		.642

Source: Online Survey (2021), SPSS Version 27

To test the above hypothesis, the data on fraud risk indicators were regressed with the data on key factors that influence FRM. Therefore, measures of proactive forensic auditing techniques were related to measures of FRM. The researcher ran the Chi-Square goodness-of-fit-test to evaluate the null hypothesis and establish if the Chi-Square goodness-of-fit-test is more than the critical value. The null hypothesis is rejected as the Chi-Square goodness-of-fit-test alone does not expose a relationship. The null hypothesis assumes that there is no relationship between the independent variables. However, if the Chi-Square goodness-of-fit-test exceeds the critical value as it did in this test, it is assumed there is a strong relationship between the two variables. Therefore, the alternative hypothesis is accepted, the variables are dependent and the assumption of no relationship between variables is rejected. The above table of critical values shows that, with a degree of freedom of 9 at significance level of .05, the critical value is 4.89. Since the test of Chi-Square is 12.58 and is more than the critical value, the null hypothesis is rejected. The P-value of 0.642 indicates that this result is statistically significant. Therefore, there is a connection between the use of preventive fraud risk techniques, detective fraud risk techniques and responsive fraud risk techniques (there are multiple relationships between integrated FRM factors and the loading factor was greater than zero). The first objective was to gain deeper insight into the key factors that influence FRM practices among NGOs in eThekweni region. Hence, the findings of this research study are consistent with H1 where the key factors that influence FRM practices among NGOs in the eThekweni region are measured appropriately. The following hypothesis is stated in null form.

#### 4.17.2. Testing Hypothesis 2

Extent of testing of H<sub>02</sub>: The second hypothesis states that proactive forensic audit techniques cannot significantly detect financial statement fraud among NGOs in eThekweni region. The contingency table on detective FRM factors is presented in Table 34 below.

**Table 34: Contingency table on detective fraud risk management factors**

	Degree of freedom	With detective fraud risk measures
Chi-Square	9	8.53
Critical value	9	3.74
P-Value		.541

**Source:** Online Survey (2021), SPSS Version 27

To test the above hypothesis, the data on forensic auditing were analysed with the data on detective FRM practices. Therefore, in testing this hypothesis, measures of proactive forensic auditing techniques were related to measures of detective FRM. The researcher ran the Chi-Square

goodness-of-fit-test to evaluate the null hypothesis and establish if the Chi-Square goodness-of-fit-test is more than the critical value. The researcher rejects the null hypothesis as the Chi-Square goodness-of-fit-test alone does not expose a relationship. The null hypothesis assumes that there is no relationship between the independent variables. However, if the Chi-Square goodness-of-fit-test exceeds the critical value as it did in this test, it is assumed there is a strong relationship between the two variables. Therefore, the alternative hypothesis is accepted, the variables are dependent and the assumption of no relationship between variables can be rejected. The above table of critical values shows that, with a degree of freedom of 7 at significance level of .05, the critical value is 3.74. Since the test of Chi-Square is 8.53 and is more than the critical value, the null hypothesis is rejected. The P-value of .541, indicates that this result is statistically significant. Therefore, the results show significant agreement on the connection between proactive forensic auditing techniques and detective FRM (there is a connection between proactive forensic audit techniques and detective FRM practices and the loading factor was greater than zero). The second objective was to gain insight into how proactive forensic audit techniques can significantly detect financial statement fraud among NGOs in eThekweni region. The researcher therefore rejects the null hypothesis and accepts the alternative hypothesis that proactive forensic auditing can significantly detect fraudulent activities in NGOs in eThekweni region. Hence, the findings of this research study are consistent with H2 that proactive forensic audit techniques can significantly detect financial statement fraud among NGOs in eThekweni region. The following hypothesis is stated in null form.

#### 4.17.3. Testing Hypothesis 3

Extent of testing of  $H_03$ : The third hypothesis posits that proactive forensic audit techniques cannot significantly prevent financial statement fraud among NGOs in eThekweni region. The contingency table on preventive FRM factors is shown in Table 35 below.

**Table 35: Contingency table on preventive fraud risk management factors**

	Degree of freedom	With preventive fraud risk measures
Chi-Square	9	10.48
Critical value	9	5.75
P-Value		.790

**Source:** Online Survey (2021), SPSS Version 27

To test the above hypothesis, the data on forensic auditing were analysed with the data on preventive FRM practices. In testing this hypothesis, measures of proactive forensic auditing techniques were related to measures of preventive FRM. The researcher ran the Chi-Square goodness-of-fit-test to evaluate the null hypothesis and establish if the Chi-Square goodness-of-

fit-test is more than the critical value. The researcher rejects the null hypothesis as the Chi-Square goodness-of-fit-test alone does not expose a relationship. The null hypothesis assumes that there is no relationship between the independent variables. However, if the Chi-Square goodness-of-fit-test exceeds critical value, as it did in this test, it is assumed that there is a strong relationship between the two variables. Therefore, the alternative hypothesis is accepted, the variables are dependent and the assumption of no relationship between the variables can be rejected. The above table of critical values shows that with a degree of freedom of 9 at significance level of .05, the critical value is 5.75. Since the test of Chi-Square is 10.48 and is more than the critical value, the null hypothesis is rejected. The P-value of 0.790 indicates that this result is statistically significant. The results show significant agreement on the connection between proactive forensic auditing techniques and preventive FRM (there is a connection between proactive forensic audit techniques and preventive FRM practices and the loading factor was greater than zero). The third objective was to gain insight into how proactive forensic audit techniques can significantly prevent financial statement fraud among NGOs in eThekweni region. The researcher therefore rejects the null hypothesis and accepts the alternative hypothesis that proactive forensic auditing can significantly prevent fraudulent activities in NGOs in eThekweni region. Hence, the findings of this research study are consistent with H3 that states that proactive forensic audit techniques can significantly prevent the risks of financial statement fraud among NGOs in eThekweni region. The following hypothesis is stated in null form.

**4.17.4. Testing Hypothesis 4**

Extent of testing of H<sub>04</sub>: The fourth hypothesis posits that proactive forensic audit techniques cannot significantly respond to the risks of financial statement fraud among NGOs in eThekweni region. The contingency table on responsive FRM factors is presented in Table 36 below:

**Table 36: Contingency table on responsive fraud risk management factors**

	Degree of freedom	With responsive fraud risk measures
Chi-Square	9	12.59
Critical value	9	6.05
P-Value		.694

**Source:** Online Survey (2021), SPSS Version 27

To test the above hypothesis, the data on forensic auditing were analysed with the data on responsive FRM practices. Therefore, in testing this hypothesis, measures of proactive forensic auditing techniques were related to measures of responsive FRM. The researcher ran the Chi-Square goodness-of-fit-test to evaluate the null hypothesis and establish if Chi-Square goodness-

of-fit-test is more than the critical value. The researcher rejects the null hypothesis as the Chi-Square goodness-of-fit-test alone does not expose a relationship. The null hypothesis assumes there is no relationship between the independent variables. However, if the Chi-Square goodness-of-fit-test exceeds the critical value as it did in this test, it is assumed there is a strong relationship between the two variables. Therefore, the alternative hypothesis is accepted, the variables are dependent and the assumption of no relationship between the variables can be rejected. The above table of critical values shows that with a degree of freedom of 9 at significance level of .05, the critical value is 6.05. Since the test of Chi-Square is 12.59 and is more than the critical value, the null hypothesis is rejected. The P-value of 0.694 indicates that this result is statistically significant. The null hypothesis is rejected; therefore, the results of this research study show significant agreement on the connection between proactive forensic auditing techniques and responsive FRM (there is a connection between proactive forensic audit techniques and responsive FRM practices and the loading factor was greater than zero). The fourth objective was to gain insight into how proactive forensic audit techniques can significantly respond to the risks of financial statement fraud among NGOs in eThekweni region. Hence, the findings of this research study are consistent with H4 that proactive forensic audit techniques can significantly respond to the risks of financial statement fraud among NGOs in eThekweni region.

## **CHAPTER FIVE: STRUCTURAL EQUATION MODELLING**

### **5.1.Introduction**

This study analysed the factors that significantly influence FRM practices among NGOs in eThekweni region. In line with Marsh, Balla, and McDonald (1988) and Lewis's (2005) recommendations, in order to develop an improved measure and to ensure a good model fit, it began with an exploration of the FRM factors (latent variables or constructs) required to conceptualise firstly, preventive FRM scale items: a proactive forensic audit can guarantee strategic prevention of fraud (Qd1); a proactive forensic audit can help in building an efficient internal controls system to prevent the future occurrence of fraud (Qd2); a proactive forensic audit can help to prevent fraud as far as possible (Qd3); a proactive forensic audit can help in establishing anti-fraud policy in the NGO (Qd4); a proactive forensic audit can help in applying fraud opportunities tests (Qd5); internal audit and audit committee (Qd6); lifestyle audits (Qd7); a proactive forensic audit can help in building an inventory of fraud opportunities (Qd8); employment screening (Qd9); a proactive forensic audit can help in using IT to prevent electronic fraud (Qd10); a proactive forensic audit can help in building sound policies to prevent the future occurrence of fraud (Qd11); a proactive forensic audit can address unethical practices (Qd12); a proactive forensic audit can prevent financial irregularities in NGOs (Qd13); and a proactive forensic audit can help in building an effective anti-fraud policy (Qd14).

Secondly, detective FRM scale items: a proactive forensic audit can guarantee prompt detection of fraud in the NGO (Qe1); a proactive forensic audit would help in detecting financial statement fraud in the NGO (Qe2); lifestyle audits would help in forensic investigations in the NGO (Qe3); a proactive forensic audit is a novel model used in South Africa for detection of fraud in NGOs (Qe4); a proactive forensic audit can guarantee that assets are safeguarded from unauthorised use in the NGO (Qe5); sound internal audits would help in detecting fraudulent claims in NGOs (Qe6); a proactive forensic audit can enhance strategic prevention of fraud (Qe7); a proactive forensic audit can enhance fraud risk awareness (Qe8); the key objective of a proactive forensic audit is to detect, deter, mitigate and fraud (Qe9); a proactive forensic audit can help in reviewing weak internal audits (Qe10); a proactive forensic audit can help in building a stronger financial reporting system in the NGO (Qe11); a proactive forensic audit can help in addressing the weaknesses of internal controls in the NGO (Qe12); and a proactive forensic audit can guarantee stronger financial management (Qe13).

Thirdly, responsive FRM scale items: a forensic audit would help in conducting lifestyle audits on NGO staff (Qf1); a forensic audit would help in conducting an internal investigation in the NGO (Qf2); a forensic audit would help management to take appropriate action (Qf3); a forensic audit would help in disclosing the results of internal and external investigations in court (Qf4); a forensic audit would help in bringing offenders to justice (Qf5); a forensic audit would help in prosecuting the offender (Qf6); and a forensic audit would help in identifying prejudice, and stolen funds and assets (Qf7).

The researcher first used SPSS version 27 to identify statistically significant frequencies, means and standard deviations. The following sub-section utilises CFA, and SEM alongside AMOS to estimate critical factors that significantly influence FRM models among NGOs in eThekweni region.

### **5.2. Confirmatory Factor Analysis (CFA for fraud risk management knowledge)**

A number of statistical tests were carried out to examine whether proactive forensic auditing techniques could drive and influence preventive, detective and responsive FRM in NGOs in eThekweni region. The relationship between the independent variables, proactive forensic auditing techniques and 14 preventive FRM factors; proactive forensic auditing techniques and 13 detective fraud risk management factors; and forensic auditing techniques and seven responsive FRM factors were tested empirically using SEM techniques and the AMOS software package version 27.

The table on GOF indices for SEM on FRM factors displays different types of goodness-of-fit indices to assess the researcher's initial specified model. It shows that the research constructs perfectly fit the data to a very large extent, according to absolute, incremental, and parsimonious model fit measures, comprising Chi-square per degree of freedom ratio, Incremental Fit Index (IFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA). Furthermore, most of the goodness-of-fit indices can be found in the model fit summary output by AMOS version 27.

### **5.3. CFA - Model Fit Summary**

The Chi-square test indicates that the model is overfitting because the p-value is 0.000, which is below the prescribed threshold of 1. A p-value between .01 and .05 ( $.01 \leq p \leq .05$ ), indicates an acceptable fit. In this case, the p-value is 0.000, indicating very poor fit. Scholars such as Schreiber,

Nora, Stage, Barlow, and King (2006) argue that relative Chi-square should be in the 2:1 to 3:1 range for an acceptable model and that 2 or less reflects good fit. Schreiber et al. (2006) add that 3 or less is an acceptable fit, while Paswan (2009) asserts that relative Chi-square should be 2 or less. Thus, 1.0 is a poor model fit. Relative Chi-square (CMIN/DF) for this study’s measurement model is 2.053, which is acceptable. Chi-square (CMIN/DF) is shown in Table 37 below.

**Table 37: Likelihood ratio Chi-square**

**5.3.1. Likelihood ratio Chi-square**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	105	1075,520	524	,000	2,053
Saturated model	629	,000	0		
Independence model	68	2386,028	561	,000	4,253

Source: Online Survey (2021), AMOS Version 27

**5.3.2. Baseline Comparisons**

Table 38 below shows NFI, RFI, IFI, TLI, and CFI for this research. The CFI compares the existing model fit with the study’s model, which assumes that the indicator variables in the model are correlated. Baseline comparisons are shown in the table.

**Table 38: Baseline comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	0.549	0.517	0.904	0.976	0.998
Saturated model	1.000		1.000		1.000
Independence model	,000	,000	,000	,000	,000

Source: Online Survey (2021), AMOS Version 27

According to Curran, West, and Finch (1996), the CFI ranges from zero to one, with higher values indicating better fit. By convention, CFI and IFI should be equal to or greater than 0.90 to accept the model. A rule of thumb for this index is that .97 is indicative of good fit relative to the independence model, while values greater than .95 may be interpreted as an acceptable fit. Again, a value of .97 seems to be more reasonable as an indication of a good model fit than the often-stated cut-off value of .90. In this case, the CFI value is 0.998, indicating that the model is perfectly fit.

The TLI shows that it is a good fit for this model because the value obtained is closer to 1, sitting at 0.976. Higher TLI values indicate better fit. A rule of thumb for this index is that .97 is indicative

of good fit relative to the independence model, whereas values greater than .95 may be interpreted as an acceptable fit. As the independence model almost always has a large  $\chi^2$ , TLI values are often very close to one. The TLI value in this model is .976, indicating perfect fit. This is also in line with CFI.

According to Cudeck and Browne (1983), by convention, NFI varies from 0 to 1, with 1= perfect fit. The NFI for the study is 0.549. Although the value is not that close to 1 compared with the TLI and CFI, it is still within the very good fit range of 0 to 1. NFI values range from 0 to 1, with higher values indicating better fit.  $.90 \leq \text{NFI} < .95$  indicates an acceptable fit. The NFI for this study is 0.704, indicating a poor fit. The IFI is 0.704 for this model is closer to 1, which indicates that the model is a good fit.  $\text{IFI} \geq .95$  for acceptance. In this study, IFI is 0.704, indicating poor model fit.

### 5.3.3. Standardised Root Mean Square Residual (SRMR)

As noted by Bollen (1989), the SRMR is the standardised value of RMSR, and has a known distribution. It can therefore be used to assess model fit on the basis of the normal level of error used in statistics. The researcher can assess the practical significance of magnitude of the SRMR in light of the research objectives and the observed or actual covariances or correlation. Bollen (1989) adds that individual SRMRs enable the researcher to locate the problems with the measurement model and values of 0.05 or less signify a model that fits well. Kenny and McCoach (2003) argue that  $\text{SRMR} < 0.08$  indicates perfect fit. The SRMR in this research by AMOS is 0.002, which indicates that the model is the best fit.

The GFI is 0.920, which is very close to one and it is precisely 0.9 when rounded to one decimal. GFI indicates a model fit.  $.90 \leq \text{GFI} < .95$ , indicating an acceptable fit. SRMR is shown in Table 39 below.

**Table 39: Standardised Root Mean Square Residual (SRMR)**

Model	SRMR	GFI	AGFI	PGFI
Default model	0.002	0.920	0.590	0.648
Saturated model	0.000	1.000		
Independence model	0.109	0.527	0.571	0.621

**Source:** Online Survey (2021), AMOS Version 27

### 5.3.4. Root Mean Square Error of Approximation (RMSEA)

Ainur (2017) states that, “RMSEA is both the popular measure of fit and the one of the fit indexes less affected by sample size though for smallest sample size it overestimates goodness of fit.” RMSEA values  $\leq .05$  can be considered as a good fit, values between .05 and .08 as an adequate fit, and values between .08 and .10 as a mediocre fit, whereas values  $> .10$  are not acceptable. RMSEA for this research support the model’s fit as RMSEA is. 076. Thus, it should be adequate fit.

PCLOSE is a test of closeness to the fit where the p test measures the exact fit of the model; the model is not close to fit as it is not closer to 1. RMSEA is shown in Table 40 below.

**Table 40: Root Mean Square Error of approximation (RMSEA)**

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.076	0.101	0.120	0.000
Independence model	0.194	0.186	0.203	0.000

Source: Online Survey (2021), AMOS Version 27

### 5.3.5. Parsimony-Adjusted Measures

Brown (2006) observes that the Parsimony Adjusted Measures Index (PNFI $>0.60$ ) indicates a good parsimonious fit, while some scholars use $>0.50$ . As shown in Table 41 below, PNFI for this research is 0.613 which is acceptable.

**Table 41: Parsimony-Adjusted Measures**

Model	PRATIO	PNFI	PCFI
Default model	0.934	0.613	0.652
Saturated model	0.000	0.000	0.000
Independence model	1.000	0.000	0.000

Source: Online Survey (2021), AMOS Version 27

### 5.3.6. Akaike Information Criterion (AIC)

In terms of Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), Browne-Cudeck Criterion (BIC), and CAIC, the smaller the better, and good for model comparison. Bentler and Bonett (1980) note that, when the model has more than one factor, there is no need to report BIC, AIC, and CAIC as they are reported when there is one model.

### 5.3.7. Expected Cross-Validation Index (ECVI)

Byrne and Francis (2010) and Yang (2018) suggests ECVI as an approximation of the goodness-of-fit the estimated model would achieve in another model (validation) sample of the same size. It is essential for comparing one model with another. ECVI is shown in Table 42 below.

