EFFECTIVENESS OF FORENSIC AUDITING IN FIGHTING FRAUD AMONG NON-GOVERNMENT ORGANIZATIONS IN SOUTH AFRICA

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Abstract:
This article presents empirical research to assess the effectiveness of proactive forensic auditing techniques in 30 non-government organizations (NGOs) in the eThekwini region of South Africa. The study employed a quantitative and descriptive survey research approach. Data was collected using an online questionnaire designed on a 5-point Likert scale for data analysis. The statistical analysis was conducted using SPSS software version 27 to ensure robustness. The study's findings revealed a positive and statistically significant relationship between using forensic auditing techniques and detecting, preventing, and investigating fraud within NGOs operating in the eThekwini region. The results indicated that proactive fraud detection benefited the most from applying forensic auditing techniques. Based on these results, it is recommended that non-government organizations carefully consider the implementation of forensic auditing skills and techniques. By doing so, these organizations can enhance their ability to detect and prevent fraudulent activities effectively. Implementing proactive measures can make a substantial difference in enhancing the financial integrity and accountability of NGOs operating in the eThekwini region and other areas. In conclusion, this research provides empirical evidence supporting the positive impact of proactive forensic auditing techniques in combating fraud within non-government organizations. The findings emphasize the importance of adopting these techniques to enhance fraud detection and prevention efforts in the context of NGOs operating in the eThekwini region of South Africa.

Keywords: Proactive Fraud Risk Management Practices, Financial Statement Fraud Mitigation, Fraud Risk Management, Ngos, Fraud Red Flags and Indicators.

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INTRODUCTION

Fraud is a severe pandemic globally. Fraudulent financial practices, misappropriations of assets and manipulations of the figures reported in the financial statements have been the order of the day among non-government organizations (NGOs) in South Africa and elsewhere (Mlambo, Mpanza and Mubecua, 2021). Fraudulent activities were evidently among NGOs in the eThekwini region; for instance, 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 eThekwini region. High levels of the crisis within the sector are shocking, and among the possible root causes of the collapse of NGOs is the lack of effective forensic auditing (Joloko, Audu, 2019). It is within these barriers and challenges faced by NGOs that this study has been conducted to test whether forensic auditing in fighting fraudulent activities is effective or not since the crucial role of forensic auditors has not been

well articulated and used by many non-government organizations, although some have created internal positions in their entities.

Eyisi and Ezuwore (2014) concluded that forensic auditors have improved management accountability, strengthened external auditors' independence, assisted audit committee members in carrying out their oversight function by providing them assurance on internal audits and controls systems, and positively influenced internal audits and controls performance. According to Alshurafat, Shbail, and Mansour (2021), forensic auditing proactively integrates accounting, criminology, computer forensics, litigation services and auditing investigative services into investigating a broad range of future-oriented business problems. It includes fraud examination, due diligence reviews, risk assessment detection of financial statement misappropriation, cyber crimes, illegal money transfers, and modeling risk. Forensic auditing has significantly helped to a massive extent in the eradication of fraudulent activities in so many countries, such as the United States of America, Britain, and Canada, where it is in active use (Ikechukwu, John, Nkiruka, & Adaeze, 2020). Whether forensic auditing skills and techniques within the NGO sector are practical is highly debated and topical. Much of the literature on forensic auditing focuses on for-profit organizations and, to some extent, SOEs (Dzomira, 2015). The literature sets out broad principles for managing fraud risks among for-profit entities.

However, there needs to be more guidance on this issue for NGOs and their funders. The gap identified in the current research is the failure of traditional auditing to manage and fight fraud risks and reduce them in NGOs. Only a few studies touch on the relationship between forensic auditing and fraud risk management factors and how these factors directly or indirectly affect the quality of financial management in Africa, especially in South Africa (Okoye, 2019). However, none of these studies answered the question of how forensic auditing could help to fight or eliminate fraudulent activities in the NGO sector. Furthermore, the gap between stakeholders or funders and traditional auditors' perspectives on fraud risk management has widened in recent years, and debate continues on traditional auditors' precise roles and responsibilities (Ogweno, 2018). The gap between stakeholders' (donors/beneficiaries and NGOs themselves) expectations and auditors' mandates needs to be closed (Sikka, 2009). Stakeholders believe a traditional auditor would detect fraud during the traditional auditor's audit (Kassem & Higson, 2016).

This article seeks to investigate the effectiveness of forensic auditing techniques in fighting fraudulent activities among NGOs in the eThekwini region. The researcher believes that adding forensic auditing techniques to the audit process will assist in closing the expectations gap. However, forensic auditing is essential for NGOs to reduce financial crimes within the framework of the International Standards on Auditing (ISA). The general expectation is that forensic auditing will bridge by preventing, detecting and responding to the sector's fraud risks. Also, Benjamin Onodi, Okafor, and Onyali (2015:73), in support of a call of an urgent need for a critical look at the crucial role of the auditing profession, note that the spate of NGOs collapsing in recent times calls for a serious investigation of possible solutions.

Against this backdrop, this article is expected to answer the following question: How can forensic audits effectively fight fraudulent activities among NGOs in the eThekwini region? This article closes the gap in the literature by connecting forensic auditing techniques to detecting and mitigating fraud risks in NGO contexts. It implies a great need for NGOs in the eThekwini region to explore how they could effectively use forensic auditing techniques to enhance fraud mitigation and detection measures in their entities. This article expanded the knowledge of the applicability of forensic auditing techniques studies using a more robust scientific research methodology in the accounting and auditing discipline. The practical application of this model is the empowerment of the knowledge of NGOs' potential stakeholders in mitigating and detecting fraudulent activities.
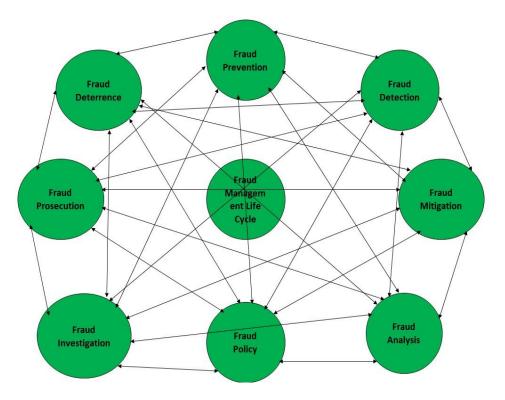
Figure 1. Fraud Risk Management Life Cycle Theory

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.

The process is comprehensively examined by addressing each stage individually, facilitating a clear understand

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

Fraud Prevention. Gong, McAfee, and Williams (2016) stated that the terms prevention, deterrence, and detection are often used interchangeably in the literature on fraud. Wells (2017) defined fraud prevention as all activities relating to checking, hindering, or stopping the fraudster from performing fraud. Epstein (2017) notes that fraud prevention aims to prevent losses and secure entities and their operations against fraud. Gibson (2018) concurred and added that it frequently involves the use of IT and management. For this research, fraud prevention is defined as the adoption of procedures, systems, and verification processes designed to make it more difficult to commit fraud and fraud prevention is taken as hindering and stopping fraudsters from perpetrating fraudulent activities in NGOs.

Fraud Detection. Fraud detection refers to identifying and locating fraud before, during, and after fraudulent acts (Zainudin & 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). Therefore, the three relevant aspects of this definition are the identification of a testing component, an attempt component and a success component. Essentially, fraud detection systems can alert special investigators.

Fraud Mitigation. Wilhelm (2004:13) described fraud mitigation as activities designed to prevent a fraudster from continuing or completing a fraudulent act and render the fraud less costly to the organization. Baer (2008) noted that this is achieved through fraud detection tools, approaches, methodologies and policies. Curry, Hailstones, Dement, and Holtz (2008) asserted that fraud mitigation should be implemented as soon as possible to end fraudulent activities, decrease losses, and reduce reputational, compliance, operational and financial risks. Effective, efficient, aggressive, and proactive mitigation can increase overall deterrence.

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, processes 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 provides investigators with an analytical understanding of the environment and crucial elements of prosecution activities. The use of IT can assist timely avoidance of current or actual losses.

Fraud Policy. As elaborated by Kummer, Singh, and Best (2015), fraud policy creates, evaluates, communicates, and assists in deploying fraud policies and resources to fight fraud. Suleiman and Othman (2016) observe that policy is a powerful management tool for tackling fraud. In support of Suleiman and Othman's (2016) views, Zourrig, Zhang, and El Hedhli (2017) rightly pointed out that fraud policy 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.

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

Fraud Prosecution. Mohamed and Ahmad (2012) defined prosecution as the act or process of prosecuting to take legal action against or pursue legal proceedings for redress or punishment due to a crime or breach of the law. Enofe, Omagbon and Ehigiator (2015) noted that fraud prosecution has three primary 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. A fourth objective is the satisfaction gained by seeing the fraudster punished.