**Table 42: Expected Cross-Validation Index (ECVI)**

Model	ECVI	LO 90	HI 90	MECVI
Default model	14.948	13.902	16.084	16.624
Saturated model	14.628	14.628	14.628	24.667
Independence model	29.326	27.614	31.125	30.411

Source: Online Survey (2021), AMOS Version 27

### 5.3.8. Actual Cross-Validation Index (ACVI)

Kenny and McCoach (2003) recommend that the ACVI be formed using the computed covariance matrix derived from a model in the first half sample to predict the observed covariance matrix taken from another half (validation) sample. Kenny and McCoach (2003) add that the smallness of the ACVI value is better for estimating the predictive validity of the hypothesised models.

### 5.3.9. Hoelter's Indices

According to Marsh et al. (1988), Hoelter's index (N) is used to judge if the sample size is adequate, and it is adequate if Hoelter's  $N > 200$ . Hoelter's N under 75 is considered unacceptably low to accept the model by Chi-square. The two Ns are output, one at 0.05, and the other at 0.01 level of significance. The Hoelter's index of this research reported by AMOS is acceptable as it is in the range of [200-75] meaning that the null hypothesis should be rejected. The Hoelter's Indices are shown in Table 43 below.

**Table 43: Hoelter's Indices**

Model	HOELTER	HOELTER
	.05	.01
Default model	87	119
Independence model	23	24

Source: Online Survey (2021), AMOS Version 27

#### 5.4. Assessing the measurement Model

Enders and Mansolf (2018) observe that one of the biggest advantages of CFA is its ability to quantitatively assess the constructs of the proposed measurement theory. Construct validity for this research is made up of three components: preventive FRM with 14 scale items/variables, detective FRM with 13 scale items/variables, and detective FRM with seven scale items/variables. To determine the extent to which the content of the scale items is consistent with constructs based on the researcher's judgement, the squared multiple correlations in AMOS output are shown in Table 44 below.

**Table 44: Squared multiple correlations**

##### 5.4.1. Squared Multiple Correlations: (Group number 1 - Default model)

Paths	Estimate
Qe13	<--- 0.663
Qe12	<--- 0.489
Qe11	<--- 0.578
Qe10	<--- 0.588
Qe9	<--- 0.501
Qe8	<--- 0.495
Qe7	<--- 0.547
Qe6	<--- 0.388
Qe5	<--- 0.500
Qe4	<--- 0.477
Qe3	<--- 0.480
Qe2	<--- 0.494
Qe1	<--- 0.440
Qf1	<--- 0.485
Qf2	<--- 0.432
Qf3	<--- 0.333
Qf4	<--- 0.356
Qf5	<--- 0.312
Qf6	<--- 0.425
Qf7	<--- 0.598
Qd14	<--- 0.432
Qd13	<--- 0.453
Qd12	<--- 0.493
Qd11	<--- 0.499
Qd10	<--- 0.350
Qd9	<--- 0.252
Qd8	<--- 0.418
Qd7	<--- 0.323
Qd6	<--- 0.318
Qd5	<--- 0.386

Paths		Estimate
<b>Qd4</b>	<---	0.297
<b>Qd3</b>	<---	0.272
<b>Qd2</b>	<---	0.414
<b>Qd1</b>	<---	0.382

**Source:** Online Survey (2021), AMOS Version 27

As emphasised by Marsh et al. (1988) and Garson (2011), the rule of thumb should be 0.05 or higher and ideally 0.7 or higher. The table, which examines the loading values, show that they all have p-values significantly higher than 0.5 in regression weights. For the purpose of this research, all standardised loadings in standardised regression weights in AMOS output are shown in Table 45 below.

**Table 45: Standardised Regression Weights**

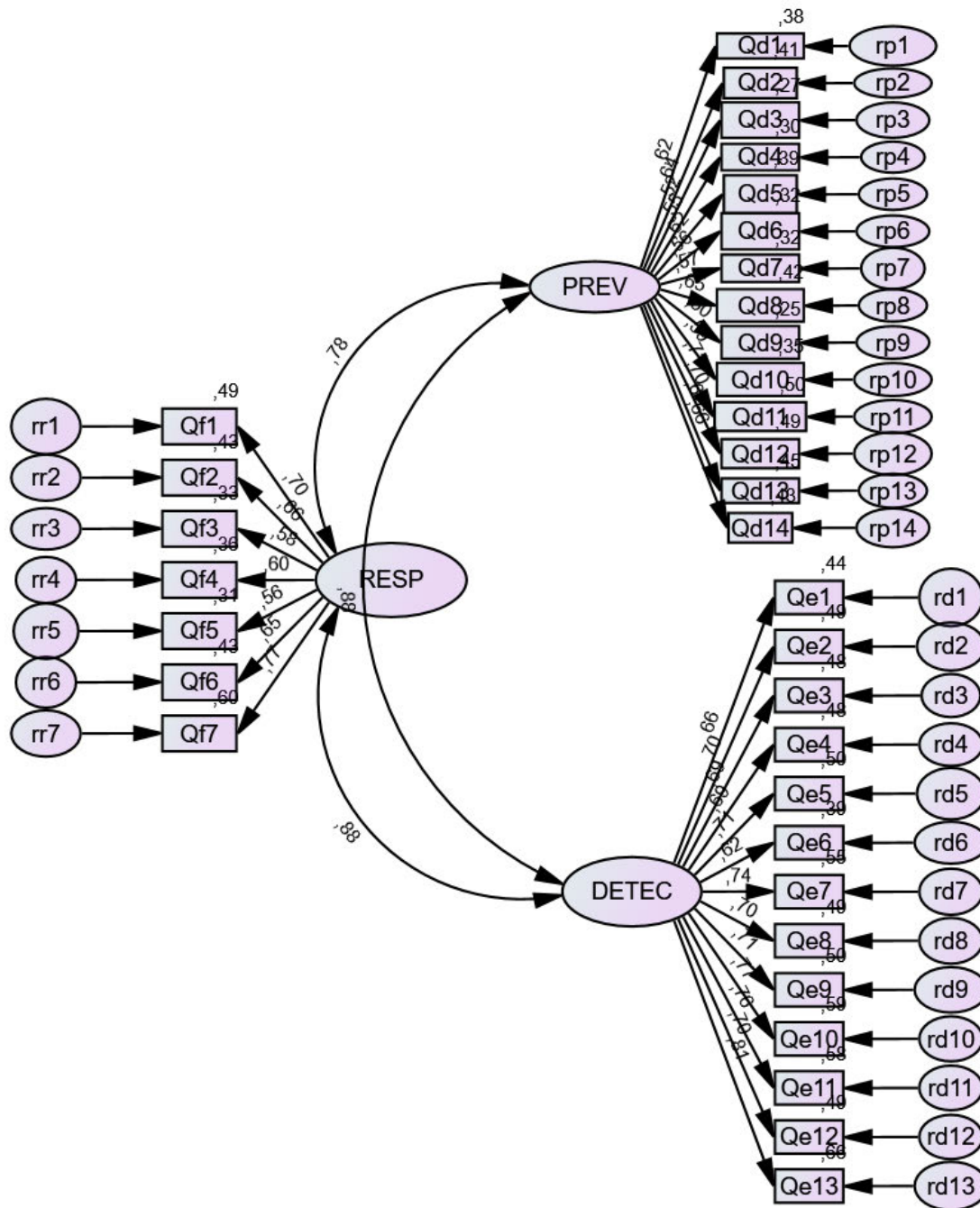
**5.4.2. Standardised Regression Weights: (Group number 1 - Default model)**

Paths		Estimate
Qd1	<--- PREV	0.618
Qd2	<--- PREV	0.643
Qd3	<--- PREV	0.521
Qd4	<--- PREV	0.545
Qd5	<--- PREV	0.621
Qd6	<--- PREV	0.564
Qd7	<--- PREV	0.568
Qd8	<--- PREV	0.647
Qd9	<--- PREV	0.502
Qd10	<--- PREV	0.592
Qd11	<--- PREV	0.706
Qd12	<--- PREV	0.702
Qd13	<--- PREV	0.673
Qd14	<--- PREV	0.657
Qf7	<--- RESP	0.773
Qf6	<--- RESP	0.652
Qf5	<--- RESP	0.559
Qf4	<--- RESP	0.597
Qf3	<--- RESP	0.577
Qf2	<--- RESP	0.657
Qf1	<--- RESP	0.697
Qe1	<--- DETEC	0.663
Qe2	<--- DETEC	0.703
Qe3	<--- DETEC	0.693
Qe4	<--- DETEC	0.691
Qe5	<--- DETEC	0.707
Qe6	<--- DETEC	0.623
Qe7	<--- DETEC	0.740

Paths			Estimate
Qe8	<---	DETEC	0.703
Qe9	<---	DETEC	0.708
Qe10	<---	DETEC	0.767
Qe11	<---	DETEC	0.760
Qe12	<---	DETEC	0.699
Qe13	<---	DETEC	0.814

**Source:** Online Survey (2021), AMOS Version 27

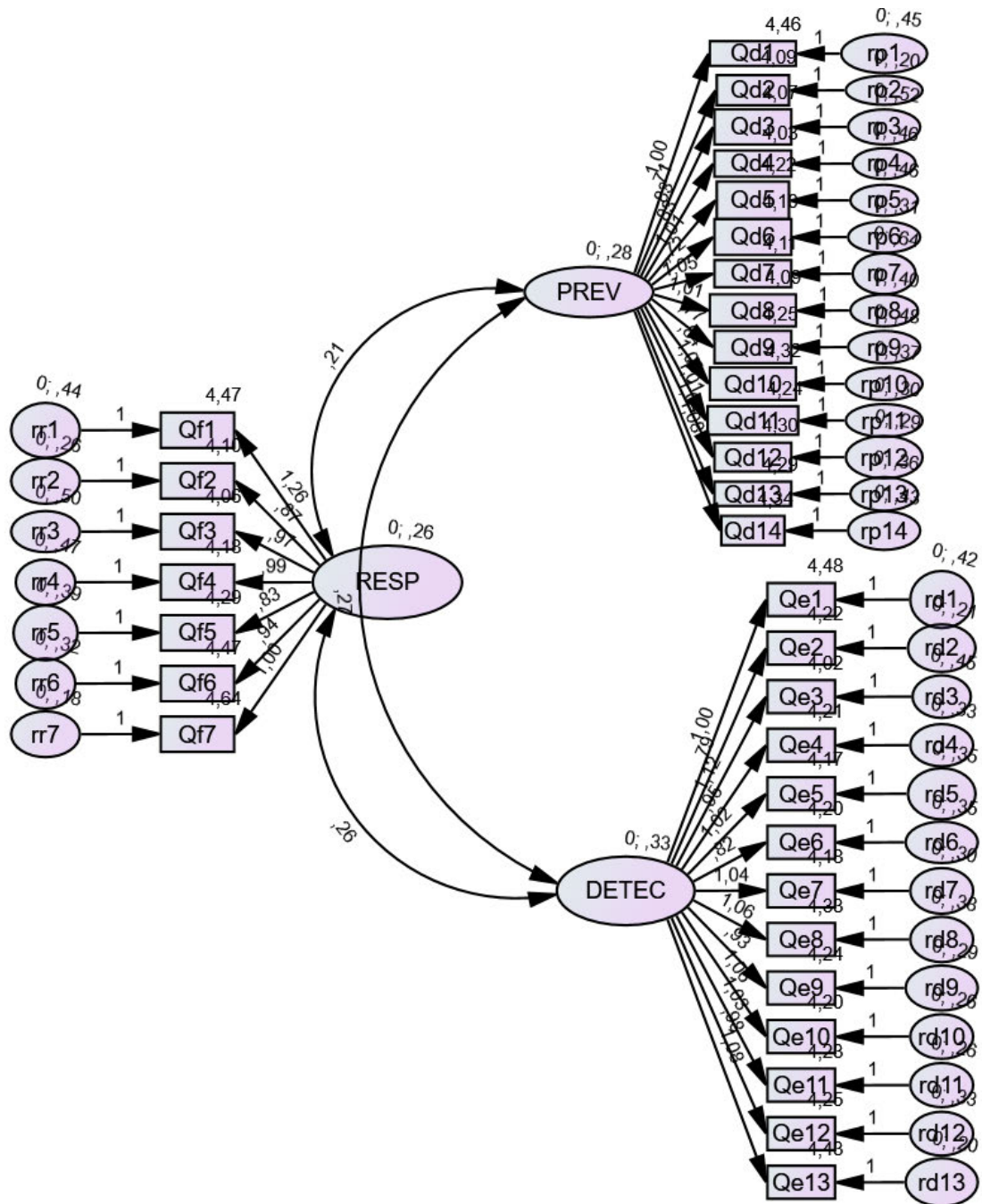
**STRUCTURAL EQUATION MODEL FOR THE FULL SAMPLE OR EVALUATION OF GOODNESS-OF-FIT-INDEX (N: 87) – Standardised**



Source: Online Survey (2021), AMOS Version 27

Figure 24: Evaluation of Goodness of Fit Index (N: 87) - Standardised

**STRUCTURAL EQUATION MODEL FOR THE FULL SAMPLE OR EVALUATION OF GOODNESS-OF-FIT-INDEX (N: 87) – Unstandardised**



Source: Source: Online Survey (2021), AMOS Version 27

**Figure 25: Evaluation of Goodness-of-Fit Index (N: 87) - Unstandardised**

The SEM analysis of FRM factors yielded the CFA model in the above figure, which could then be run in AMOS to check the entire theoretical model in one analysis, Hence, the specific hypothesised relationship among FRM variables was tested (the fit of the model was tested). Correlations analysis as AMOS output is shown in Table 46 below.

**Table 46: Correlations: (Group number 1 - Default model)**

	Estimate
PREV <--> RESP	0.784
DETEC <--> RESP	0.876
DETEC <--> PREV	0.884

Source: Online Survey (2021), AMOS Version 27

### **5.5.GOF Indices for SEM on fraud risk management factors among NGOs in eThekwini region**

Table 47 below shows CMIN, DF, *p*, SRMR\*, CMIN/DF, GFI, AGFI, CFI, PGFI, PCFI, TLI, IFI, RFI, NFI, PNFI, RMSEA, and HOELTER 0.05, which indicates that the model is significant and acceptable. SEM has a number of sophisticated methods in studying and assessing the links and interrelations, and predictions of model components on FRM. Hence, the model fitting information supplied in the table below indicates that proactive forensic auditing has a positive impact in enhancing FRM among NGOs in eThekwini region. This model is therefore, significant and acceptable in line with all acceptable levels per the literature, more specifically, Marsh et al. (1988) and Enders and Mansolf (2018). Table 47 below presents the summary.

**Table 47: GOF Indices for SEM**

GOF Indices	Complex Model
CMIN	107.520
DF	524
P	0.000
SRMR*	0.002
CMIN/DF	2.053
GFI	0.920
AGFI	0.520
PGFI	0.648
CFI	0.998
PCFI	0.652
TLI	0.976
IFI	0.904
RFI	0.517
NFI	0.549

GOF Indices	Complex Model
PNFI	0.613
RMSEA	0.076
HOELTER 0.05	87

Source: Online Survey (2021), AMOS Version 27

### 5.6. Standardised Regression Weights (SRW)

As stated by Kenny and McCoach (2003), a number of diagnostic measures such as paths estimates (AMOS/standardised regression weights that link the individual indicators to a particular construct; the minimum recommended is 0.7 but 0.5 is acceptable and variables with low or insignificant loading should be considered for deletion) for CFA should be checked. The assessment of unidimensionality in CFA, is that each indicator should load highly on a single factor and as recommended by Curran, Bollen, Paxton, Kirby, and Chen (2002), the loading factor should 0.50 or more. In line with the Curran et al.'s (2006) recommendation, the researcher examined the standardised regression weights for the study's indicators and found that all indicators had a high loading towards the latent variable and all the values of the different parameter estimates met the minimum recommended value of 0.5. The latent variables and their indicators that were developed in the AMOS process were as follows: preventive FRM with 14 scale items/variables, detective FRM with 13 scale items/variables, and detective FRM with seven scale items/variables.

In terms of proactive forensic auditing techniques' role in enhancing NGOs' FRM in eThekweni region, a statistically significant relationship was established between proactive forensic auditing and preventive FRM, indicating that [PREV] was strongly empirically supported. There was also a statistically significant relationship between proactive forensic auditing and detective FRM, indicating that [DETEC] was strongly empirically supported, as well as a statistically significant relationship between forensic auditing and responsive FRM, indicating that [RESP] was also strongly empirically supported. The results of these assessments (Regression Weights: (Group number 1 - Default model) are shown in Table 48 below.