Information Technology (IT). Philipp (2009) observed that IT could positively impact the avoidance of fraud losses. It plays a pivotal and valuable role throughout the FRM life cycle

(Thomopoulas, 2013). Mahant and Meshram (2012) explained that IT resources are frequently the keys to the 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.

Review of Empirical Studies. Njanike, Dube, and Mashayanye (2009) found that evidence gathered in a forensic audit is considered 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) concluded 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) added 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. Enofe, Omagbon, and Ehigiator (2015) recommended that forensic auditing has become an important issue globally in recent years. Onodi, Okafor, and Onyali (2015) identified 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 specious transactions.

As pointed out by Benjamin Onodi, Okafor, and Onyali (2015), forensic auditing techniques such as 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. Organizational, 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) described 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 specialized knowledge, technical skills, and methodologies to dig deeper and uncover the fraud life cycle (Ogutu & Ngahu, 2016). Thus, the forensic auditor's primary concern is fraud detection, prevention and responses to the organization's losses (Ogutu & Ngahu, 2016). Oyedokun (2016) asserted that a proactive forensic investigation could proactively collect evidence, trigger an event, and preserve and analyze evidence to identify an incident as it occurs, with a preliminary report generated for later investigation by the reactive component.

Oyedokun (2016) further identified 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) highlighted 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, significant 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 robust 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. Suppose actual funds exceed declared ones (including those accumulated at the period's beginning). In that case, the difference is considered non-disclosed income, and (vi) the bank deposits method 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, 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 about 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 most significant subsets and most extensive growth tests, (ix) testing the internal diagnostics of the current period and prior period data, (x) Benford's law, (xi) Access, (xii) Excel, (xiii) Powerpoint, and (xiv) high-level data overview tests. However, the gap between stakeholders or funders and traditional auditors' perspectives on fraud risk management has widened in recent years, and debate continues on traditional auditors' precise roles and responsibilities (Ogweno, 2018). However, an extensive review of the literature shows that research on the effectiveness of forensic auditing in fighting fraud risk management in for-profit organizations and SOEs is inconclusive; the literature further reveals that no empirical research on the effectiveness of forensic auditing in fighting fraud risk management has been conducted among NGOs in South Africa.

METHODS

This article adopted quantitative and descriptive survey research. The population of this thesis research comprised eighty-seven staff (Internal auditors, forensic auditors, Managers, Accountants and bookkeepers, audit committee members, Finance officers, Chief Operations officers, Chief Executive Officers, and Directors) from thirty (30) chosen NGOs. The sample size of

eight seven (87) was obtained/calculated using Raosft Software (Raosoft, 2004). The convenience sampling technique was used to select the study's respondents. An anonymous online Likert questionnaire approved by the University of KwaZulu Natal Human Social Sciences Research Ethics Committee (UKZN HSSREC) has 5 choices, using full-anchored, framed statements on 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. Robustness analysis was performed using descriptive statistics using Statistical Package for Social Sciences (SPSS version 27.0). Analyzed data were presented in the form of tables for easy understanding.

The respondents were requested to state the extent to which their NGOs applied proactive forensic audit techniques to prevent, detect and respond to fraud risks. 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 frequencies, means and standard deviations for the 17 questions are presented in the table below.

Descriptive analysis of the main areas of application of forensic audit techniques in NGOs in the eThekwini region. The table above illustrates that enhancing internal audit efficacy was the central area of application of forensic audit techniques, with a mean of 4.62 and standard deviation of .669, followed by the 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, detecting and responding to the risks of fraud in NGOs as the means of all

An increase in proactive forensic auditing techniques enables NGOs in the eThekwini region to manage fraud risks better. The data analysis from the interviews in Chapter 6 confirmed these results. The responses are above 4, and the variations among them are low, with the highest at 1.063, which depicts consensus. 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 would lead to strategic FRM among NGOs in the eThekwini region. This finding is empirically supported and articulated in the extant literature (See, for example, Aiken, 2016; Jackson & 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), a 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 increased proactive forensic auditing leads to decreased 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 the eThekwini region.

The respondents were requested to rate the degree of application of proactive forensic audit techniques in fighting fraudulent activities in their NGOs. Respondents rated the extent to which proactive forensic auditing is applied among NGOs. The above table 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 an enormous 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. It implies that proactive forensic auditing will lead to strategic FRM among NGOs in the eThekwini region, which tends to lead to the detection of financial statement fraud and fraudulent activities.

Thirty-eight (43.7%) respondents agreed that proactive forensic audit techniques could enhance the quality of financial reporting in NGOs to an enormous 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. Proactive forensic auditing will lead to strategic FRM among NGOs in the eThekwini region, which enhances the quality of financial reporting.

Furthermore, 29 (33.3%) respondents concurred that proactive forensic audit techniques could detect financial statement fraud in NGOs to an enormous 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 could not 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 the eThekwini region, which tends to reduce fraudulent activities.

A total of 62 (71.3%) respondents agreed that proactive forensic audit techniques could enhance the detection of employees theft in NGOs to an enormous 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 the eThekwini region, which tends to enhance employee theft detection.

The table above shows that 38 (43.7%) respondents concurred that proactive forensic audit techniques could enhance the detection of employees' financial crimes in NGOs to a considerable extent, 30 (34.5%) 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 forensic audit techniques could not enhance the detection of employees' financial crimes in NGOs at all. It implies that proactive forensic auditing will lead to strategic fraud detection among NGOs in the eThekwini 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 an enormous 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. Proactive forensic auditing will lead to strategic FRM among NGOs in the eThekwini region, enabling internal controls to be monitored and evaluated.

Thirty-three (37.9%) respondents concurred that proactive forensic audit techniques could help in ensuring compliance with the law, the rules, and regulations in NGOs to a considerable

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. Proactive forensic auditing will lead to strategic FRM among NGOs in the eThekwini region, which tends to ensure compliance with the law, rules, and regulations.

The results illustrate that 31 (35.6%) respondents agreed that proactive forensic audit techniques could help to enhance the detection of financial irregularities in NGOs to a considerable 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 could not help at all in enhancing detection of financial irregularities in NGOs. Therefore, proactive forensic auditing will lead to strategic FRM among NGOs in the eThekwini region, which tends to enhance the detection of financial irregularities.

Furthermore, 36 (41.4%) respondents concurred that proactive forensic audit techniques could help in the detection of procurement fraud in NGOs to a considerable 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 could not help in detecting procurement fraud in NGOs. It implies that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in the eThekwini region, which tends to lead to procurement fraud detection.

A total of 34 (39.1%) respondents agreed that proactive forensic audit techniques could help in the detection of fraudulent travel claims in NGOs to an enormous 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 could not help at all in the detection of fraudulent travel claims in NGOs. It suggests that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in the eThekwini region, which tends to lead to the detection of fraudulent travel claims.

The table above shows that 32 (36.8%) respondents concurred that proactive forensic audit techniques could help in the detection of fraudulent withdrawals in NGOs to a huge 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 all help 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 the eThekwini region, which tends to lead to the detection of fraudulent withdrawals.

The table also illustrates that 45 (51.7%) respondents agreed that proactive forensic audit techniques could assist detection of theft by directors in NGOs to a huge extent, 28 (32.2%) to a 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 could not 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 the eThekwini region, which tends to lead to the detection of theft by directors.

Furthermore, 39 (44.8%) respondents concurred that proactive forensic audit techniques could assist detection of payroll fraud in NGOs to a considerable 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 could not assist at all in the detection of payroll fraud in NGOs. It implies that proactive forensic auditing will lead to a strategic fraud detection process among NGOs in the eThekwini region, which tends to lead to the detection of payroll fraud.

Forty-two (51.7%) respondents agreed that proactive forensic audit techniques could help in improving internal controls in NGOs to an enormous 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. Proactive forensic auditing will lead to a strategic FRM process among NGOs in the eThekwini region, which tends to improve internal controls.

Moreover, 62 (71.3%) respondents concurred that proactive forensic audit techniques could enhance the efficiency of internal audits in NGOs to a considerable 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. Proactive forensic auditing will lead to a strategic FRM process among NGOs in the eThekwini region, which tends to enhance the efficiency of internal audits.

The findings illustrate that 38 (43.7%) respondents agreed that proactive forensic audit techniques could help in reducing or eliminating fraudulent practices in NGOs to an enormous 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 could not help at all in reducing or eliminating fraudulent practices in NGOs. Therefore, proactive forensic auditing will lead to a strategic FRM process among NGOs in the eThekwini region, which tends to reduce or eliminate fraudulent practices.