**Table 48: Regression Weights: (Group number 1 - Default model)**

Constructs	Estimate	S.E.	C.R.	P	Label
Qd1 <--- PREV	1.000				
Qd2 <--- PREV	0.706	0.139	5.082	***	Supported
Qd3 <--- PREV	0.830	0.194	4.278	***	Supported
Qd4 <--- PREV	0.834	0.188	4.444	***	Supported
Qd5 <--- PREV	1.015	0.205	4.946	***	Supported

Constructs			Estimate	S.E.	C.R.	P	Label
Qd6	<---	PREV	0.724	0.158	4.569	***	Supported
Qd7	<---	PREV	1.049	0.228	4.600	***	Supported
Qd8	<---	PREV	1.010	0.198	5.106	***	Supported
Qd9	<---	PREV	0.766	0.185	4.146	***	Supported
Qd10	<---	PREV	0.840	0.177	4.754	***	Supported
Qd11	<---	PREV	1.033	0.189	5.464	***	Supported
Qd12	<---	PREV	1.009	0.186	5.438	***	Supported
Qd13	<---	PREV	1.038	0.197	5.264	***	Supported
Qd14	<---	PREV	1.080	0.209	5.171	***	Supported
Qf7	<---	RESP	1.000				
Qf6	<---	RESP	0.945	0.157	6.036	***	Supported
Qf5	<---	RESP	0.828	0.162	5.097	***	Supported
Qf4	<---	RESP	0.995	0.182	5.476	***	Supported
Qf3	<---	RESP	0.974	0.185	5.274	***	Supported
Qf2	<---	RESP	0.873	0.143	6.093	***	Supported
Qf1	<---	RESP	1.255	0.193	6.502	***	Supported
Qe1	<---	DETEC	1.000				
Qe2	<---	DETEC	0.794	0.134	5.939	***	Supported
Qe3	<---	DETEC	1.123	0.192	5.864	***	Supported
Qe4	<---	DETEC	0.946	0.162	5.847	***	Supported
Qe5	<---	DETEC	1.023	0.171	5.972	***	Supported
Qe6	<---	DETEC	0.817	0.153	5.335	***	Supported
Qe7	<---	DETEC	1.040	0.167	6.208	***	Supported
Qe8	<---	DETEC	1.058	0.178	5.943	***	Supported
Qe9	<---	DETEC	0.931	0.156	5.977	***	Supported
Qe10	<---	DETEC	1.065	0.166	6.404	***	Supported
Qe11	<---	DETEC	1.034	0.163	6.357	***	Supported
Qe12	<---	DETEC	0.978	0.165	5.914	***	Supported
Qe13	<---	DETEC	1.085	0.161	6.736	***	Supported

Source: Online Survey (2021), AMOS Version 27

### 5.7. Analysis of critical factors that significantly influence fraud risk management practices among NGOs in eThekweni region

In order to reduce or eradicate financial statement fraud and other fraudulent activities, comprehensive FRM among NGOs in eThekweni region involves the implementation of proactive fraud prevention, detection, and responsive FRM measures by senior managers. The findings of this research reveal that proactive forensic audits will enable NGOs to reduce or eradicate fraudulent activities, which will enhance FRM. The identification of critical factors that significantly influence FRM practices is intended to place more emphasis on proactive fraud prevention (prevention is always better than cure) by using the services of proactive forensic auditors which should influence the design of the new FRM model. This is especially relevant to

financial statement fraud prevention and detection. Consistent with Akenbor, Cletus and Uwaoma Ironkwe (2014), deploying proactive FRM measures was found to be positively and strongly correlated with strategic management of financial and economic crimes. This is also in line with Asaolu and Owojori's (2016) theory of the fraud diamond where the services of forensic auditors are required to effectively identify, prevent, investigate, detect, and respond to the risks of fraud. Thus, the model was strongly empirically supported. The results of the goodness-of-fit indices (results for the theoretical model) are shown in Table 49 below.

**Table 49: Results of the goodness-of-fit indices (results for the theoretical model)**

Inter construct correlation		Estimate	S.E.	t-Value C.R.	P-Value	Empirical Evidence (Label)
PREV	<--> RESP	0.212	0.053	4.002	***	Supported
DETEC	<--> RESP	0.258	0.059	4.369	***	Supported
DETEC	<--> PREV	0.269	0.068	3.972	***	Supported

Source: Online Survey (2021), AMOS Version 27

### 5.8. Analysis of the SEM Data

This chapter described the procedures followed in using SEM, also known as paths analysis with latent variables. It also described the changes that were implemented based on the suggested form AMOS modification indices which were considered on the basis of their logical appropriateness by adding appropriate paths between the latent constructs (FRM factors) in a structural model, as well as additional paths to the measurement model's variables (FRM indicators). The chapter also identified theoretical and practical reasons why some of the components of fraud risks have been ignored by auditing professionals in FRM even though they could significantly affect contractual relationships between forensic auditors and stakeholders (NGOs).

Importantly, SEM enabled the researcher to examine the strengths and influence of a number of factors and indicators on one another. Its use in this research enabled the development of a number of measures for a range of possible influences on FRM practices and the use of these measures to empirically investigate the significance and extent of the relationship between proactive forensic auditing techniques and FRM practices in relation to fraud risk factors.

It was found that the FRM theory had more multiple relationships among the latent factors and between the measurement theory variables, and, consequently, more direct and indirect effects. This is largely consistent with the literature (Pagano, Walter, and Thomas Buckhoff, 2015). Proactive forensic auditing in terms of shared knowledge between the main drivers influencing

FRM and fraud reduction was found to have a positive influence in strategic prevention, detection and investigation. Therefore, the theory was strongly empirically supported. This implies that proactive forensic auditing has significant ability to enhance FRM among NGOs in eThekweni region. The modified theory developed for the NGO sector in South Africa has a broader range of fraud risk factors than those previously considered and has acceptable fit indices. Arising from these research findings, a number of strategies are identified that can be used to reduce or eradicate all forms of fraud risks and corrupt practices among NGOs in eThekweni region.

## **CHAPTER SIX: ANALYSIS OF INTERVIEW DATA AND PRESENTATION OF RESULTS**

### **6.1. Introduction**

The previous two chapters presented and analysed the quantitative data gathered by means of the online questionnaire. This chapter analyses the qualitative data collected during online semi-structured interviews via Zoom meetings with 10 well-informed, forensic auditors. The researcher chose to interview forensic auditors because they have unique insight into the forensic audit process in South Africa. This data was collected to complement and confirm the questionnaire results. Using the three main themes linked to the three FRM dimensions, 17 questions were formulated and adapted to the context of NGOs (see Appendix 6). The questions were formulated in as neutral a manner as possible and aimed to collect rich, insightful data, and promote critical understanding of forensic auditing in relation to FRM in NGOs.

The interviews confirmed the quantitative results that pointed to a strong connection between forensic auditing and preventive, detective, and responsive FRM in the NGO sector. They also enabled the researcher to explore some areas that were not explored in the questionnaire such as the limitations of forensic auditing, challenges faced by forensic auditors, and other issues that might negatively impact the auditing profession in dealing with fraud risks in this sector.

### **6.2. Interview mode and duration**

The researcher collaborated with the leaders of the organisations to arrange interviews with the selected participants within their entities. Interview dates were diarised so as to ensure that the researcher honoured appointments (Schultze and Avital, 2011). As noted previously, the semi-structured interviews were conducted via Zoom meetings. Permission was obtained from all interviewees to record the interview and each lasted 15 to 20 minutes. Notes were taken during the interviews and sent to the interviewees via email to ensure reliability and build credibility.

### **6.1. Analysis of interview Data**

The interviews were recorded and later transcribed and the data were analysed using conventional thematic analysis via NVivo. The use of NVivo assisted in word counts such as in the case of the proactive forensic auditing techniques suggested by interviewees to prevent, detect and respond to the risks of frauds. NVivo assisted in counting the number of times similar practices were mentioned by different interviewees.

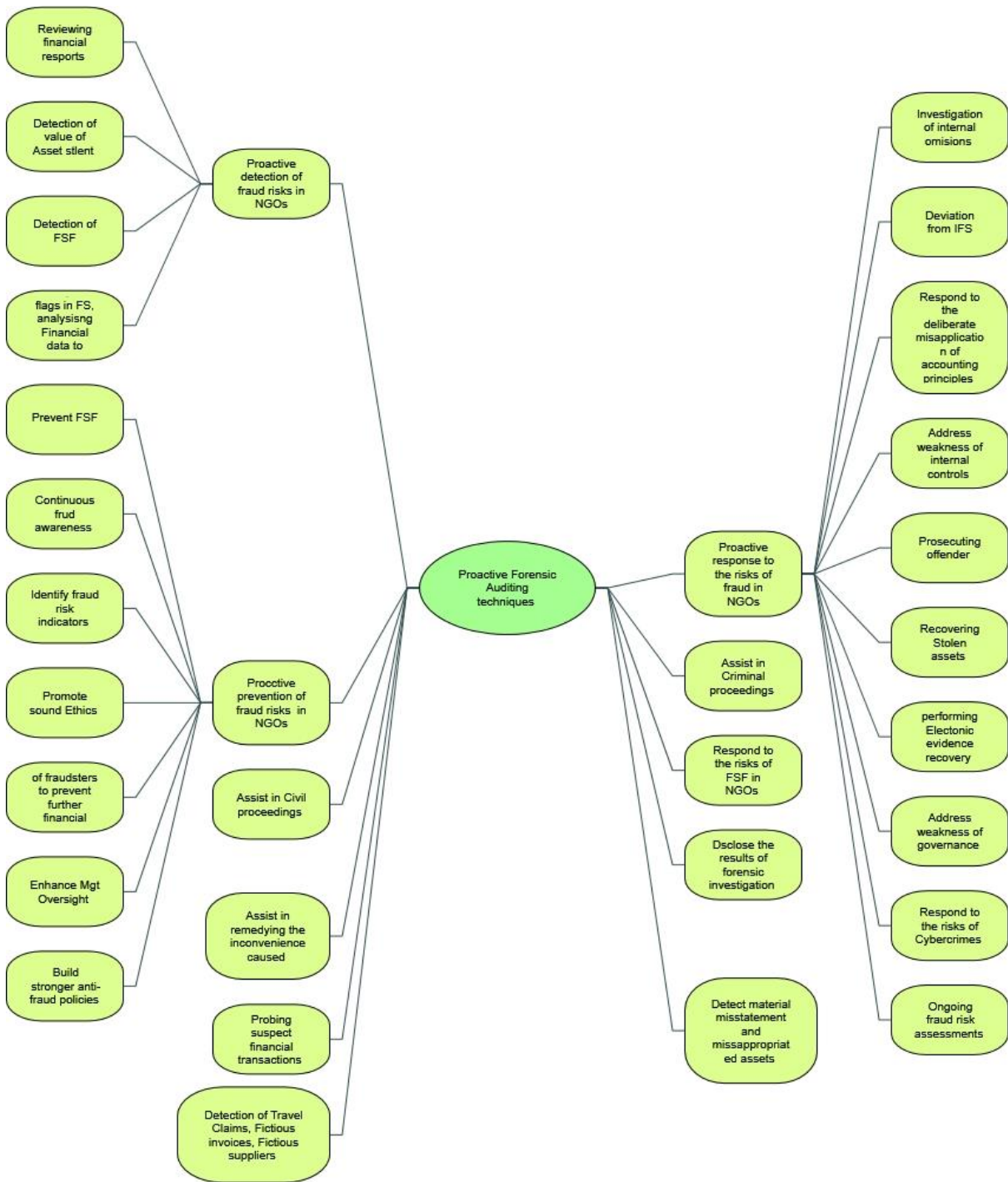
In line with Richards's (1999:11-32) recommendations, all responses were first saved in a Word document. A project was created in NVivo to save the data, and the Word document was transferred to a rich text file which was then imported on NVivo to use in the analysis. Different parts of the document were then coded at nodes to facilitate the word counts. Various parent nodes (key research nodes) were created on NVivo in line with the key research themes; for instance, nodes for a proactive audit as a tool for fraud responsiveness, fraud deterrence and fraud detection in the organisations. Sub-nodes were created on NVivo by dragging and dropping selected text to a node that was then given a name in NVivo. Finally, the data was subjected to conventional thematic analysis to calculate the frequency of the themes' occurrence. The qualitative data gathered in phase II of the analysis supported and confirmed the empirical data gathered via the questionnaire survey and enabled the researcher to confidently test the hypotheses.

## **6.2. Thematic Map**

This section describes the steps followed during the analysis of the qualitative data. Following transcription, the transcripts were transferred to NVivo 12 for analysis. While reading the transcripts, all interesting information was highlighted. In total, 461 points of interest were detected and cross-referenced against the research questions. The main purpose of employing this method was full immersion in the entire dataset and to gather initial points of interest (Chamberlain, 2015). Thus, this step offered insight into the depth and breadth of the content. As Brown and Clarke (2006:10) point out, a theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the dataset. Therefore, it was essential to conceptualise all codes as building blocks and combine similar or multiple codes to generate potential themes in relation to the research questions (Maguire, Moira, and Brid Delahunt, 2017). In order to cluster all the codes, a thematic map was initially created (See Figure 29 in Appendix 16). The substantial thematic map included 12 themes and 29 sub-themes. All these themes were further refined in the next step of analysis. In stage two of the analysis, all master themes and sub-themes were brought together to refine them in more systematic way. Brown and Clarke (2006) suggest that themes should be checked for internal homogeneity (coherence and consistency) and external heterogeneity (distinctions between themes). Firstly, all coded extracts relevant to each initial theme were extracted from the NVivo file and pasted into a Microsoft Word document to facilitate cross-referencing of the coded extracts with the themes and to retrieve and

meaningfully compare the themes. The researcher reread all the collated extracts for each theme, and clustered all themes and sub-themes to check whether they could form a coherent pattern.

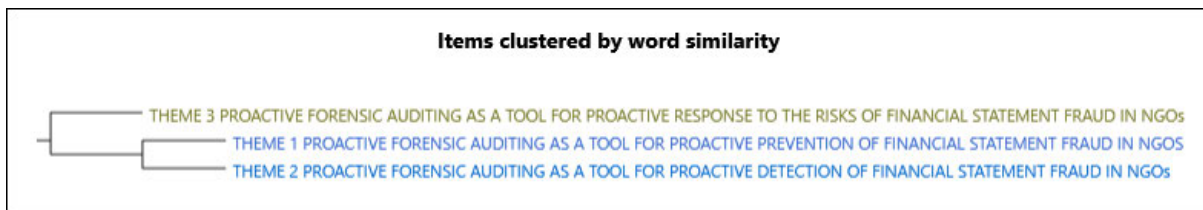
It was essential to ensure that the thematic map accurately reflected the meaning evident in the data set as a whole (Brown and Clarke, 2006:91). All the themes were put back together and the thematic map was refined to reflect on the type of themes developed for this thesis and how they fit together. During the review process, many themes or sub-themes were either merged with other master themes or discarded. Careful attention was paid to identify the story that each theme told, and how it fitted into the broader overall “story” that the researcher wanted to tell about the data in relation to the research questions and to ensure that there was not too much overlap between themes (Brown and Clarke, 2006:92). The specifics of each theme were carefully refined. Themes were further refined, with some lower level themes merged with higher order themes as it was realised that these lower level themes would make thematic map more complex and add little to the story told by the data. The final mind map (thematic map) for the entire dataset that resulted from this process is displayed in Figure 26 below.



**Figure 26: Thematic Map**

Source: Virtual interviews (2021), NVivo version 12

### 6.3. Key Themes



**Figure 27 Key Themes**

**Source: Virtual interviews (2021), NVivo version 12**

#### **6.3.1. Analysis of the themes that emanated from the interviews (open-ended questions) and Frequency Analysis of interview data**

As stated earlier, the data collected via interviews was meant to complement and confirm the questionnaire results. In particular, the interviews confirmed the quantitative findings on the strong connection between forensic auditing and preventive, detective, and responsive FRM in the NGO sector. The analysis of the interview data validated the analysis of the data obtained by means of the closed-ended questions in the questionnaire. An interview guide with a few key research themes was designed and was emailed to the participants prior to the interviews to give them sufficient time to read the questions and prepare their answers or any supporting evidence. Ghauri, Grønhaug, and Strange (2020) note that this is an effective data collection method that yields more in-depth, descriptive answers than a survey. The respondents were asked whether proactive forensic auditing techniques were in place to prevent, detect and respond to the risks of fraud in NGOs. The analysis of their responses produced three significant themes under which the results are presented.

#### **6.3.2. Theme I: The relationship between proactive forensic auditing and proactive prevention of fraud risk in NGOs' financial statements**

The New Fraud Combination Theory requires forensic auditors to consider all fraud risk factors. Furthermore, the literature notes that forensic auditors are being used to combat fraudulent activities (See Chapter two). The interviewees were thus asked whether or not forensic audits played a pivotal role in preventing fraud risks in their entities. The results reveal that they agreed that proactive forensic auditing techniques can prevent financial statement fraud and other fraudulent activities among NGOs. This finding confirms the results of the analysis of the data gathered by means of the questionnaire that revealed that forensic audits have a significant relationship with prevention of fraud risks in NGOs.

Under the theme of preventive FRM, the respondents shared their views on how proactive forensic techniques can prevent financial statement fraud and other fraudulent activities in NGOs. Table 50 below summarises their views and their frequency of occurrence (frequency distribution).

**Table 50: Frequency distribution of respondents' views with regard to proactive forensic auditing as a powerful tool for prevention of financial statement fraud in NGOs**

Techniques	Frequency of citation	
	Count	Weighted %
Proactive forensic audit techniques help in preventing financial statement fraud and other fraudulent activities	10	96%
Proactive forensic audit techniques help in establishing continuous fraud awareness	10	96%
Proactive forensic audit techniques help in providing adequate employee training about fraud risks and sound ethics	10	96%
Proactive forensic audits tests help in curbing and identifying fraud risk factors and indicators	10	96%
Proactive forensic audit techniques help in verification of financial data and reconciliations	9	94%
Proactive forensic audit techniques help in curbing financial statement fraud	9	94%
Proactive forensic audit techniques help in prosecution of fraudsters to prevent them from committing more financial crimes and teach lessons to others	8	82%
Tough enough to prevent fraudulent activities in NGOs	8	82%
Proactive forensic audit techniques identify fraud risks and fraud risks indicators	7	79%
Proactive forensic audit techniques identify red flags in financial statements	7	79%
Proactive forensic audit techniques prevent NGOs from changing accounting policies, procedures, and methods	7	79%
Forensic auditors quickly identify and prevent the root causes of financial statement fraud	7	79%
Proactive forensic audit techniques help in ongoing fraud risk assessment	6	65%
Proactive forensic audit techniques prevent NGOs from altering managerial estimates	6	65%
Proactive forensic audit techniques assist in blacklisting fraudsters in order to prevent them from securing employment at other NGOs	6	65%
Surprise forensic audits greatly assist in preventing fraudulent activities	5	52%
Proactive forensic audit techniques help in building stronger and sound anti-fraud polices to prevent the occurrence of more fraud	5	52%
Proactive forensic audit techniques prevent NGOs from improper recognition of revenue and expenses	5	52%

Proactive forensic audit techniques enhance management oversight to prevent fraudulent activities	4	45%
Proactive forensic audit techniques help to prevent falsification, alteration, or manipulation of material records, supporting documents or business transactions	4	45%

**Source: Virtual interviews (2021), NVivo version 12**

The data analysis identified the different ways in which proactive forensic auditing can prevent financial statement fraud and other fraudulent activities. As indicated by the frequency of citation, under this theme, the frequency distribution arising out of the open-ended set of questions (QB) indicates that the respondents held the view that proactive forensic audit techniques help to prevent financial statement fraud and other fraudulent activities, and assist in establishing on-going fraud awareness, providing adequate employee training on fraud risks and sound ethics, and in curbing and identifying fraud risk factors and indicators was mentioned ten times. This finding supports Tschakert et al.'s (2016) study that found that auditing standards do not encourage fraud deterrence and detection procedures and that auditors who audit financial reports are not fraud detectors or fraud examiners, but are only required to be aware possible fraud. This is not sufficient to detect fraud during their course of audits.