Respondents disagreed that forensic audit techniques are not highly relevant in accounting areas in NGOs. Similarly, 38 (43.7%) respondents concurred that proactive forensic audit techniques are highly relevant over accounting areas in NGOs to an enormous extent; 30 (34.5%) to a large extent; 18 (20.7%) to a moderate extent; and 1 (1.1%) to a small extent. Proactive forensic auditing will lead to a strategic FRM process among NGOs in the eThekwini region, which is highly relevant in 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; Knežević, 2015; Gillespie, 2014; Misra and Walden (2016) Geldenhuys, 2016; Kapardis & Courakis, 2017). It implies that increased proactive forensic auditing leads to decreased 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 the eThekwini region.

RESULT AND DISCUSSION

The table above illustrates that enhancing internal audit efficacy was the central area of application of forensic audit techniques, with a mean of 4.62 and standard deviation of .669, followed by the 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 respondents were in significant agreement that proactive forensic audits are highly relevant to prevent, detecting and responding 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. It implies that an increase in proactive forensic auditing techniques enables NGOs in the eThekwini region to manage fraud risks better.

This finding is empirically supported and articulated in previous studies (See, for example, Aiken, 2016; Jackson & 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), a 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 increased proactive forensic auditing leads to decreased 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 the eThekwini region.

The study's finding 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.

The current study's findings concluded that proactive forensic auditing would lead to strategic fraud detection among NGOs in the eThekwini region, which tends to enhance the detection of employee theft. The findings also imply that proactive forensic auditing will lead to strategic fraud detection among NGOs in the eThekwini region, which tends to enhance the detection of employees' financial crimes.

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; Knežević, 2015; Gillespie, 2014; Misra and Walden (2016) Geldenhuys, 2016; Kapardis & Courakis, 2017). The results support the knowledge that proactive forensic auditing will lead to strategic FRM among NGOs in the eThekwini region, which tends to enable the monitoring and evaluating of internal controls. Ocansey's (2017) research in Ghana also established a significant positive relationship between proactive forensic auditing and preventive fraud risk management.

The findings obtained and presented in the above table proved that proactive forensic auditing will lead to strategic FRM among NGOs in the eThekwini region, which tends to enhance the detection of financial irregularities. The findings further showed that proactive forensic auditing would lead to a strategic fraud detection process among NGOs in the eThekwini region, which tends to lead to procurement fraud detection. The study's finding 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 decreased financial and economic crimes.

The current study's findings indicated that proactive forensic auditing would lead to a strategic fraud detection process among NGOs in the eThekwini region, which tends to lead to the detection of fraudulent travel claims. The findings also confirmed that proactive forensic auditing would lead to a strategic fraud detection process among NGOs in the eThekwini region, which tends to lead to the detection of theft by directors. These findings support the literature that notes that proactive forensic auditing is essential to prevent fraudsters from committing financial statement fraud and to detect fraudulent activities in many ways (Okoye & Akenbor, 2009; Enofe, Omagbon and Ehigiator, 2015). These findings are in line with the current body of knowledge that asserts that proactive forensic auditing is an essential tool 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; Misra & Walden, 2016).

This finding also agrees with previous studies such as Falie (1999), Misra and Walden (2016), and Aiken (2016) that established a significant positive relationship between proactive forensic auditing and financial statement fraud detection. It implies that an increase in forensic auditing leads to increased detection of financial and economic crimes and financial statement fraud among NGOs in the eThekwini region. It also suggests that forensic auditors enhance the detection of fraudulent activities in NGOs and thus expose the weaknesses of organizations' systems and unethical practices. This discovery gave credence to the findings of Mclntyre (2016) and Mehta and Bhavani (2017). It is also supported by the findings of Oyedokun (2016) and Nigrini (2020), who

found that the involvement of forensic auditing has significantly raised hope of preventing the risk of fraud globally. These authors attested that forensic auditing has significantly prevented fraudulent activities in developed countries using their services.

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; Misra & Walden, 2016; Knežević, 2015; Gillespie, 2014; Geldenhuys, 2016; Kapardis & Courakis, 2017). However, they contradict Okoye (2019), who argued that NGOs could not copy and paste large for-profit and public sector entities' forensic investigation systems.

CONCLUSION

This research investigated the effectiveness of forensic auditing in fighting fraud among non-government organizations in South Africa. This research was highly motivated because this is an unexplored area; there was also a lack of understanding and empirical research on fraud risk management using forensic auditing in the NGO sector. Empirically, the study's results revealed that the effectiveness of forensic auditing techniques has proved instrumental in fighting fraudulent activities by providing empirical evidence in NGO contexts. Generally, there have been calls for more studies in this area, and this study is in response to these calls. Thus, this article contributed to understanding the effectiveness of the applicability of forensic auditing techniques in combatting fraudulent activities. The fact that results conclusively proved the significance of forensic auditing techniques in the detection and mitigation of fraud risks implies that there is a need for NGOs in the eThekwini region to explore how they could use proactive forensic auditing techniques to reduce or eliminate fraudulent practices in their entities. The researcher concludes that the fraud detection and mitigation model has empirically been supported strongly and proven that applying forensic auditing skills and techniques can contribute significantly to fraud risk management holistically among NGOs in the eThekwini region. Empirically, the study's findings have implications for fraud risk management among non-government organizations in the eThekwini region of South Africa. It is, therefore, advised that the study results be considered carefully. This article adds to the body of existing knowledge. It is a guide for researchers to further research on the subject matter in areas of the true extent of applicability of forensic auditing and fraud risk management that was not addressed in this article.

REFERENCES

Aiken, K. (2016). Analyzing proactive fraud detection software tools and the push for quicker Solutions. *International Journal of Computer Applications*, pp. 0975–8887.

Alshurafat, H., Al Shbail, M. O., & Mansour, E. (2021). Strengths and weaknesses of forensic accounting: an implication on the socio-economic development. *Journal of Business and Socio-economic Development.* https://doi.org/10.1108/JBSED-03-2021-0026

Amah, K. C. (2018). Forensic Auditing and Productivity of Nigeria Civil Service. Federal University Otuoke Library.

Baer, M. H. J. V. L. R. (2008). Linkage and the deterrence of corporate fraud. 94, 1295.

Benjamin, O. A. (2015). Handbook on fraud management and forensic accounting: El'Demark.

Benson, B. C., Jones, G., & Horne, J. S. (2015). Forensic investigation of crime, irregularities and transgressions. Zinn, RJ and Dintwe, SL (eds.). Investigation of the AZ guide for Forensic Private and corporate Investigators. *African Journal of Criminology & Victimology*, 27(1), 160–175.

Boateng, A. A., Boateng, G. O., & Acquah, H. (2014). A literature review of fraud risk management in microfinance institutions in Ghana. *Research Journal of Finance and Accounting,* 5(11), 24-79.

Coderre, D. (2009). Computer-aided fraud prevention and detection: A step-by-step guide. John Wiley and Sons.

Comer, M. J. (2017). *Investigating corporate fraud.* Routledge. https://doi.org/10.1108/JBSED-03-2021-0026

Curry, E. L., Hailstones, F., Dement, M. A., & Holtz, L. S. (2008). Methods of assessing fraud risk, and deterring, detecting, and mitigating fraud, within an organization. In: Google Patents.

Davis, B. L. (2007). Fraud deterrence in connection with identity documents. U.S. patent No. 7, 225,977. June 5. 2007.

Domański, J. (2016). Risk categories and risk management processes in non-profit organizations. *Foundations of Management,* 8(1), 227–242. https://doi.org/10.1515/fman-2016-0018

Eisen, O. (2017). *Systems and methods for detection of session tampering and fraud prevention*. In: Google Patents.

Enofe, A. O., Agbonkpolor, O. R., & Edebiri, O. J. (2015). Forensic accounting and financial fraud. *International Journal of Multidisciplinary Research and Development*, 2(10), 305-312.

Enofe, A. O., Omagbon, P., & Ehigiator, F. I. (2015). Forensic audit and corporate fraud. International *Journal of Economics and Business Management*, 1(7), 1-10.

Epstein, B. J., & Ramamoorti, S. (2017). Today's fraud risk models lack personality. *The CPA Journal,* 86(3), 14.

Eyisi, A., & Ezuwore. (2014). The impact of forensic auditors in corporate governance. Research *Journal of Finance Accounting.* 5(8), 31-39.

Fakie, S. (1999). The role of the Office of the Auditor-General in South Africa. Paper presented at the 9th International Anti-corruption Conference, Durban, South Africa, October 1999 (pp. 3–5).

Garfinkel, S. L. (2006). Forensic feature extraction and cross-drive analysis. *Digital Investigation*. 3, 71-81. https://doi.org/10.1016/j.diin.2006.06.007

Geldenhuys, K. (2016). Lifestyle audits in white-collar crimes. *Servamus Community-based Safety and Security Magazine,* 109(12), 24-27.

Gibson, M. R. (2018). An analysis of fraud prevention and detection in not-for-profit organizations in South Carolina (Doctoral dissertation, Liberty University).