The results also show that nine interviewees agreed that proactive forensic audit techniques help in verification of financial data and reconciliations, and in curbing financial statement fraud. This confirms the results of Albrecht (2001) and Adeniyi's (2016) studies that found that proactive forensic auditing techniques are sufficient to proactively prevent, detect and investigate financial and economic crimes within any entity.

Table 50 above shows that eight interviewees concurred that proactive forensic audit techniques help in prosecuting fraudsters to prevent them from committing more financial crimes and teach lessons to others, and are tough enough to prevent fraudulent activities in NGOs.

The frequency distribution indicates that the view that proactive forensic audit techniques help in identifying fraud risks and fraud risks indicators, in identifying red flags in financial statements, and in preventing NGOs from changing accounting policies, procedures, and methods, and that they enable quick identification and prevention of the root causes of financial statement fraud was supported by seven of the ten interviewees.

The notion that proactive forensic audit techniques help in ongoing fraud risk assessment, in preventing NGOs from altering managerial estimates, and in blacklisting fraudsters in order to prevent them from securing employment at other NGOs was mentioned six times.

Peter et al. (2014) argue that the burning issue is the high costs associated with forensic services, arrests, trials, convictions, and reputational risk for the entity concerned, making forensic audits unaffordable for many NGOs. However, Amin and Harris (2017) assert that any NGO that believes that it will never fall victim to fraud is in for a big shock and Hay (2017) states that directors should recognise that some NGO employees are not perfect executors of their duties, and that forensic audits should not be regarded as an expensive luxury. The author concluded that, directors and senior executives under fire might find forensic audits useful in sustaining their organisations.

Statements that surprise forensic audits greatly assist in preventing fraudulent activities, in building stronger and sound anti-fraud polices to prevent the occurrence of further fraud, and in preventing NGOs from improper recognition of revenue and expenses were made five times. The view that proactive forensic audit techniques help in enhancing management oversight to prevent fraudulent activities, and in preventing NGOs from falsification, alteration, or manipulation of material records, supporting documents or business transactions was expressed four times.

Finally, seven respondents stated that proactive forensic audit techniques help in verification of financial data and reconciliations, and prevent NGOs from changing accounting policies, procedures, and methods, and that forensic auditors quickly identify and prevent the root causes of financial statement fraud.

The extant literature provides empirical evidence of weaknesses in internal controls and internal audits (See, for example, Ming and Chun-Li, 2009; Yang, 2009; KPMG, 2011; PWC, 2014; Glodstein, 2015). Glodstein's (2015) analysis found that internal controls and internal audits cannot prevent or detect financial fraud and other fraudulent activities in a poorly governed entity as fraud is strongly connected to top managers. This literature corroborates the interviewees' assertion that, in entities with weak internal controls and audits that lack checks and balances, top managers with knowledge of accounting can commit fraud and that local audit firms might not uncover discrepancies as traditional audits are rule and single event-based for the purpose of rendering an audit opinion.

The results from the virtual interviews conducted via Zoom meetings with experts and knowledgeable participants corroborate the results of the analysis of the data gathered by means of the questionnaire survey set out in Section 4.11 in Chapter 4.

### 6.3.3. Theme II: Proactive forensic auditing as a powerful tool for detection of fraud risk in NGOs' financial statements

The second theme is detective FRM practices. A further open-ended question (QA) aimed to establish the respondents' views on how proactive forensic auditing can be used as a powerful tool to detect financial statement fraud and other fraudulent activities among NGOs. The findings revealed that almost all the respondents believed that forensic auditing is the main tool for fraud detection. Table 51 below summarises the respondents' views and their frequency distribution.

**Table 51: Frequency distribution of respondents' views with regard to proactive forensic auditing and detection of financial statement fraud**

Techniques	Frequency of citation	
	Count	Weighted %
Proactive forensic audit techniques help in reviewing financial reports	10	96%
Proactive forensic audit techniques help in analysing financial data to detect the value of stolen assets	10	96%
Proactive forensic audit techniques help in the detection and prevention of deliberate misapplication of accounting principles, policies and procedures used to measure, recognise, report, and disclose business transactions	10	96%
Proactive forensic audit techniques help to conduct financial trend analysis to detect financial statement fraud/fraudulent activities	10	96%
Surprise forensic audits on red flags are an essential way to detect fraudulent activities	9	94%
Surprise forensic audits are a reliable way of preventing, detecting, and responding to financial statement fraud/fraudulent activities	9	94%
Proactive forensic audit techniques help in the detection of intentional omission of disclosures relating to accounting principles and policies, and the figures in financial reports	9	94%
Proactive forensic audit techniques enable in-depth examination of source of documents and analyse entities' suppliers to detect fictitious invoices	8	82%
Proactive forensic audit techniques help in the detection of undisclosed material deviations from IFRS	8	82%
Proactive forensic audit tests identify fraud risk factors and indicators	8	82%

Proactive forensic audit techniques detect financial statement fraud/fictitious inventory, overstated revenue, and underestimated expenses	8	82%
Proactive forensic audit techniques help in uncovering fraudulent activities	7	79%
Proactive forensic audit techniques are relevant in the detection of travel claims, and fictitious suppliers and invoices	7	79%
Proactive forensic audit techniques help in investigating fraud risks, and red flags in financial reports	7	79%
Proactive forensic audit techniques help in identifying material misstatement and misappropriated assets	6	68%
Proactive forensic audit techniques help in the detection of red flags in financial statements	6	68%
Proactive forensic audit techniques help in identifying all the factors contributing to the occurrence of financial statement fraud/fraudulent activities	6	68%
Lifestyle audits help in conducting forensic investigations to detect all kinds of fraudulent activities	6	68%
Proactive forensic audit techniques could help in ongoing fraud risk assessment	6	68%
Forensic audit techniques could help in assessing fraudsters' capability to commit financial statement fraud and other fraudulent activities	6	68%

**Source: Virtual interviews (2021), NVivo version 12**

The frequency distribution presented in Table 51 above shows that all the respondents held the view that proactive forensic audit techniques help in reviewing financial reports; analysing financial data to detect the value of stolen assets; detecting and preventing deliberate misapplication of the accounting principles, policies and procedures used to measure, recognise, report, and disclose business transactions; and in conducting financial trend analysis to detect financial statement fraud/fraudulent activities.

These results support previous studies that found that employees who commit fraud against their employers are mainly members of senior management who are employed in finance and operations, or as executives and that the occurrence of such fraud is increasing since senior management has the ability and capability to commit fraud (PwC, 2014; KPMG, 2011; Jackson and Stent, 2010; Chamberlain and Etherington, 2018). The results also indicate that proactive forensic audits are very relevant in assessing fraudsters' capability of committing financial statement fraud and are critical in addressing weaknesses in internal controls which create a high risk of opportunity to commit fraud. However, Okoye, 2019 argued that NGOs cannot copy and paste large for-profit entities and public sector entities' forensic investigation systems.

The statements that surprise forensic audits are a reliable way of preventing, detecting, and responding to financial statement fraud/fraudulent activities; surprise forensic audits on red flags are essential to detect fraudulent activities; and proactive forensic audit techniques assist detection of intentional omission of disclosures relating to accounting principles and policies, and the figures in financial reports were all supported by nine of the respondents.

Eight interviewees agreed that proactive forensic audit techniques help in the detection of undisclosed material deviations from IFRS; in in-depth examination of the source of documents and analysis of entities' suppliers to detect fictitious and fake invoices; and in detecting financial statement fraud/fictitious inventory, overstated revenue, and underestimated expenses in NGOs. Proactive forensic audit techniques help in uncovering fraudulent activities, are highly relevant in the detection of travel claims, fictitious and fake suppliers and fictitious invoices, and help in investigating fraud risks, and red flags in financial reports were all mentioned seven times.

Proactive forensic audit techniques help in identifying material misstatement and misappropriated assets; in detection of red flags in financial statements; in identifying all the factors contributing to the occurrence of financial statement fraud/fraudulent activities; and lifestyle audits help in conducting forensic investigations to detect all kinds of fraudulent activities, and could help in an ongoing fraud risk assessment, and in assessing fraudsters' capabilities to commit financial statement fraud and other fraudulent activities were agreed to six times.

Similarly, six respondents were of the view that proactive forensic audit techniques help in the detection of red flags in financial statement fraud. The interviewees also emphasised that such techniques assist in addressing weaknesses in internal controls and internal audits (some senior managers override internal controls and audits), and the challenges experienced by rule-based audits (traditional auditors) in detecting financial statement fraud and other fraudulent activities among NGOs. The ineffectiveness of rule-based audits in preventing and detecting fraud was also noted by Oluwatuyi (2019) who found that external auditors are not suitably equipped to identify, assess, and detect asset misappropriation, corruption and financial statement fraud as they apply their judgement and make estimates and their major focus is not to identify fraud.

The results from the virtual interviews conducted via Zoom meetings with experts and knowledgeable participants corroborated the findings from the analysis of the questionnaire data in sections 4.12 and 4.12.1 and 4.15 and 4.15.1 of Chapter four.

**6.3.4. Theme III: Proactive forensic auditing as a powerful tool to respond to fraud risks in NGOs’ financial statements**

The third theme is responsive FRM. Table 52 below shows the frequency distribution of the respondents’ views on how proactive forensic techniques can respond to the risks of financial statement fraud and other fraudulent activities in NGOs.

**Table 52: Frequency distribution of respondents’ views with regard to proactive forensic auditing to respond to the risks of financial statement fraud**

Techniques	Frequency of citation	
	Count	Weighted %
Proactive forensic audit techniques help in recovering stolen funds	10	96%
Proactive forensic audit techniques help in performing electronic evidence recovery	10	96%
Proactive forensic audit techniques help in probing suspect financial transactions	9	94%
Proactive forensic audit techniques help in investigating alleged fraud	9	94%
Forensic experts assist in recovering stolen assets	9	94%
Proactive forensic audit techniques assist in prosecuting offenders	8	82%
Proactive forensic audit techniques assist in responding to the risk of cybercrimes, and computer fraud	8	82%
Forensic experts greatly assist in responding to the risks of financial statement fraud and other fraudulent activities	7	79%
Forensic audit techniques assist in investigating fraudulent activities	7	79%
Forensic audit techniques help in addressing the weaknesses of internal controls	6	68%
Forensic audit techniques help in discovering electronic evidence	6	68%
Forensic audit techniques help in addressing governance weaknesses	6	68%
Forensic technology solutions for the discovery of electronic evidence are absolutely essential	6	68%
Forensic audit techniques help in conducting surprise forensic investigating to find out where money went	5	52%
Forensic audit techniques help in disclosing the results of forensic investigations	5	52%
Forensic audit techniques help in remedying the inconvenience (harm) caused	5	52%
Forensic audit techniques assist in criminal proceedings	5	52%
Forensic audit techniques assist in civil proceedings	4	45%
Forensic experts testify at tribunals and liquidation proceedings	4	45%
Forensic audit techniques could help in responding to the risks of financial statement fraud and other fraudulent activities	4	45%

Source: Virtual interviews (2021), NVivo version 12

The table shows that 96% of the respondents believed that proactive forensic audit techniques help in recovering stolen funds, and in performing electronic evidence recovery (mentioned 10 times by ten interviewees). This confirms the results of a study conducted by Peter et al. (2014) that found that fraud detection and responsive strategies include proactive forensic auditing techniques.

Proactive forensic audit techniques help in probing suspect financial transactions and in investigating alleged fraud, and the relevance of forensic experts in recovering stolen assets were mentioned nine times.

The frequency distribution indicates that eight respondents held the view that proactive forensic audit techniques assist in prosecuting offenders, and in responding to the risk of cybercrimes, and computer fraud in NGOs.

Other areas such as responding to the risks of financial statement fraud and other fraudulent activities, and investigating fraudulent activities were mentioned seven times by six interviewees. Nine respondents stated five times that forensic audit techniques help in addressing the weaknesses of internal controls and governance weaknesses and that forensic audit services offer a robust practical framework to address the issues in relation to internal controls (that should be reviewed regularly to ensure they remain effective for the purposes for which they were intended) as some senior managers override them, and poor or inadequate board oversight and governance risk, as well as in discovering electronic evidence, as forensic auditors assess the risk of poor computer security and cybercrimes among NGOs.

These findings support those of Amah (2018), Othman (2019), and Okoye et al. (2019) who found that proactive forensic auditing techniques can be used to a very large extent to ensure that aggressive internal control systems, strong governance systems, audit committees, effective internal audits, external audits (rule-based or statutory audits), sound policies and financial management are in place and to eradicate or at least reduce the risks of fraud.

Other techniques that were mentioned five times included that forensic audit techniques help in conducting surprise forensic investigations to find out where money went, in disclosing the results of forensic investigations, in remedying the inconvenience (harm) caused, and in criminal proceedings. They also assist in responding to the risks of financial statement fraud and other



## **CHAPTER SEVEN: DISCUSSION OF THE RESEARCH FINDINGS**

### **7.1. Introduction**

This chapter analyses and discusses the research findings presented in Chapters four and six in relation to the study's four objectives and the relevant literature. The empirical findings were analysed in relation to the theoretical framework and previous research around the themes on FRM that arose from the findings with the aim of corroborating and extending the discussion of relationships that constitute the central phenomenon of the emergent theory. This is achieved by comparing and contrasting the emergent theory with extant literature. The overall themes are the analysis of the relationship between proactive forensic auditing and proactive prevention of fraud risk in NGOs' financial statements; the relationship between forensic auditing and detecting fraud risk in NGOs' financial statements, and the relationship between forensic auditing and responding to fraud risk in NGOs' financial statements.

This section is divided into four sub-sections. The first discusses the factors influencing FRM among NGOs in eThekweni region while sub-section two discusses the relationship between proactive forensic auditing and proactive detection of fraud risk in NGOs' financial statements. Sub-section three addresses the relationship between proactive forensic auditing and prevention of fraud risk in NGOs' financial statements, while the fourth sub-section discusses the relationship between forensic auditing and responding to fraud risk in NGOs' financial statements.

#### **7.1.1. Factors influencing fraud risk management among NGOs in eThekweni region**

Since proactive preventive, detective and responsive factors related to financial statement fraud are the drivers of FRM, proactive forensic auditing and FRM measures go hand in hand (Samociuk and Iyer, 2010; Taylor, 2018; McIntyre (2016).

The results of the overall model from the structural equation analysis on the evaluation of theoretical FRM (goodness-of-fit indices) confirm that proactive forensic auditing techniques have a positive impact in enhancing FRM among NGOs in eThekweni region. It was found that, overall, this model on FRM factors exhibited a good fit to the data: CMIN=107,520; DF=524; P=.000; SRMR\*=.002; CMIN/DF=2,053; GFI=.920; AGFI=.520; CFI=.998; PGFI=.648; PCFI=.652; TLI=.976; IFI=.904; RFI=.517; NFI=.549; PNFI=.613; RMSEA=.076; and HOELTER=0.05 for

the sample of 87. This model is significant and acceptable at all acceptable levels per the literature, more specifically Marsh et al. (1988) and Enders and Mansolf's (2018) observations. The findings from the test of hypothesis 1 revealed that, proactive forensic auditing techniques have a positive impact in enhancing FRM among NGOs in eThekwinini region. This is in line with Khersiat (2018) who found that forensic auditing significantly increased the possibility of identifying, preventing, detecting, investigating and responding to the risks of fraud at the global level. He also concluded that proactive forensic auditing has assisted in uncovering financial and economic crimes in countries such as the United Kingdom, United States, Germany, Malaysia, Nigeria, India, Kenya, and Canada. The finding in respect of FRM theory is strongly empirically supported. Following this,  $PREV \leftrightarrow RESP$ : (Estimates=,784); (S.E.=,053); (t-Value (C.R) =4,002); and (P-Value=\*\*\*), while  $DETEC \leftrightarrow RESP$ : (Estimates=,876); (S.E.=,059); (t-Value (C.R.) =4,369); and (P-Value=\*\*\*), and  $DETEC \leftrightarrow PREV$ :(Estimates=,884); (S.E.=,068); (t-Value (C.R.) =3,972); and (P-Value= \*\*\*). All loading values have *p*-values significantly higher than 0.05, which indicates that the CFA model was theoretically sound.

### **7.1.2. Relationship between proactive forensic auditing and proactive prevention of fraud risk in financial statements among NGOs in eThekwinini region**

Preventive FRM was discussed in detail in the literature review in Chapter two (Van Rooyen, 2008; Samociuk and Iyer, 2010; Jackson and Stent, 2010; Walden, 2016; Taylor, 2018). Since fraud preventive measures are the drivers of FRM, forensic auditing and preventive FRM measures go hand in hand (Jans, Lybaert, and Vanhoof, 2009).

The study established a statistically significant relationship between proactive forensic auditing and preventive FRM, indicating that [PREV] was strongly empirically supported. The respondents were thus in significant agreement that proactive forensic auditing is highly relevant and can be used to proactively prevent the risks of financial statement fraud among NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.982, depicting consensus.

The researcher used the data in a contingency table on proactive forensic auditing to significantly prevent financial statement fraud across the full sample. This hypothesis was tested using statements from section D in the questionnaire. As shown in Table 35, the statements used to validate FRM factors among NGOs have a Critical Value of 5.75 and Chi-Square of 10.48 with P-

value of .790 significantly higher than 0.05. Therefore, it was concluded that there is a statistically significant relationship between proactive forensic auditing techniques and preventive FRM among NGOs in eThekweni region. This finding addresses research question 3. It is consistent with Okoye and Akenbor (2009) and Enofe, Omagbon and Ehigiator's (2015) results and extends the literature by demonstrating that NGO stakeholders and the auditing profession should take into consideration the overall credibility of FRM models.

Ocansey's (2017) research in Ghana also established a positive significant relationship between proactive forensic auditing and preventive FRM. This finding also supports those of other studies that assert that proactive forensic auditing is an essential measure to prevent fraudsters from committing financial statement fraud and to detect fraudulent activities in different contexts (Aiken, 2016; Amah, 2018; Eyisi, 2014; Oyedokun, 2016; Uniamikogbo, 2019; Walden, 2016).

Furthermore, the study's results corroborate those of Smith (2005), Hershensohn and Block (2005), and Thomopoulos (2013) who found that, to a very large extent, proactive computer forensics can be used to proactively prevent electronic fraud, as shown by the mean score and standard deviation of 4.32, and .755, respectively. This implies that an increase in proactive forensic auditing leads to increased prevention of financial and economic crimes and financial statement fraud among NGOs in eThekweni region. It also implies that forensic auditors enhance the effectiveness of internal controls in this sector.