Giles, S. (2012). *Managing Fraud Risk: A Practical Guide for Directors and Managers.* John Wiley & Sons. https://doi.org/10.1002/9781119207313

Gillespie, R. T. (2014). *The best practices applied by forensic investigators in conducting lifestyle audits on white-collar crime suspects* (Doctoral dissertation, University of South Africa).

Golden, T. W. (2011). *A guide to forensic accounting investigation*. John Wiley & Sons.

Gong, J., McAfee, R. P., & Williams, M. A. (2016). Fraud cycles. *Journal of Institutional and Theoretical Economics,* 172(3), 544. https://doi.org/10.1002/9781119200048

Gottschalk, P. (2018). *Fraud investigation: Case studies of crime signal detection*. Routledge. https://doi.org/10.4324/9781351139069

Ikechukwu, O. E., John, N. U., Nkiruka, A. B., & Adaeze, O. (2020). Effect of Forensic Investigation Techniques in Detecting Occupational Fraud In The Public Sector: A Study Of Ministry Of Finance, Anambra State.

Jackson, R. D. C., & Stent, W. J. (2010). *Audit Education. Auditing notes for South African students*.

Joloko, B. G., & Audu, S. I. (2019). Curbing Fraudulent Practices through Accountability in Non-Profit Making Organizations. Research Journal of Finance and Accounting, 10(14), 1-9.

Kapardis, A. (2017). Offender-profiling today: an overview, criminal justice, and the way forward. *Essays in honor of Nestor Courakis*, pp. 2, 739–754.

Khersiat, O. M. (2018). The role of the forensic accountant in detecting tax fraud in financial statements: A survey study in the Jordanian accounting and auditing offices and firms. *International Journal of Economics and Finance, 10*(5), 145-153. https://doi.org/10.5539/ijef.v10n5p145

Knežević, G. (2015). The characteristics of forensic audit and differences in relation to external audit. FINIZ 2015 - Contemporary Financial Management, pp. 202–205.

Kranacher, M. J., & Riley, R. (2019). *Forensic accounting and fraud examination*: John Wiley & Sons.

Kummer, T. F., Singh, K., & Best, P. (2015). The effectiveness of fraud detection instruments in not-for-profit organizations. *Managerial Auditing Journal, 30*(4/5), 435-455. https://doi.org/10.1108/MAJ-08-2014-1083

Mahant, S. H., & Meshram, B. B. (2012). NTFS deleted files recovery: Forensics view: Department of Computer Engineering Veermata Jijabai Technological Institute, Mumbai, India. Multiply imputed data. *Psychological Methods*, 23(1), 76.

McIntyre, J. L., Van Graan, C., Van Romburgh, J. D., & Van Zyl, A. (2014). Contextualizing the South African forensic accountant. *Journal of Forensic and Investigative Accounting*, 6(3), 98–122.

Mehta, A., & Bhavani, G. (2017). Application of forensic tools to detect fraud: The case of Toshiba. *Journal of Forensic and Investigative Accounting*, 9(1), 692-710.

Miltonberger, T. (2010). Modeling Users for Fraud Detection and Analysis. In: Google Patents.

Miltonberger, T. (2010). Modeling Users for Fraud Detection and Analysis. U.S. patent No. 10,115,11. Washington, DC: U.S. Patent and Trademark Office.

Misra, A., & Walden, V. (2016). Proactive: fund analysis: Integrating advanced forensic data analytics capabilities can help auditors mitigate fraud risks and demonstrate returns. *Internal Auditor*, 73(2), 33-37.

Mohamed, Z. M., & Ahmad, K. (2012). Investigation and prosecution of money laundering cases in Malaysia. *Journal of Money Laundering Control*, 15(4), 421–429. https://doi.org/10.1108/13685201211266006

Muhammaddun Mohamed, Z., & Ahmad, K. J. J. O. M. L. C. (2012). Investigation and prosecution of money laundering cases in Malaysia. 15(4), 421–429. https://doi.org/10.1108/13685201211266006

Ngomane, A. R. (2010). *The use of electronic evidence in forensic investigation.* (Doctoral dissertation, University of South Africa).

Nigrini, M. J. (2020). *Forensic analytics: methods and techniques for forensic accounting investigations.* John Wiley & Sons.