### **7.1.3. Relationship between proactive forensic auditing and proactive detection of fraud risk in financial statements among NGOs in eThekweni region**

As discussed in the literature review, proactive forensic auditing techniques are essential for detective FRM and detection of financial statement fraud (Peltier-Rivest and Lanoue, 2015; Abdi, 2017; Halbouni, 2015). Since fraud detective measures are the drivers of FRM, forensic auditing and detective FRM measures go hand in hand (Abdi, 2017). The analysis revealed a statistically significant relationship between proactive forensic auditing and detective FRM, indicating that [DETEC] was strongly empirically supported. The respondents were in significant agreement that proactive forensic audits are highly relevant and can be used to proactively detect the risks of financial statement fraud among NGOs, as the means of all responses were above 4 and the variations among them were low, with the highest at 0.940, depicting consensus.

The third research hypothesis posited that proactive forensic auditing techniques can significantly detect financial statement fraud among NGOs in eThekweni region. The researcher used the data in a contingency table on proactive forensic auditing to significantly detect financial statement fraud across the full sample. This hypothesis was tested using statements from section E in the questionnaire. The results in Table 34 show that the statements used to validate the significance of proactive forensic auditing in financial statement fraud detection among NGOs have a Critical Value of 3.74 and Chi-Square of 8.53, with P-value .541, significantly higher than 0.05. Therefore, it was concluded that there is a statistically significant relationship between proactive forensic auditing techniques and financial statement fraud detection among NGOs in eThekweni region. This finding addresses research question 2. It supports the results of a study conducted by Mohd and Mazni (2008) that found that proactive forensic auditing has a significant impact in detecting fraudulent practices and leads to a decrease in financial and economic crimes.

These results support the literature that notes that lifestyle audits during forensic auditing are useful as they: (i) identify direct evidence of fraud, (ii) can quickly help forensic auditors to narrow their list of fraud suspects who are living beyond their financial means, (iii) can quickly identify misappropriated assets and funds, (iv) are crucial fraud risk indicators, (v) are an excellent barometer of the extent of the fraud risk in an organisation, (vi) can yield direct evidence of illegal income and hidden assets, (vii) add value to the forensic investigation, and (viii) are tools forensic auditors can use to prove that suspect is generating income from somewhere (Gillespie, 2014; Bredenkamp, 2015; Geldenhuys and Magazine, 2016; Kapardis and Courakis, 2017).

Furthermore, the results support those of Ohando and Ronald (2015) who found 4.34 and .745; 4.18 and .820; 4.15 and .807; 4.62 and .609; 4.25 and .762; 4.06 and .981, 4.53 and .621; and 4.03 and .808 as means and standard deviations for questionnaire items 1,2,5, 6, 9, 10, 11, and 12, respectively.

Moreover, the findings are empirically supported and articulated in the extent literature (See, for example, Aiken, 2016; Jackson and Stent, 2010; Kranacher, 2019; Rooyen, 2008; Saidu, 2015). Citing Mehta and Bhavani's (2017) analysis of the advantages of surprise lifestyle audits and forensic audits, Kranacher (2019:48) notes that a forensic investigation team should consist of a team leader (forensic investigator) an accountant (forensic auditor), legal expert, and an IT expert (computer forensic auditor) in order to be highly effective in the detection and prevention of financial statement fraud and other fraudulent activities.

This finding also agrees with previous studies such as Falie (1999), Walden (2016); and Aiken (2016) that established a significant positive relationship between proactive forensic auditing and financial statement fraud detection. This implies that an increase in forensic auditing leads to increased detection of financial and economic crimes and financial statement fraud among NGOs in eThekweni region. It also suggests that forensic auditors enhance detection of fraudulent activities in NGOs, and thus expose the weaknesses of organisations' systems and unethical practices.

#### **7.1.4. Relationship between proactive forensic auditing and proactive responses to fraud risk in financial statements among NGOs in eThekweni region**

As discussed in the literature review, proactive forensic auditing techniques are essential to respond to the risks of financial statement fraud (Rotich, 2017; Vousinas, 2015). Since fraud responsive measures are the drivers of FRM, forensic auditing and responsive FRM measures go hand in hand (Vousinas 2015). The analysis revealed that there is statistically significant relationship between forensic auditing and responsive FRM, indicating that [RESP] was strongly empirically supported. The respondents were in significant agreement that proactive forensic auditing can be used to respond to the risks of fraud in NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.926, depicting consensus.

The fourth research hypothesis posited that proactive forensic auditing techniques can significantly respond to the risks of financial statement fraud among NGOs in eThekweni region. The researcher used the data in a contingency table on proactive forensic auditing as a tool to significantly respond to the risks of financial statement fraud across the full sample. This hypothesis was tested using statements from section F in the questionnaire. The results in Table 36 show that, the statements used to validate the significance of proactive forensic auditing on financial statement fraud responses in NGOs have a Critical Value of 6.05 and Chi-Square of 12.59, with P-value .694, significantly higher than 0.05. Therefore, it was concluded that there is a statistically significant relationship between proactive forensic auditing techniques and financial statement fraud responses among NGOs in eThekweni region. This finding addresses research question 4. In general, it supports the results of Pagano (2005) and Ansari's (2005) studies that found that proactive forensic auditing is a major tool to respond to the risks of fraud in banks and for easy detection of fraudulent practices in the public sector.

The research results corroborate those of Tanim (2016) who found 4.01 and .812, 4.15 and .764, 4.85 and .787, .4.04 and 4.08, 4.93 and .996, 4.28 and .841, and 4.87 and .957 as means and standard deviations for items 2, 3, 4, 5, 6 and 7 of the questionnaire, respectively. However, they contradict Eyisi (2014) and Utomwen's (2015) studies that found an insignificant relationship between forensic auditing and responsive FRM in the Kenyan financial sector.

The findings concur with those of Ryoba's (2006) study in Tanzania and Koh and Arokiasamy's (2009) in Malaysia. Ryoba (2006) found 30 (28,6%); 40 (47,6%); 18 (23,8%), 36 (42,9%); 7 (33.3%); 44 (52,40) and 27 (42,90) as frequency percentages for questionnaire items 1, 2, 3, 4, 5, 6, and 7, respectively. For their part, Koh and Arokiasamy (2009) found 40 (38,10%); 45 (44,20%); 25 (23,80%); 35 (33.30%); 24 (38,10%); 32 (58,10%) and 53 (68,41%) as frequency percentages for questionnaire items 3, 1, 4, 6, 5, 7 and 2, respectively. These are very similar percentages to the number of respondents who rated proactive forensic auditing techniques as either most significant or significant to a very large extent 64 (73.6%). This suggests a link between proactive forensic auditing techniques and proactive responses to the risks of fraud. It implies that an increase in proactive forensic auditing leads to an increase in responsiveness to the risks of financial and economic crimes and financial statement fraud among NGOs in eThekweni region.

The study's results also support studies that found that forensic auditors are not only deeply involved in preventing, detecting or identifying fraud, but generally engage in a much wider variety of FRM engagements (Aiken, 2016; Walden, 2016; Knežević, 2015; Gillespie, 2014; Geldenhuys, 2016; Kapardis and Courakis, 2017). However, they contradict Okoye (2019) who argued that NGOs cannot copy and paste large for-profit entities and public sector entities' forensic investigation systems.

The findings from the interviews confirmed the results from the questionnaire in this area. However, the extant literature notes that the higher costs associated with forensic services, arrests, trials, convictions, and reputational risk for the entity concerned renders forensic audits unaffordable for many NGOs (Peter et al., 2014). Nonetheless, Amin and Harris (2017) assert that any NGO that believes that fraud will never occur against it is in for a shock and Hay (2017) states that directors should recognise that some NGO employees are not perfect executors of their duties. Thus, forensic audits should not be regarded as an expensive luxury.

## **7.2. Chapter Summary**

This chapter analysed and discussed the study's findings against the research objectives as well as the relevant literature. The thesis was built on a foundation based on previous studies. Given previous studies' criticism of NGOs for not using the services of forensic auditors for FRM, this study focused on 30 NGOs in eThekweni region. It was found that proactive forensic audit techniques have significant impact on prevention, detection and responses to the risks of financial statement among NGOs in this region. While some respondents supported the use of forensic audit services, they were of the view that micro-NGOs should not be required to do so due to the higher costs involved. Thus, the adoption of forensic auditing requires significant financial resources. It has also been criticised for the length of time it can take to catch fraudsters and recover stolen assets. This finding is similar to those of Owolabi et al. (2013) ; Okoye (2019) and Dada (2014).

Chapter eight presents a summary of the findings, and conclusions and recommendations, and discusses the study's contribution to knowledge.

## **CHAPTER EIGHT: SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **8.1.Introduction**

The previous chapter analysed and discussed the study's findings in relation to its research questions and objectives. Statistical software programmes were used to perform the analysis, including SPSS 27 for the descriptive statistics analysis, AMOS 27 for SEM and CFA as the vehicle to model structural relationships between preventive, detective, and responsive FRM factors, and NVivo 12 for the analysis of the interview data. This chapter presents a summary of the key findings, provides answers to the research questions and examines whether the objectives set out in Chapter one were achieved. This is followed by a discussion on the study's limitations, shortcomings and strengths, its contribution to knowledge, and conclusions and suggestions for further research.

### **8.2. SUMMARY OF THE FINDINGS**

#### **8.2.1. Model of fraud risk management factors acceptance decision**

The results of the model on fraud risk factors, FRM strategies, and the links between FRM factors and the control variables show that proactive forensic audit techniques are positively associated with FRM factors (Chi-Square=12.58 and P-Value=.642), preventive FRM [PREV] (Chi-Square=10.48 and P-Value=.790), detective FRM [DETEC] (Chi-Square=8.53 and P-Value=.541), and responsive FRM [RESP] (Chi-Square=12.59 P-Value=.694). In terms of the hypothesis (H1), the results of the model show a positive and significant link among preventive FRM, detective FRM, and responsive FRM. Thus, the study's findings were consistent with H1, but not with H01.

The results of the overall model on the evaluation of theoretical FRM (goodness-of-fit indices) confirmed that proactive forensic auditing techniques have a positive impact in enhancing FRM among NGOs in eThekweni region. It was found that, overall, this model on FRM factors exhibited a good fit to the data: CMIN = 107,520; DF=524; P = .000; *SRMR\** = .002; CMIN/DF = 2,053; GFI = ,920; AGFI = ,520; CFI = ,998; PGFI = ,648; PCFI = ,652; TLI = ,976; IFI = ,904; RFI = ,517; NFI = .549; PNFI = ,613; RMSEA = ,076; and HOELTER = 0.05 for the sample of 87. This model is significant and acceptable at all acceptable levels per the literature, more specifically Marsh et al. (1988) and Enders and Mansolf's (2018) observations. Hence, the relationship between proactive forensic auditing techniques and detective, preventive and responsive FRM was found to be statistically significant.

The study also sought to investigate the extent to which fraudulent activities affect the viability of NGOs in eThekweni region. The findings showed that financial statement fraud and other fraudulent activities affected the health of NGOs to a very large extent, as indicated by its mean score of 28.7%. Thus, the research findings were consistent with the hypothesis (H1), but not with (H01).

The results also revealed that the majority of the respondents indicated that their NGOs had been victims of financial statement fraud and other fraudulent activities with the most prevalent being management fraud or financial statement fraud as shown by a mean of 2.95; misuse of accounts (3.21); falsification of an NGO's financial statements (2.83); double-dipping (2.51); inflating or overstating fundraising costs (2.77); and understatement of expenses with a mean of 2.68. This result contradicts Ohando's (2015) finding that wire transfer fraud and computer fraud were the most common forms of fraud among Kenyan commercial banks, as shown by its mean score of 3.37 and standard deviation of .551.

The researcher also investigated the extent to which financial statement or management fraud affected the viability of NGOs in eThekweni region. The respondents indicated that financial statement fraud and other fraudulent activities affected the health of NGOs to a very large extent, as indicated by its mean of 32.1%. These findings are consistent with the hypothesis (H1), but not with (H01). The frequency distribution of the open-ended questions indicated that all the respondents were of the view that proactive forensic audit techniques would lead to strategic FRM among NGOs in eThekweni region.

### **8.3. CONCLUSIONS**

This section provides answers to the research issue (problem), and research questions and examines whether or not the research objectives were achieved. The data analysis yielded robust insights that enabled several conclusions to be drawn.

#### **8.4. Breakdown of how the research questions were answered and how the research objectives were achieved**

Through surveying 30 NGOs in eThekweni region, the researcher gained deeper insight into fraud risk factors, fraud risk indicators, and fraud prevention, detection, and responsive techniques that can be used by NGOs. The research questions were formulated to achieve the research objectives. This section draws conclusions on the research findings based on the research objectives.

#### **8.4.1. Conclusions on the findings in respect of factors that greatly influence fraud risk management among NGOs in eThekweni region**

The first research objective was: *To determine the key factors that greatly influence fraud risk management practices among NGOs in eThekweni region.*

Fraud risk factors, indicators, and red flags and prevalent fraudulent practices were analysed to gauge whether NGOs were significantly or insignificantly affected by fraud risks. With a mean of 2.87, failure to prosecute perpetrators of fraud was identified by the respondents as the primary root cause of fraud among NGOs, followed by a lack of appropriate punishment with a mean of 2.68; external financial pressure (2.51), the lack of surprise audits (2.45); a lack of forensic audits (2.26); systematic differences in reporting requirements (2.13); poor accounting systems (1.97); fraudsters' ability to override systems (2.26); and non-existent internal controls with a mean of 1.93.

These results corroborate Ruankaew's (2016) study that identified fraudsters' ability to override systems, poor and weak internal controls, corporate financial pressure, and a lack of surprise forensic audits as major root causes of fraudulent activities.

The respondents were in significant agreement that proactive forensic audits are highly relevant and can be used to proactively prevent the risks of financial statement fraud among NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.982, depicting consensus. The respondents were also in significant agreement that proactive forensic audits are highly relevant and can be used to proactively detect the risks of financial statement fraud among NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.940, depicting consensus. Finally, the respondents were in significant agreement that proactive forensic audits can be used to respond to the risks of financial statement fraud in NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.926, depicting consensus. There was, thus, sufficient statistical significance to show a strong correlation between proactive forensic auditing techniques and fraud preventive, fraud detective and fraud responsive practices among NGOs in eThekweni region.

#### **8.4.2. Conclusions on the findings in respect of how proactive forensic audit techniques can significantly detect financial statement fraud among NGOs in eThekweni region**

The second research objective was: *To investigate whether or not proactive forensic audit techniques can significantly detect financial statement fraud among NGOs in eThekweni region.*

The statistical analysis on the extent to which proactive forensic audits can be used as a tool to detect the risks of financial statement fraud among NGOs in eThekweni region showed a statistically significant relationship between the use of all the forensic techniques and detection of financial statement fraud and other fraudulent activities. The respondents were in significant agreement that proactive forensic audits are highly relevant and can be used to proactively detect the risks of financial statement fraud among NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.940, depicting consensus. There was thus sufficient statistical significance to demonstrate the relevance of proactive forensic auditing techniques to detect FRM. Hence, to a very large extent, the use of surprise forensic audit techniques enhances the chances of quickly detecting fraud. These findings are consistent with the hypothesis (H2) but not with (H02). The analysis of the data from the interviews confirmed these results. The frequency distribution of the responses to the open-ended questions showed that all the respondents confirmed that proactive forensic audit techniques will lead to strategic fraud detection among NGOs in eThekweni region.

#### **8.4.3. Conclusions on the findings in respect of how proactive forensic audit techniques can significantly prevent financial statement fraud among NGOs in eThekweni region**

The third research objective was: *To examine whether or not proactive forensic audit techniques can significantly prevent financial statement fraud among NGOs in eThekweni region.*

The statistical analysis on the extent to which proactive forensic audits can be used as a tool to significantly prevent the risks of financial statement fraud among NGOs in eThekweni region showed a statistically significant relationship between the use of all the forensic techniques and prevention of financial statement and other fraudulent activities. The respondents were in significant agreement that proactive forensic audits are highly relevant and can be used to proactively prevent the risks of financial statement fraud among NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.982,

depicting consensus. There was thus sufficient statistical significance to show the relevance of proactive forensic auditing techniques in preventive FRM. Hence, to a very large extent, the use of surprise forensic audit techniques enhances the chances of quickly preventing fraud. These findings are consistent with the hypothesis (H3) but not with (H03). The analysis of the data from interviews reached the same conclusion. The frequency distribution of the responses to the open-ended questions indicates that all the respondents confirmed that proactive forensic audit techniques will lead to strategic fraud prevention among NGOs in eThekweni region.

#### **8.4.4. Conclusions on the findings in respect of how proactive forensic audit techniques can significantly reduce financial statement fraud among NGOs in eThekweni region**

The fourth research objective was: *To test whether or not proactive forensic audit techniques can significantly reduce financial statement fraud among NGOs in eThekweni region.*

The statistical analysis on the extent to which proactive forensic audits can be used as a tool to respond to the risks of financial statement fraud among NGOs in the eThekweni region established a statistically significant relationship between the use of all the forensic techniques and responding to the risks of financial statement fraud and other fraudulent activities. The respondents were in significant agreement that proactive forensic audits can be used to respond to the risks of financial statement fraud in NGOs as the means of all the responses were above 4 and the variations among them were low, with the highest at 0.926, depicting consensus. There was thus sufficient statistical significance to show the relevance of proactive forensic auditing techniques in responsive FRM. Hence, to a very large extent, the use of surprise forensic audit techniques enhances the chances of quickly responding to the risks of fraud. These findings are consistent with the hypothesis (H4) but not with (H04). The analysis of the interview data reached the same conclusion. The frequency distribution of the responses to the open-ended questions indicates that all the respondents confirmed that proactive forensic audit techniques will lead to a strategic fraud response process among NGOs in eThekweni region.

#### **8.4.5. Conclusions on the findings in respect of strategic measures for fraud detection in place among NGOs in eThekweni region**

The findings revealed that most of the surveyed NGOs had experienced incidences of fraud and that fraud detection measures were in place in some when fraud was detected. In terms of

distributions and percentages, the respondents cited the measures in place as fraud risk assessment measures (41, 47.1%; a fraud risk register (46, 52.9%); internal controls (33, 37.9%); internal audits (43, 49.4%); audit committees (31, 35.6%); external audits (52, 59.8%); and surprise forensic audits (20, 23.0%), while only 18 (20.7%) had some strategic measures for fraud detection. In this regard, all (100.0%) the respondents indicated that their NGOs did not have an anonymous reporting mechanism.

In terms of strategic measures for fraud detection that were not in place, 46 (52.9%) respondents cited risk assessment, while the figures for other measures were 41 (47.1%), 54 (62.1%), 44 (50.6%), 56 (64.4%), 35 (40.2%), 67 (77.0%), 87 (100.0%), and 69 (79.3%) for a fraud risk register, internal controls, internal audits, audit committees, external audits, surprise forensic audits, an anonymous reporting mechanism, and fraud measures, respectively. This suggests that much fraud in NGOs might go undetected due to their failure to adopt these strategic measures.

## **8.5. The study's contribution to the existing body of knowledge in the field**

This section summarises the study's key contributions to the existing body of knowledge in this field under three themes, namely its theoretical contribution in terms of emergent theory, methodological contribution relating to the adopted research strategy and practical contribution in terms of recommendations relevant to NGOs.

### **8.5.1. Theoretical contribution**

This research study is one of the few that have attempted to empirically investigate the phenomenon of forensic auditing and FRM in NGOs in a developed country (Makwetu, 2019). Generally, there have been calls for more studies in this area and this study responded to these calls. It thus adds to current understanding of fraud risk factors and indicators that, arguably, drive FRM practices in the NGO sector by demonstrating the relationship between the main drivers of FRM.

Many scholars, researchers and professionals such as Ezuwore (2014), Udukeke and Ezenwafor (2019) and Abbas (2020) have published articles on forensic auditing, fraud theories, fraudulent financial statements, red flags in financial reports and financial forensics. The current study adds to their work by identifying proactive forensic auditing skills, tools, and techniques that are essential for FRM in NGOs.

The well-known fraud theory used by ISA 240, namely, the fraud triangle has been criticised as ineffective in identifying and detecting fraud, and responding to the risks of fraud because it excludes the fraudster's capability and competency, personal integrity and lack of conscience, as well as corporate governance.

This study adds to the current body of knowledge by introducing the New Fraud Combination Theory, a combination of all the fraud models and contributory fraud risk factors for financial statement fraud. This is considered to be the most effective fraud theory to assist auditors and forensic auditors to effectively identify fraud risk factors and red flags and to successfully identify financial statement fraud in entities. The finding of positive relationship between proactive forensic auditing and FRM supports the New Fraud Combination Model which posits that stronger corporate governance will proactively prevent financial statement fraud and other fraudulent activities. The findings also point to the critical fraud risk factors that auditors and forensic auditors should consider.

The study thus contributes to the literature on fraud risk factors and fraud risk indicators, and provides a model and empirically tests a theory that describes the relationship between proactive forensic auditing and FRM in NGOs in eThekweni region.

### **8.5.2. Methodological contributions**

This study makes three methodological contributions. It contributes to the critical realist philosophy in accounting and auditing, and accommodates interpretivism and positivism in these fields. The study expands knowledge of FRM using a more robust scientific research methodology (SEM). It also demonstrates the relevance of critical accounting and auditing research in the South African NGO sector.

### **8.5.3. Practical Contributions**

The practical application of the proposed model is expected to empower NGOs and their stakeholders to manage the risks of financial statement fraud. Based on the study's results, it is suggested that NGOs in eThekweni region revisit their current FRM practices and compare them with the study's recommendations. Should any gaps be found in their current FRM practices, their boards should consider implementing the recommendations. It is hoped that practical application of this knowledge will have a positive effect in the NGO community.

## **8.6. Chapter Summary**

This chapter drew conclusions with regard to the four research questions and the three FRM (preventive, detective, and responsive) fraud risk measures identified for evaluation in this study. Conclusions in respect of each research question and the theoretical models were presented along with the overall research conclusions. The study provided an in-depth evaluation of the factors that greatly influence FRM among NGOs. It also offered an enhanced, empirically-based view of the key FRM factors among NGOs in eThekweni region through the use of more robust scientific research methodologies. The findings in regard to the research questions and the results from SEM laid a foundation to expand FRM practices and to formulate strategies to manage the risks of fraud. It is hoped that these will be useful to the accounting and auditing community, fraud researchers, auditing researchers, practitioners, academia, NGOs, funders, and regulators.

## **CHAPTER NINE: CONCLUSION AND RECOMMENDATIONS**

As noted in the previous chapter, based on the research findings, the null hypotheses were rejected while the alternative hypotheses were accepted. The researcher therefore concluded that proactive forensic auditing skills and techniques influence the main drivers of FRM among NGOs in eThekweni region. The implication is that the use of proactive forensic audit skills and techniques assists entities to reduce fraud risks. The study thus contributes to the debate on how to enhance NGOs' FRM in eThekweni region by making certain recommendations.

### **9.1. Recommendations**

The study found that, forensic auditing departments suffer from some challenges, including insufficient recognition of their profession. It is thus recommended that forensic auditors should form a professional association that serves their interests and regulates their activities.

Based on the study's results, it is proposed that NGOs in eThekweni region should revisit their current FRM practices and compare them to the study's recommendations. Should any gaps be found in their current FRM practices, NGO boards should consider implementing the following recommendations:

- Outsource the services of forensic auditors to enhance the effectiveness and efficiency of FRM.
- Based on the adage that prevention is better than cure, proactive techniques for fraud prevention, identification, and detection are strongly recommended rather than reactive techniques which favour the philosophy of "wait and see" or "repulse when attacked".
- Forensic auditing should be contextualised.
- Expand ISA 240 to include the New Fraud Combination Theory.
- Educate auditors on forensic auditing skills and techniques by expanding their knowledge on how to prevent, identify, detect, investigate, and respond to the risks of fraud.
- NGOs should ensure that proactive forensic analysis, FRAs, and surprise fraud audits are conducted. This will contribute to the overall FRM process as they are reliable ways of detecting, preventing, and investigating fraud.
- NGOs should have an independent audit and risk committee that reports directly to their boards.

- Financial statement fraud should be investigated by competent forensic auditors and FRM strategies and practices should incorporate prevention, detection, and investigation techniques.
- For FRM to be sustainable in NGOs, it is essential that they use forensic analysis and surprise fraud audits to combat fraudulent activities as their funders need guidance on why, how, and where money (donations) went.
- Forensic audit functions should be created in NGOs to complement and supplement the work of internal controls in order to enhance the effectiveness of FRM within these entities.
- NGOs should develop an FRM strategy that incorporates proactive fraud preventive, detective, and responsive measures.

The following section concludes this research study. It presents an overall summary of the research, discusses the study's limitations and recommends areas for future research.

## **9.2. Conclusion on the main research objective**

From the above discussion, it is clear that, as confirmed by Mehta and Bhavani (2017), non-involvement of forensic auditors in FRM is one of the greatest challenges to combatting the risks of fraud among NGOs in eThekweni region. This implies that an increase in forensic auditing will lead to a decrease in fraudulent activities among these NGOs. The study's main objective was to empirically investigate forensic auditing as a powerful tool for the detection of fraud in financial statements and to determine whether the main drivers of FRM can significantly reduce the risks of fraud among NGOs in eThekweni region. The study was motivated by a lack of understanding and empirical research on the key factors that influence FRM in the NGO sector (preventive, detective and responsive FRM strategies). The research examined the impact and influence of proactive forensic auditing in addressing financial statement fraud among NGOs. The justification for the use of SEM was set out. Both quantitative and qualitative research methodologies were employed prior to using SEM in order to conduct the final aspects of the research and to evaluate the drivers of FRM in NGOs. Several indices were within the range of goodness-of-fit, indicating that it was a superior model. The results were triangulated using the data from semi-structured interviews, multiple regression, and structural equation statistics to arrive at themes and conclusions. Both the questionnaire and interviews helped to address the research questions and the findings from the interviews confirmed the results from the questionnaire in the areas of proactive financial statement fraud prevention, detection and response. The analysis of the data from the questionnaire and interviews offered a clear understanding of the root causes of fraudulent activities among NGOs

in eThekweni region; and the extent of their prevalence which resulted in financial losses. The analysis also revealed the measures adopted by these NGOs and shed light on FRM practices that should be implemented to prevent, detect and respond to the fraud risks.

The research results also confirmed that proactive forensic audit techniques enhance proactive prevention, detection, and response to the risks of financial and economic crimes among NGOs in eThekweni region. This study introduced a new FRM model for use by NGOs in this region. It established a statistically significant relationship between the use of proactive forensic auditing techniques and financial statement fraud prevention through fraud awareness, ethical practices and fraud education and training among NGOs in eThekweni region. The use of proactive forensic auditing techniques increases the chances of preventing or quickly detecting financial statement fraud. The test of hypothesis 3 revealed that, proactive forensic auditing skills and techniques have a positive impact in preventing fraud risks among NGOs in eThekweni region. This is supported by Oyedokun (2016) and Nigrini's (2020) studies that found that using the services of forensic auditors aids prevention of fraud risks at the global level. The authors add that forensic auditing has prevented fraudulent activities in developed countries.

A statistically significant relationship was also found to exist between the use of proactive forensic auditing techniques and financial statement fraud detection among NGOs in eThekweni region. There was sufficient statistical significance to show that forensic auditing techniques were more effective in quickly detected financial statement fraud. This result concurs with McIntyre (2016) and Mehta and Bhavani (2017) who assert that proactive forensic data analytics is an essential, key component of effective FRM, particularly in the areas of FRAs, and fraud prevention, detection and investigation.

Finally, the study provided empirical evidence that proactive forensic auditing is not only the most significant factor in preventing, detecting, and responding to the risks of fraud; it could also have direct impact on financial statements.

In summary, proactive forensic auditing techniques were found to have a strong, statistically significant relationship with preventative, detective and responsive FRM. Using a quantitative correlational approach, the study showed that NGOs in eThekweni region use prevention, detection, and responsive techniques to detect financial statement fraud and other fraudulent activities.

The findings from both the questionnaire and interview data revealed that the proactive detective, preventive and responsive techniques which forensic auditors employ in performing their operational duties are a significant factor in managing the risks of fraud and financial statement fraud among NGOs in eThekweni region. This supports Njanike, Dube and Mashayanye's (2009) study, where more than 75% of the respondents quantitatively and qualitatively surveyed were of the view that preventive and detective techniques such as the fraud hypothesis testing technique, breakpoint techniques, proactive searches of fraud indicators, symptoms and red flags, the Bedford digital analysis techniques, and fraud risk profiling are effective proactive forensic audit techniques for FRM.

The current study also found that NGOs in eThekweni region used prevention, detection, and responsive techniques, which illustrates some understanding of their effectiveness in responding to the risks of financial statement fraud.

The study's findings concur with those of Taylor (2011) and Othman (2019) who assert that a comprehensive FRM strategy firstly, seeks to prevent fraud by reducing fraud risk, with the aim of preventing high impact fraud and reducing the high costs associated with fraud, which leads to low impact fraud risks (proactive preventive fraud risk factors), secondly, aims to detect fraud by being attentive to misconduct that could relate to fraud risk (proactive detective fraud risk factors), and thirdly, is designed to respond to fraud risks by taking action when it occurs (proactive responsive fraud risk factors).

The findings from the tests of hypotheses 2 and 4 revealed that, proactive forensic auditing skills and techniques had a positive impact in detecting and responding to fraud risks among NGOs in eThekweni region. This is supported by Albrecht (2001) and Adeniyi (2016) who found that employing proactive forensic auditing assisted in detecting and responding to the risk of fraud at the global level. The authors add that forensic auditing skills and techniques have contributed greatly to detection and reduction of fraudulent activities among for-profit companies and state-owned entities in many developed countries.

Thus, this research study showed that the independent variables (preventive, detective, and responsive FRM factors) showed statistically significant agreement on the effectiveness of proactive forensic auditing in FRM among NGOs in eThekweni region. It thus illustrated that forensic auditors have the skills and techniques required to effectively, quickly and proactively,

prevent, detect and respond to the risks of fraud in NGOs. Furthermore, the study showed that forensic auditors are better equipped than external auditors to perform effective FRM in NGOs in eThekweni region. The overall conclusion is thus that proactive forensic auditing can be used to support the fight against fraudulent activities among NGOs in eThekweni region. Previous studies that support this finding include Samociuk and Iyer (2010) and Othman (2019).

### **9.3. Overall conclusion**

Financial statement fraud is undermining the financial viability of NGOs in eThekweni region. The findings revealed that \$61 billion dollars were lost to financial statement frauds in NGOs with serious implications for growth and development. Various measures have been adopted to minimise financial statement fraud without success. The study's results offer in-depth understanding of the connection between the application of proactive forensic auditing skills and techniques and the drivers of FRM among these entities. Furthermore, the researcher developed a robust fraud theory which could be a powerful model to deter, detect, prevent, identify, investigate and respond to the risks of fraud among NGOs in eThekweni region.

This study sought to fill a gap in the literature by empirically investigating forensic auditing as a powerful tool to enhance NGOs' FRM. As seen in Chapters four, five and six, its aims and objectives were achieved. The findings presented in these chapters and the tests of hypothesis 1, 2, 3 and 4 showed that a proactive approach to forensic auditing has a significant influence on FRM (proactive fraud prevention, detection and response) among NGOs in eThekweni region. As seen in Chapter five, the study's model was strongly empirically supported.

The following section discusses the study's limitations, shortcomings, and strengths, which offer opportunities for further research.

### **9.4. Limitations and Strengths of the research study**

Mulaik (2008) highlighted the need to pay close attention to the content, context and other features of variables when developing theory. This study empirically investigated forensic auditing as a powerful tool to enhance NGOs' FRM in eThekweni region and its findings are thus applicable to this context. However, they could also be true in other contexts and this should be explored through further research. The strengths of this study lie in its purposive, convenient, and theoretical sample which ensured that data were gathered from participants with appropriate qualifications and skills, and experts with robust knowledge and experience in accounting and auditing. This adds to the

credibility and content validity of the findings. The participants found this research to be highly relevant, useful, and informative for their organisations; and they emailed the researcher asking if they could recommend participants in other NGOs, thus increasing the number of respondents. However, like any other research study, the study suffered from some limitations. Time was a constraint as it took almost eight months to obtain ethical clearance, reducing the amount of time available for the research and requiring the researcher to rethink his research timeline.

Another limitation was that some NGOs were reluctant to grant gatekeepers' letters without ethical clearance. However, the UKZN Ethics Office could not provide this certificate without uploading gatekeepers' letters from all 30 NGOs on the Research Information Gateway (RIG) system.

A third limitation was the paucity of studies in the areas explored by the study, which meant that only limited comparison of its results could be made with those of prior research. For example, there a lack of empirical studies in areas such forensic auditing and fraud risk management in South African NGOs and few studies have been conducted on the factors that significantly influence FRM as well as the New Fraud Combination Theory.

Fourthly, the participants from NGOs perceived forensic auditing as a sensitive topic and as a result they were initially defensive.

Fifthly, the researcher's initial intention was to conduct a field survey. However, the COVID-19 pandemic meant that data had to be gathered remotely. This limitation was overcome by hiring an IT expert to install the research instruments online.

A sixth limitation was the use of theoretical, purposive and convenience sampling rather than probability techniques. Although the use of probability sampling is crucial for generalisation of a study's findings, the mixed method of theoretical, purposive and convenience sampling achieved the same purpose. It was not possible to use probability sampling because it was difficult to specify the sample frame. While the DSD maintains a list of licenced NGOs, it does not include the total number of staff working in such organisations and hence, it could not be used to determine the study population.

Finally, the sample consisted of all 30 large, well-structured NGOs with a presence in eThekwin region. However, some were operating in eThekwin region but were based in Pietermaritzburg or

Johannesburg where their finance, accounting and auditing departments were located. Gaining access to their gatekeepers was thus a time-consuming process.

The following section discusses the implications of the research findings.

## **9.5. Implications of the research findings**

### **9.5.1. Implications for NGOs**

The study established a positive and significant relationship between proactive forensic auditing and the main drivers of FRM to, firstly, prevent high impact fraud and reduce the hidden costs related to fraud which leads to low impact fraud risks (proactive preventive fraud risk factors); secondly, detect fraud by being attentive to misconduct that could relate to fraud risk (proactive detective fraud risk factors); and thirdly, respond to fraud risks by taking action when it occurs (proactive responsive fraud risk factors). This implies that there is a need for NGOs in eThekweni region to explore how they could use proactive forensic auditing techniques to enhance FRM in their entities.

Furthermore, the adoption of an effective FRM model will enhance NGO's credibility, enabling them to attract more funders and donors.

The study also found that proactive forensic audits are an essential tool that enhance NGOs' FRM and thus reduce or eliminate fraudulent activities. This implies that NGOs' boards should take greater responsibility for managing fraud risks by establishing proactive fraud prevention, detection, and response measures that will enable them to attract more funding and expand their activities.

Finally, the study's results highlight the need for NGOs to understand the impact of proactive forensic auditing on FRM in their sector and what they can do to successfully fight fraud.

### **9.5.2. Implications for NGO funders**

The study's findings highlight the need for funders and donors to encourage the NGOs they support to embrace effective FRM in order to create a fraud free environment and secure donor support.

### **9.5.3. Implications for auditors**

Forensic auditors go beyond rules-based principles and focus on principle- and transaction-based investigations, which are critical for effective FRM. This implies that there is a need for external auditors to embrace proactive forensic auditing techniques as part of their daily duties. The auditing community also needs to consider the range of fraud risk factors, fraud risk indicators, and red flags identified in this study in order to better understand why fraud occurs. This would enable auditors to effectively and proactively prevent, investigate, detect and respond to the risk of fraud in the NGO sector.

### **9.5.4. Implications for Regulators**

Regulators that set auditing standards should integrate and regulate forensic auditing principles in order to harmonise auditing standards and principles. This would make forensic auditing mandatory for any legal entity.

### **9.5.5. Implications for professional bodies and Academia**

This study has added to the body of knowledge on FRM using more robust scientific methodologies. It has thus enriched the knowledge base on the topical issue of proactive FRM measures that should be considered in the accounting and auditing disciplines. The South Africa Institute of Chartered Accountants (SAICA) should encourage formalisation and specialisation in the field of forensic auditing in curricula and higher education institutions should emphasise skills development in the field of forensic auditing through teaching and research.

The following section offers recommendations for future research.

## **9.6. Suggestions for Further research**

This study identified gaps in the literature and many of the theories and principles discussed could thus form the basis for further academic studies.