Njanike, K., Dube, T., & Mashayanye, E. (2009). The effectiveness of forensic auditing in detecting, investigating, and preventing bank fraud. *European Journal of Accounting, Auditing and Finance,* 3(4),69-85

Ocansey, E. O. N. D. (2017). Forensic accounting and the combating of economic and financial crimes in Ghana. *European Scientific Journal,* 13(31), 379-393. https://doi.org/10.19044/esj.2017.v13n31p379

Ogutu, G. O., & Ngahu, S. (2016). Application of forensic auditing skills in fraud mitigation: A survey of accounting firms in the county government of Nakuru, Kenya. *IOSR Journal of Business and Management*, 18(4), 73-79.

Okoye, E. I., Nwoye, U., & Okeke-Okonkwo, C. I. (2019). Forensic accounting and performance management among non-governmental organizations in Nigeria. *International Journal of Recent Innovations in Academic Research*, 3(12), 47-60.

Onodi, B. E., Okafor, T. G., & Onyali, C. I. (2015). The impact of forensic investigative methods on corporate fraud deterrence in banks in Nigeria. *Journal of Modern Accounting and Auditing*, 3(4), 69-85.

Oyedokun, G. (2016). *Forensic accounting investigation techniques: Any rationalization*? Available at SSRN 2910318. https://doi.org/10.2139/ssrn.2910318

Ozili, P. K. (2015). Forensic accounting and fraud: A review of literature and policy implications. *International Journal of Accounting and Economics Studies*, 3(1), 63–68. https://doi.org/10.14419/ijaes.v3i1.4541

Philipp, A., Cowen, D., & Davis, C. (2009). *Hacking exposed computer forensics.* McGraw-Hill, Inc.

Qasim, N., Rind, M. Q., & Saleem, S. M. J. I. C. S. o. S. S. (2011). Computer Hacking Forensics Investigation Techniques. 21, 423–433.

Raosoft, I. (2004). *Sample size calculator*. Available from: www.Raosoft.com /sample size.

Saidu, A. (2015). The application of forensic accounting techniques in fraud prevention and control in Nigeria: An analysis of its practicability. *International Journal of Advanced Studies in Business Strategies Management*, 4(2),187–200. https://doi.org/10.5539/ijbm.v3n10p65

Salehi, M., Azary, Z. J. I. J. o. B., & Management. (2008). Fraud detection and audit expectation gap. *Empirical evidence from Iranian bankers*. 3(10), 65–77.

Samociuk, M., Iyer, N., & Doody, H. (2010). *A short guide to fraud risk: fraud resistance and detection.* Routledge

Singleton, T. W. (2010). *Fraud auditing and forensic accounting.* (Vol. 11): John Wiley & Sons. https://doi.org/10.1002/9781118269183

Stirbu, D. A. (2010). Current controversy on audit functions. Annals of DAAAM and Proceedings, 1433-1435.

Suleiman, N., & Othman, Z. (2016). Forensic Accounting Investigation for fighting public sector corruption in Nigeria: A conceptual paper. Paper presented at the Proceedings of the Qualitative Research Conference (QRC) 2016.

Taylor, M., Haggerty, J., Gresty, D., & Lamb, D. J. N. S. (2011). *Forensic investigation of cloud computing systems.* 2011(3), 4–10. https://doi.org/10.1016/S1353-4858(11)70024-1

Thomopoulas, C. J. A. S. (2013). *Minimizing fraud risk through technology.* 36-37.

Thornhill, W. T. (1995). *Forensic accounting: How to investigate financial fraud*. Irwin Professional Pub.

Uniamikogbo, E. (2019). Forensic audit and fraud detection and prevention in the Nigerian banking sector. *Accounting and Taxation Review*, 1(1), 177-195. https://doi.org/10.31031/COJRR.2018.01.000504

Vollmer, S. (2016). How audit committees can help deter fraud – *Journal of Accountancy*, 221(5), 20.

Wells, J. T. (2017). *Corporate fraud handbook: Prevention and detection*. John Wiley & Sons. https://doi.org/10.1002/9781119351962

Wilhelm, W. K. (2004). The fraud management lifecycle theory: A holistic approach to fraud management. *Journal of Economic Crime Management*, 2(2), 1-38.

Zainudin, E. F., & Hashim, H. A. (2016). Detecting fraudulent financial reporting using financial ratios. *Journal of Accounting and Taxation,* 7(3), 38-44.

Zourrig, H., Zhang, M., & El Hedhli, K. (2017). Ethics, legal, and public policy. *The Association of Collegiate Marketing Educators Litte Rock, AR* March 9-10,2017,30.