Given the fact that this study was confined to 30 NGOs in eThekweni region, KwaZulu-Natal, it is recommended that future research involve a variety of case studies in different districts and provinces in South Africa in order to compare the findings. This would produce results that are capable of greater generalisation. Similar studies could also be conducted in other countries.

This study was the first to explore the factors that greatly influence FRM among NGOs and among the few to examine the relevance of forensic auditing and FRM in the NGO sector, particularly in relation to financial statement fraud. Future studies could replicate it in other contexts to determine if the use of proactive forensic auditing to respond to fraud risks would differ in different contexts.

The study offers various suggestions with regard to the steps NGO management should take to manage fraud risks; this could also be the subject of further research. Future studies could explore if the proposed theory could help forensic auditors to effectively assess, prevent, identify, detect, and respond to the risks of financial statement fraud. Finally, scholars and researchers in the field of auditing and FRM that conduct further research could use this study as a point of reference, as it could serve as a stepping stone towards finding sustainable solutions to fraud risks in the NGO sector.

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## Appendix 1: Electronic informed consent form (online questionnaire)

### Electronic informed consent form - Questionnaire (Online Survey)

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#### Ph.D. Research Project

**Researcher:** Mr Jean Damascene Mvunabandi (+27)61 765 0688

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Dear Sir / Madam,

**RE:** Ph.D. Research on Forensic Auditing as a powerful tool to enhance NGOs' fraud risk management

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This online survey is being distributed in support of the research project being conducted by **Jean Damascene Mvunabandi**, in fulfillment of his Philosophical Degree (Ph.D.) in accounting at the University of KwaZulu-Natal.

#### **Title of the research Project**

You are kindly invited to participate in a research project entitled: **Forensic auditing as a tool to enhance NGOs' fraud risk management.**

#### **Purpose of the research project**

The overall goal of this study is to empirically investigate the relationship between forensic auditing skills and fraud risk management dimensions (preventive fraud risk management, detective fraud risk management, and responsive fraud risk management) in NGOs sector.

The aims of this study are:

- To establish the fraud risk factors and indicators,
- To establish the nature of fraud committed against NGOs,
- To establish the measures which are put in place to prevent, detect, and respond to fraud risks in NGOs,
- To understand which measures NGOs, need to implement to prevent, detect and respond to fraud risks

#### **Benefits**

There are no incentives associated with participation in this research project. The research will yield the following benefits. For NGOs, the study findings will immensely assist NGOs in understanding their position in the struggle to fight against financial statement fraud using forensic audits. The study's results will also hugely help NGOs to increase financial

performance associated with implementing various effective fraud risk management practices in the context of scarce financial resources. This survey is an imperative part of the research and your valuable cooperation and participation in answering this questionnaire will be significantly appreciated.

### **Procedures**

The procedure involves filling an online survey that will take approximately 15 minutes to complete. I would, therefore, be most grateful if you could spare some of your valuable time to fill in the questionnaire no later than two weeks or as soon as possible. To have your responses included, please click the “**submit**” button at the end of the survey. **Once you click on the “submit” button the questionnaire will be sent to me.**

### **Confidentiality and Data protection**

Your survey answers will be sent to a link at <https://forensicauditing/jean/onlinesurvey.com> where data will be stored in a password protected electronic format. Participant privacy and confidentiality will be protected throughout this study. I can assure you that all responses be used for research purposes only and will be treated with strictest confidence and anonymity. all participants (information from the online survey) will also remain absolutely be anonymised and participants will be assigned reference number or code, data will be stored against this codes/Number rather than against the name, emails or IP address of participants. Results relating to individual NGO will not be tabulated in the research report (results will be summarised in an anonymous format) and the results will be documented in a research paper available to all participants on completion and no information is published that would allow participants to be identified. Upon completion of this study, electronic data collected in support of this research will be immediately destroyed/deleted.

### **Voluntary participation**

Your participation in this project is completely voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence.

### **Risks of Harms/ Discomforts/ Inconvenience**

There are no known risks for participation in this research study. Lastly, please note that a summary of research findings will be despatched to all participants in the research study who wish to receive it.

## **Contacts**

If you have any questions or concerns about completing online questionnaire, please do not hesitate to email me at [216063968@stu.ukzn.ac.za/](mailto:216063968@stu.ukzn.ac.za) my supervisor(s) at [Nomlalabc@ukzn.ac.za/](mailto:Nomlalabc@ukzn.ac.za) [patrick@ukzn.ac.za](mailto:patrick@ukzn.ac.za) and research office at [snymanm@ukzn.ac.za](mailto:snymanm@ukzn.ac.za)

I hope to use this time valuably and not disturb your regular duties. Thank you for your kind cooperation.

Yours sincerely.

**Researcher:** Mr Jean Damascene Mvunabandi.

**Appendix 2: Electronic consent form (online questionnaire)**

**Electronic Consent Form (Online Questionnaire)**

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**Ph.D. Research Project**

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**ELECTRONIC CONSENT**

I ..... (Full names of participant)  
representing ..... (Name of NGO) hereby  
confirm that I understand the contents of this document and the nature of the research project,  
and I consent to participate in the research project. Furthermore, I hereby grant / do not grant  
permission for a voice recorder to be used to record the interview. I understand that I am at  
liberty to withdraw from the project at any time, should I so desire.

Please start with the survey now by clicking on “**Agree**” button to indicate that

**You voluntarily agree to participate**

If you do not wish to participate in the research study, please decline participation by clicking  
on the “**Disagree**” button

Disagree

### Appendix 3: Online survey (Online questionnaire)

#### STRICTLY CONFIDENTIAL

Questionnaire for: internal auditor(s)/ Evaluation and Monitoring Officer(s), Manager(s), Chief Finance officers, audit committees and Chief Operational Officer(s), CEOs and Director(s), IT officer (s), and accountant(s), Bookkeeper(s)

#### **Study: Forensic auditing as a tool to enhance NGOs' fraud risk management**

This questionnaire is meant to collect information on the relationship between forensic auditing and fraud risk management in NGOs sector.

Instructions for the completion of the questionnaire:

- You are requested to answer all the questions carefully and honestly.
- Do not indicate your name as the information given is confidential
- Your responses will be treated confidentially and will be valuable to the study.
- You are kindly requested to indicate your answer by ticking in the appropriate box which best represents your view.
- Where written responses are required, space is provided.
- Only one answer per question is required.
- You may write additional comments whenever you wish to do so.

**SECTION A:** Biographical Details

**SECTION B:** Root causes of fraud in the NGO

**SECTION C:** Categories of fraud in the NGO

**SECTION D:** Deterrence Fraud Risk Management Practices

**SECTION E:** Detective Fraud Risk Management Practices

**SECTION F:** Responsive Fraud Risk Management Practices

**Kindly click on "submit" button the completed questionnaire will be sent to me**

SECTION A: Biographical Details *(please tick (✓) the appropriate option)*

1. Gender

<b>Male</b>	<b>Female</b>

2. Age group

<b>Below 21</b>	<b>21 - 25</b>	<b>26 - 35</b>	<b>36 - 48</b>	<b>49 -55</b>	<b>56 - 65</b>	<b>Above 60 Years</b>

3. Ethnic group

<b>African</b>	<b>Coloured</b>	<b>Indian</b>	<b>White</b>	<b>Other</b>

4. Highest Educational Qualifications

<b>Matric</b>	<b>Certificate</b>	<b>Diploma</b>	<b>Degree</b>	<b>Honours</b>	<b>Masters</b>	<b>Doctorate</b>

**If "other", please provide more details:**

5. Professional registration

<b>SAICA</b>	<b>SAIPA</b>	<b>IRBA</b>	<b>IIA SA</b>	<b>ACCA</b>	<b>Other</b>

**If "other", please provide more details:**

**6. In which department do you work?**

Forensic	Investigator	Financial Analyst	Auditing	Finance	Management	Accounting	Other

If “other”, please provide more details

.....

**7. Current position held**

Director	Chief Executive Officer	Chief Operations Officer	Forensic auditor	Internal auditor	Project Manager	Chief Finance Officer	Accountant	Evaluation and Monitoring	Other

If “other”, please specify:

**8. Work experience in Accounting/ leadership/ auditing/ Finance or your field**

Less than 1 year	Less than 3 years	Less than 5 years	Less than 10 years	Over 10 years

Other, please specify:

**9. What is your annual budgeted income?**

ZAR/(R) (in Millions)	ZAR/(R) (in Millions)	ZAR/(R) (in Millions)	ZAR/(R) (in Millions)	ZAR/(R) (in Millions)	ZAR/(R) (in Millions)	ZAR/(R) (in Millions)
Less than 2	Between 2 and 10	Between 10 and 20	Between 20 and 30	Between 30 and 40	Between 40 and 50	More than 50

**10.** Is your Nonprofit organisation registered in the state of South Africa? Yes/No.....

**11.** How many employees, excluding Volunteers does your organisation have?

Less than 10	Less than 20	Less than 30	Less than 40	Less than 50	More than 50

**SECTION B:** What are your views on the following cause of fraud in the NGO? (Please circle the number closest to your view)

Use scale of 1 to 5, where 5= **Lowest Risk**, 4 = **Low Risk**, 3= **Some Risk**, 2= **High Risk**, and 1=**Highest Risk**.

<b>Cause of NGO/NPO/ FBO fraud</b>	<b>Lowest Risk</b>	<b>Low Risk</b>	<b>Some Risk</b>	<b>High Risk</b>	<b>Highest Risk</b>
Corporate financial pressure	5	4	3	2	1
External financial pressure	5	4	3	2	1
Poor accounting systems	5	4	3	2	1
Poor financial management	5	4	3	2	1
Leverage (violations of debt covenants when an entity is in condition lower liquidity/Low performance lead to financial statement fraud)	5	4	3	2	1
Systematic differences in reporting requirements	5	4	3	2	1
Lack of proper procedures of authorisation and approval	5	4	3	2	1
Weak governance	5	4	3	2	1
Poor and weak internal controls	5	4	3	2	1
Non-existent internal controls	5	4	3	2	1
Overriding of internal controls by top management	5	4	3	2	1
Employee's arrogance and lack of conscience	5	4	3	2	1
Fraudster's ability and capacity to override internal controls	5	4	3	2	1
Absence or improper oversights by the Board of Directors	5	4	3	2	1
Absence or improper audit committee	5	4	3	2	1
Lack of fraud awareness	5	4	3	2	1
Lack of surprise audits	5	4	3	2	1
Lack of forensic audits	5	4	3	2	1
Poor salaries among employees	5	4	3	2	1
Lack of fraud prosecution	5	4	3	2	1
Lack of appropriate punishment to fraudsters	5	4	3	2	1

**SECTION C:** The table below shows the different types of fraud that your NGO/NPO/FBO faces

Kindly indicate the extent of the prevalence of fraudulent activities. Please tick as appropriate in the **box** using a tick (✓) or cross mark (x)

<b>Fraudulent Practices</b>	<b>Lowest Risk</b>	<b>Low Risk</b>	<b>Some Risk</b>	<b>High Risk</b>	<b>Highest Risk</b>
Fictitious inventories					
Online payment fraud/theft					
Double-Dipping (Seeking or accepting funds from more than one donor for the same project)					
Financial irregularities					
Extortion of bribes or other benefits					
Ghost beneficiaries					
Skimming (theft involving cash before it is captured into the books, a fraudster would pocket the monies for personal use)					
Theft of donated items or goods					
The falsification of an NGO's financial statements					
Credit Card abuse					
Ghost or Fictitious vendors					
Misreporting of expenses					
Ghost employees/ payroll fraud					
Fictitious expenditure (fake invoices are created for later reimbursement)					
Working hours overstatement					
Assets misappropriation					
Vendor or Supplier fraud					
Kickbacks skimming and conflicts of interests					
Kickbacks from subcontract vendors (the outsourced service organisation to the NGO entity would charge for false transactions or receive kickbacks from subcontracted vendors)					
Misrepresenting the portion of donations					
Misleading donors through expenses Misclassification					
Misleading donors through restricted donations misclassifications					
Non-disclose of significantly related party transactions					
Inflating revenue					
Stolen checks					
Stolen payment cards					
Misuse of accounts					

Forgery and altered cheques					
Management fraud					
Occupational fraud					
Payroll fraud					
Fraudulent register disbursement					
Understatement of expenses, failing to correctly value; donated assets; inventory, receivables, and liabilities unsplit interest or gift annuity obligations					
Wire transfer fraud					
Computer fraud (cybercrime and the act of using a computer to take or alter electronic data, or to gain unlawful use of a computer or system).					
Inflate or overstate fundraising costs to projects to overstate expense ratio.					

12. If you currently or previously had occurrences of fraud in your organisation did you have any of the following fraud detection measures in place the fraud was detected?  
Please select as many as appropriate

Fraud detection measures	Tick area
Fraud risk assessment	
Fraud risk Register	
Internal controls	
Internal audits	
Audit committees	
External audits	
Forensic audits	
Presence of an anonymous reporting method	
No measures	

**SECTION D: PREVENTIVE FRAUD RISK MANAGEMENT PRACTICES**

To what extent do you practice deterrence fraud risk management practices in the deterrence of fraud incidences in the NGO/NPO/FBO? Please give your ratings in a Likert scale of 1 to 5 (Where 1=Not at all, 2= Small Extent, 3= Moderate Extent; 4= Large Extent, 5= Very Large Extent)

<b>Areas of application of forensic auditing as preventive Fraud Risk Management Practices</b>	<b>Not at all</b>	<b>Smallit tle Extent</b>	<b>Moderate Extent</b>	<b>Large Extent</b>	<b>Very Large Extent</b>
A proactive forensic audit can guarantee strategic prevention of fraud					
A proactive forensic audit can help in building an efficient internal controls system to prevent the future occurrence of fraud					
A proactive forensic audit can help to prevent fraud as far as possible					
A proactive forensic audit can help in establishing Anti-fraud policy in the NGO					
A proactive forensic audit can help in Applying Fraud Opportunities Tests					
Internal audit and audit committee					
Lifestyle audits					
A proactive forensic audit can help in Building an inventory of fraud opportunities					
Employment screening					
A proactive forensic audit can help in using Information Technology to prevent electronic fraud					
A proactive forensic audit can help in building sound policies to prevent the future occurrence of fraud					
A proactive forensic audit can address unethical practices					
A proactive forensic audit can prevent financial irregularities in NGO					
A proactive forensic audit can help in building an effective anti-fraud policy					

## **SECTION E: DETECTIVE FRAUD RISK MANAGEMENT PRACTICES**

To what extent do you practice the following detective fraud risk management practices in the detection of fraud incidences in the NGO/NPO/FBO? Please give your ratings in a Likert scale of **1 to 5** (Where **1**=Not at all, **2**= Small Extent, **3**= Moderate Extent; **4**= Large Extent, **5**= Very Large Extent.

<b>Areas of application of forensic auditing as detective Fraud Risk Management Practices</b>	<b>Not at all</b>	<b>Small Extent</b>	<b>Moderate Extent</b>	<b>Large Extent</b>	<b>Very Large Extent</b>
A proactive forensic audit can guarantee prompt detection of fraud in the NGO					
A proactive forensic audit would help in detecting financial statement fraud in the NGO					
Lifestyle audits would help in forensic investigations in the NGO					
A proactive forensic audit is a Novel Model Used in South Africa for detection of fraud in the NGO					
A proactive forensic audit can guarantee the safeguard of assets from unauthorised use in the NGO					
Sound Internal audits would help in detecting fraudulent claims in the NGOs					
A proactive forensic audit can enhance strategic prevention of fraud					
A proactive forensic audit can enhance fraud risk awareness					
The Key objective of proactive Forensic audit is to detect, deter, mitigate fraud and report					
A proactive forensic audit can help in reviewing weak internal audits					
A proactive forensic audit can help in building stronger financial reporting system in the NGO					
A proactive forensic audit can help in addressing the weakness of internal controls in the NGO					
proactive Forensic audit can guarantee stronger financial management					

**SECTION F: RESPONSIVE FRAUD RISK MANAGEMENT PRACTICES**

To what extent do you practice the following responsive fraud risk management practices in response to fraud incidences in the NGO/NPO/FBO? Please give your ratings in a Likert scale of 1 to 5 (Where 1=Not at all, 2= Small Extent, 3= Moderate Extent; 4= Large Extent, 5= Very Large Extent.

<b>Areas of application of forensic auditing as responsive Fraud Risk Management Practices</b>	<b>Not at all</b>	<b>Small Extent</b>	<b>Moderate Extent</b>	<b>Large Extent</b>	<b>Very Large Extent</b>
A forensic audit would help in conducting Lifestyle audits on the NGO’s staff					
A forensic audit would help in conducting an internal investigation in the NGO					
A forensic audit would help management in taking appropriate action					
A forensic audit would help in disclosing the results of internal and external investigations to the court					
A forensic audit would help in bringing offenders to justice					
A forensic audit would help in prosecuting the offender					
A forensic audit would help in identifying of prejudice, the Stolen Funds and Assets					

**SECTION G: RESPONSIVE FRAUD RISK MANAGEMENT PRACTICES**

Please, rate your agreement with the following as the main areas where forensic audit techniques are applied in your NGO?

Areas of application of proactive forensic auditing	Not at all	Small Extent	Moderate Extent	Large Extent	Very Large Extent
Decrease the occurrences of financial statement fraud.					
Enhancing financial reporting quality					
Detection of financial statement fraud					
Detection of misuse of accounts					
Enhancing the detection of employee theft					
Enhancing the detection of employee’s financial crimes					
Monitoring and evaluating internal controls					
Ensuring compliance with law, rules and regulations.					
Enhancing the detection of financial irregularities in NGO					
Detection of procurement fraud					
Detection of fraudulent travel claims					
Detestation of fraudulent withdrawals					
Detection theft by the Directors					
Detection of payroll fraud					
Improving internal controls					
Enhancing internal audit efficiency					
Reducing or eliminating fraudulent practices					
Highly relevant over accounting areas					

**Follow Up Question.** Would you be willing to be contacted for any further participation (e.g. interview) in this research?

Yes

No

If yes, please state your contact number(s): \_\_\_\_\_

**Study Feedback**

Would you like to receive a copy of the summary findings of this research?

Yes

No

If yes, please provide your contact address below:

Name	
Phone Number(s)	
E-mail Address(s)	

Kindly click on “**Submit**” button the completed questionnaire will be sent to me,

Thank you for your kind cooperation.

## Appendix 4: Interview Consent Form

### Interview Consent Form

---

This consent form outlines my rights as a participant in the study of “**Forensic auditing as a powerful tool to enhance Non-Government Organisations’ fraud risk management**” conducted by Jean Damascene Mvunabandi, at the University of KwaZulu-Natal.

I understand that:

- Taking part in this study is entirely voluntary.
- The purpose and nature of the interview has been clearly explained to me;
- It is my right to decline to answer any question that I am asked;
- I am free to end the interview at any time;
- I may request that the interview not be taped; and
- My name will not appear on any tapes or transcripts resulting from the interview.

I HAVE READ THIS CONSENT FORM. I HAVE HAD A CHANCE TO ASK QUESTIONS CONCERNING ANY AREAS THAT I DID NOT UNDERSTAND.

---

Signature of Interviewee

---

Date

---

Printed Name of Interviewee

---

Maintaining your anonymity is a priority, and every practical precaution will be taken to disguise your identity. There will not be any identifying information on audiotapes or transcripts of this interview. The results from the interview will be personally transcribed by the researcher to protect the interviewee’s anonymity. All materials generated from your interview will remain in my direct physical possession and will be dealt with full confidentiality. The researcher is bound to his assurances and guarantees by the ethics code for the research of UKZN.

I have explained the project and the implications of being interviewed to the interviewee and I believe that the consent is informed and that he/she understands the implications of participation.

---

**(Researcher’s signature)**

## Appendix 5: Interview schedule

### Interview schedule

---

Interview Date: \_\_\_\_\_

Interview Time: \_\_\_\_\_

Interview Place: \_\_\_\_\_

interviewee's code: \_\_\_\_\_

Interviewee's position: \_\_\_\_\_

Interview mode: \_\_\_\_\_

Interview mode: \_\_\_\_\_

*Please take some time to think carefully about the answer for the following questions before the interview. Your answers are essential for the purpose of the current study.*

### Interview Questions:

#### **QA: A proactive forensic audit is a powerful tool for financial statements fraud prevention in the NGOs**

---

1. Do you think a Forensic audit can be used in designing sound internal controls that deter financial statement fraud in the organisation? Can you elaborate, please?
2. To what extent, do you think proactive forensic investigative methods would deter financial statement fraud in the organisation?

#### **QB: A proactive forensic audit is a powerful tool for financial statements fraud detection in the NGOs**

---

1. Can you please explain how do you think proactive forensic audit could better help in the detection of financial statements frauds in the organisation?
2. Could you please describe how proactive forensic audit function unearth fraudulent activities in the organisation's financial statements?
3. Would you please share your opinions about the role of proactive forensic audit play in fraud detection in the organisation?
4. How can proactive forensic audit be used as a tool to address the weakness of internal controls in the organisation?
5. What influence do you think proactive forensic audit has on financial statements fraud detection in the organisation?
6. To what extent, do you think proactive forensic investigative methods would detect financial statement fraud in the organisation?

#### **QC: A proactive forensic audit is a powerful tool for financial statements fraud responsive in the NGOs**

---

1. From your own experience, what is the value of a forensic audit on financial statement fraud response?
2. From your own experience as a forensic auditor, how would you describe it in response to the management of fraud risks in the organisation?

3. Do you think the forensic audit is doing enough to respond to an organisation's financial statement fraud? How and why do you think so?
4. In your own opinion, is a forensic audit a completely reliable indicator of irrefutable evidence suitable to court?
5. To what extent, do you think forensic investigative methods would respond to financial statement fraud in the organisation?

#### **QD: Overall Scenario about proactive forensic auditing on fraud risk management in the organisation**

---

1. Please comment on the overall role of forensic auditing in your organisation
2. In terms of forensic auditing, what does the result of a lifestyle audit allow? If anything for the forensic investigator to focus on?
3. Please provide a brief description of proactive forensic audit, aggressive policies and strategies adopted by your organisation for fraud risks deterrence?

#### **QE: Overall Scenario and Recommendations**

---

1. Would you please recommend the issues that proactive forensic audit can be used to enhance the quality of policies that can aggressively respond to fraud risks in NGOs?
2. Would you please recommend the issues that proactive forensic auditing can be used as a powerful tool to address the weakness of external audits in managing fraud risks in NGOs?
3. Would you please recommend the issues that proactive forensic auditing can be used as a powerful tool to address the weakness of internal controls in managing fraud risks in NGOs?

#### **Ending Question**

---

Thank you, that is the end of the interview, I have no more questions for you. Are there any issues relating to forensic auditing and fraud risk management in the NGO that have not been covered in this interview and which you feel are important? Please feel free to share as elaborate as you deem appropriate.

**Thank you once again, your generous cooperation is much appreciated.**

## Appendix 6: Ethical Clearance



02 March 2021

**Mr Jean Damascene Mvunabandi (216063968)**  
School Of Acc Economics & Fin  
Westville Campus

Dear Mr Mvunabandi,

**Protocol reference number:** HSSREC/00002181/2020

**Project title:** Forensic auditing as a powerful tool to enhance non-government organisations' fraud risk management: A study of selected non-government organisations in eThekweni region -South Africa

**Degree:** PhD

### Approval Notification – Expedited Application

This letter serves to notify you that your application received on 13 October 2020 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

**Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.**

This approval is valid until 02 March 2022.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,

Professor Dipane Hlalele (Chair)

/dd

### Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: [hssrec@ukzn.ac.za](mailto:hssrec@ukzn.ac.za) Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

**INSPIRING GREATNESS**

## Appendix 7: Letter from Language Editor

62 Ferguson Road  
Glenwood  
DURBAN 4001  
Tel: 072 442 7896  
Email: [deanne.collins30@gmail.com](mailto:deanne.collins30@gmail.com)

8 October 2021

This serves to confirm that I have edited the thesis, “Forensic auditing as a powerful tool to enhance non-government organisations’ fraud risk management: A study of selected NGOs in eThekweni region, South Africa”, by Jean Damascene Mvunabandi, student number 216063968.

**DISCLAIMER: The editor cannot be held responsible for any errors introduced due to changes being made to the document after the editing is complete.**

Yours sincerely,



(Ms) Deanne Collins (MA)

## Appendix 8: Turnitin Originality Report

The Turnitin Originality report appears hereafter

Document Viewer

### Turnitin Originality Report

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Assignment title: Master of Commerce (Finance)  
Submission title: Forensic auditing as a powerful tool to enhance NGOs' fraud...  
File name: ING\_AS\_A\_POWERFUL\_TOOL\_TO\_ENHANCE\_NGOs\_FRAUD\_RIS...  
File size: 3.31M  
Page count: 213  
Word count: 81,839  
Character count: 461,521  
Submission date: 27-Jun-2021 09:12AM (UTC+0200)  
Submission ID: 1286078768

### CHAPTER ONE: INTRODUCTION TO THE RESEARCH

#### 1.1. INTRODUCTION

This chapter introduces the study. "It discusses the background of the problem, including an overview of funding threats caused by fraudulent practices as financial statements fraud continues to be problematic and has become the highest one compared to other types within Non-Government Organizations (NGOs) due to non-applicability of proactive forensic auditing techniques. The chapter discusses the problem and highlighted the key issues and areas of concern and the problems the research intends to solve, it goes further and elaborates deeper about the research's expected outputs, its significance and rationale of the research, the research main aim, the research objectives, and the research questions are discussed, the study's hypotheses are also discussed. The chapter concludes with an outline of the thesis structure and a brief summary. The following sections provide the background of the research and the relevance of this thesis in NGOs sector, particularly in the eThekweni region landscape. The following section starts with the background of the research issues and problems".

#### 1.2. Background of the problem

This section provides a brief background to this thesis research. The need for proactive forensic auditing techniques is a result of sharp increase of financial scandals, fraudulent financial practices, manipulations of the figures reported in the financial reports, cybercrimes and misappropriations of asset and perceived failure of traditional audit to fully alert entities' stakeholders concerning financial and economic crimes (Njanki, Dube, and Madhavan, 2009; Kudrevic 2015). Extensive studies conducted by ACFE indicates that financial statement fraud has caused a lot of losses and has become the highest one comparing to other types. This financial statement fraud becomes extremely concern to the users of financial reports especially for external users in analyzing the financial situation and performance of entities. Moreover, the poor quality of financial statements diminishes the quality of NGOs. "It is no secret that NGOs in eThekweni region such as KwaZulu Natal Blind and Deaf Society their growth has been sluggish due to fraudulent activities which has led funders shy away and donations have subsequently slowed for many NGOs due to the lack of regular proactive forensic auditing practices. Also, their stakeholders demand to know whether their finances are being spent wisely for their best interests (Agre, 2014). Hence the need for use of proactive forensic auditing to help in fraud prevention, detection, and investigation. Moreover, frauds in general, and financial statement fraud

**Appendix 9: Intercepts: (Group number 1 - Default model)**

Constructs		Estimate	S.E.	C.R.	P	Label
Qd1	<---	4,460	,092	48,368	***	par_35
Qd2	<---	4,092	,063	65,429	***	par_36
Qd3	<---	4,069	,091	44,849	***	par_37
Qd4	<---	4,034	,087	46,265	***	par_38
Qd5	<---	4,218	,093	45,310	***	par_39
Qd6	<---	4,103	,073	56,073	***	par_40
Qd7	<---	4,115	,105	39,104	***	par_41
Qd8	<---	4,092	,089	45,977	***	par_42
Qd9	<---	4,253	,087	48,968	***	par_43
Qd10	<---	4,322	,081	53,411	***	par_44
Qd11	<---	4,241	,083	50,910	***	par_45
Qd12	<---	4,299	,082	52,466	***	par_46
Qd13	<---	4,287	,088	48,772	***	par_47
Qd14	<---	4,345	,094	46,382	***	par_48
Qf7	<---	4,644	,071	65,199	***	par_49
Qf6	<---	4,471	,080	56,012	***	par_50
Qf5	<---	4,287	,082	52,543	***	par_51
Qf4	<---	4,184	,092	45,575	***	par_52
Qf3	<---	4,057	,093	43,628	***	par_53
Qf2	<---	4,103	,073	56,073	***	par_54
Qf1	<---	4,471	,099	45,058	***	par_55
Qe1	<---	4,483	,094	47,829	***	par_56
Qe2	<---	4,218	,070	60,108	***	par_57
Qe3	<---	4,023	,101	39,928	***	par_58
Qe4	<---	4,207	,085	49,393	***	par_59
Qe5	<---	4,172	,090	46,433	***	par_60
Qe6	<---	4,195	,081	51,487	***	par_61
Qe7	<---	4,184	,087	47,911	***	par_62
Qe8	<---	4,333	,093	46,373	***	par_63
Qe9	<---	4,241	,082	51,920	***	par_64
Qe10	<---	4,195	,086	48,634	***	par_65
Qe11	<---	4,230	,084	50,068	***	par_66
Qe12	<---	4,253	,087	48,968	***	par_67
Qe13	<---	4,425	,083	53,462	***	par_68

**Appendix 10: Variances: (Group number 1 - Default model)**

		<b>Estimate</b>	<b>S.E.</b>	<b>C.R.</b>	<b>P</b>	<b>Label</b>
<b>PREV</b>	<---	,279	,091	3,079	,002	par_69
<b>RESP</b>	<---	,261	,064	4,082	***	par_70
<b>DETEC</b>	<---	,332	,097	3,409	***	par_71
<b>rp1</b>	<---	,452	,073	6,208	***	par_72
<b>rp2</b>	<---	,197	,032	6,159	***	par_73
<b>rp3</b>	<---	,516	,081	6,347	***	par_74
<b>rp4</b>	<---	,460	,073	6,319	***	par_75
<b>rp5</b>	<---	,458	,074	6,202	***	par_76
<b>rp6</b>	<---	,314	,050	6,294	***	par_77
<b>rp7</b>	<---	,645	,103	6,288	***	par_78
<b>rp8</b>	<---	,396	,064	6,151	***	par_79
<b>rp9</b>	<---	,485	,076	6,367	***	par_80
<b>rp10</b>	<---	,366	,059	6,253	***	par_81
<b>rp11</b>	<---	,299	,050	5,993	***	par_82
<b>rp12</b>	<---	,293	,049	6,007	***	par_83
<b>rp13</b>	<---	,364	,060	6,090	***	par_84
<b>rp14</b>	<---	,429	,070	6,127	***	par_85
<b>rr7</b>	<---	,175	,033	5,315	***	par_86
<b>rr6</b>	<---	,315	,053	5,950	***	par_87
<b>rr5</b>	<---	,394	,064	6,186	***	par_88
<b>rr4</b>	<---	,467	,076	6,104	***	par_89
<b>rr3</b>	<---	,496	,081	6,150	***	par_90
<b>rr2</b>	<---	,262	,044	5,931	***	par_91
<b>rr1</b>	<---	,436	,075	5,779	***	par_92
<b>rd1</b>	<---	,423	,067	6,275	***	par_93
<b>rd2</b>	<---	,214	,035	6,205	***	par_94
<b>rd3</b>	<---	,454	,073	6,224	***	par_95
<b>rd4</b>	<---	,326	,052	6,229	***	par_96
<b>rd5</b>	<---	,347	,056	6,196	***	par_97
<b>rd6</b>	<---	,349	,055	6,329	***	par_98
<b>rd7</b>	<---	,297	,049	6,121	***	par_99
<b>rd8</b>	<---	,379	,061	6,204	***	par_100
<b>rd9</b>	<---	,286	,046	6,194	***	par_101
<b>rd10</b>	<---	,264	,044	6,041	***	par_102
<b>rd11</b>	<---	,259	,043	6,062	***	par_103
<b>rd12</b>	<---	,331	,053	6,212	***	par_104
<b>rd13</b>	<---	,199	,034	5,845	***	par_105

**Appendix 11: Minimisation History (Default model)**

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	9		-1,679	9999,000	2280,276	0	9999,000
1	e*	5		-,258	3,932	1482,472	19	,227
2	e*	3		-,246	,927	1281,794	5	,915
3	e	1		-,075	,676	1162,109	5	,965
4	e	0	4553,268		,651	1105,856	5	,811
5	e	0	1217,317		,863	1089,646	3	,000
6	e	0	1996,566		,798	1077,130	1	1,061
7	e	0	2626,148		,307	1075,665	1	1,133
8	e	0	2971,352		,166	1075,525	1	1,087
9	e	0	3237,645		,030	1075,520	1	1,026
10	e	0	3265,911		,002	1075,520	1	1,001
11	e	0	3307,846		,000	1075,520	1	1,000

**Appendix 12: NCP**

Model	NCP	LO 90	HI 90
Default model	551,520	461,537	649,260
Saturated model	,000	,000	,000
Independence model	1825,028	1677,773	1979,773

**Appendix 13: FMIN**

Model	FMIN	F0	LO 90	HI 90
Default model	12,506	6,413	5,367	7,550
Saturated model	,000	,000	,000	,000
Independence model	27,745	21,221	19,509	23,021

**Appendix 14: AIC**

Model	AIC	BCC	BIC	CAIC
Default model	1285,520	1429,637		
Saturated model	1258,000	2121,333		
Independence model	2522,028	2615,362		

**Appendix 15: Assessment of normality (Group number 1)**

<b>Variable</b>	<b>min</b>	<b>max</b>	<b>skew</b>	<b>c.r.</b>	<b>kurtosis</b>	<b>c.r.</b>
<b>Qe13</b>	2,000	5,000	-1,349	-5,138	1,464	2,788
<b>Qe12</b>	2,000	5,000	-,885	-3,369	,187	,356
<b>Qe11</b>	2,000	5,000	-,858	-3,266	,350	,667
<b>Qe10</b>	2,000	5,000	-,770	-2,931	,057	,108
<b>Qe9</b>	2,000	5,000	-,592	-2,253	-,527	-1,004
<b>Qe8</b>	1,000	5,000	-1,440	-5,485	2,037	3,878
<b>Qe7</b>	2,000	5,000	-,866	-3,298	,361	,687
<b>Qe6</b>	2,000	5,000	-,660	-2,513	-,009	-,017
<b>Qe5</b>	2,000	5,000	-,570	-2,170	-,713	-1,358
<b>Qe4</b>	2,000	5,000	-,804	-3,061	,202	,384
<b>Qe3</b>	2,000	5,000	-,553	-2,105	-,717	-1,366
<b>Qe2</b>	3,000	5,000	-,252	-,961	-,723	-1,377
<b>Qe1</b>	2,000	5,000	-1,628	-6,198	1,610	3,066
<b>Qf1</b>	2,000	5,000	-1,685	-6,418	1,647	3,135
<b>Qf2</b>	3,000	5,000	-,130	-,495	-,839	-1,598
<b>Qf3</b>	2,000	5,000	-,218	-,831	-1,369	-2,606
<b>Qf4</b>	2,000	5,000	-,919	-3,499	,269	,512
<b>Qf5</b>	2,000	5,000	-,849	-3,233	,243	,464
<b>Qf6</b>	2,000	5,000	-1,176	-4,479	,423	,805
<b>Qf7</b>	2,000	5,000	-1,855	-7,062	2,823	5,375
<b>Qd14</b>	2,000	5,000	-1,148	-4,372	,355	,677
<b>Qd13</b>	2,000	5,000	-,825	-3,143	-,281	-,534
<b>Qd12</b>	2,000	5,000	-,874	-3,328	,250	,477
<b>Qd11</b>	3,000	5,000	-,444	-1,692	-1,201	-2,287
<b>Qd10</b>	2,000	5,000	-,930	-3,543	,431	,821
<b>Qd9</b>	2,000	5,000	-,753	-2,867	-,307	-,584
<b>Qd8</b>	2,000	5,000	-,417	-1,589	-,808	-1,538
<b>Qd7</b>	2,000	5,000	-,677	-2,576	-,787	-1,499
<b>Qd6</b>	2,000	5,000	-,351	-1,335	-,054	-,103
<b>Qd5</b>	2,000	5,000	-,864	-3,291	-,093	-,177
<b>Qd4</b>	2,000	5,000	-,584	-2,225	-,089	-,170
<b>Qd3</b>	2,000	5,000	-,246	-,938	-1,262	-2,403
<b>Qd2</b>	3,000	5,000	-,008	-,032	-,099	-,188
<b>Qd1</b>	2,000	5,000	-1,364	-5,194	,653	1,243
<b>Multivariate</b>					119,215	11,237

**Appendix 16: Figure 29: Revised Thematic Map - Clustered Themes**

