



An Analysis of Effects of Forensic Auditing in Detecting Fraud in State Owned Enterprises: A Case Study of ZESA

Wadesango Newman^a Zibusiso Tshuma^b Lovemore Sitsha^c

^a University of Limpopo, Professor, CAE: newman.wadesango@ul.ac.za

^b Midlands State University, Student, Faculty of Commerce: tshumaz@msu.ac.zw

^c Midlands State University, Lecturer, Faculty of Commerce: sitsha2005@gmail.com

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Abstract

Purpose: In order to ensure effectiveness in State Owned Enterprises, (SOE) forensic auditing significantly plays a huge role in the detection and prevention of fraud. State owned Enterprises play a big role in any country as they provide commercial services or activities to the public. Their business involves transacting huge sums of money in their day to day operations. The state has significant control through full, majority, or significant minority ownership. There are fraudulent activities occurring in these enterprises as a result of poor controls in these organizations, hence forensic auditing plays the role. The purpose of the study was to examine how forensic auditing services aid in fraud detection in State Owned Enterprises.

Methodology: Quantitative research methodology was adopted and questionnaires were used to collect data.

Findings: The results indicated that forensic auditing has a significant positive correlation relationship in fraud detection in SOEs.

Originality/Value: Forensic auditing although used by ZESA, is not being effectively implemented to detect and prevent fraud.

1. Background of the Study

Globally, there has been an increase in fraud. State-owned businesses are the foundation of many nations, particularly developing nations like Zimbabwe. Since these businesses are the main participants in a nation's commercial activity, the majority of nations rely on them to provide commercial services. They are a widespread phenomenon, allowing the government to intervene in commercial affairs. Particularly in Zimbabwe, instances of fraud and money misappropriation have been exposed. According to Gumbo (2017) there are reports that there have been rampant corruption and violation of government laws and statutes in SOEs and ZESA and ZIMRA are amongst the list. The Zimbabwe Electricity Supply Authority (ZESA) is a State Owned Enterprise (SOE) which falls under the Ministry of Energy and Power Development was solely assigned as manufacturer, supplier and controller of electricity for

Zimbabwean citizens by Act in 1981 and framed in 1985. ZESA Holdings have ZETDC, ZPC Limited, POWERTEL Communications (Pvt) Ltd and ZESA Enterprises (ZENT) as its subsidiaries.

In Zimbabwe, a large number of state-owned enterprises lose millions of dollars annually as a result of fraud in these businesses. State-owned businesses, in especially ZESA, have been involved in numerous financial scandals that have hampered their ability to expand. The audit profession, the general public, and the competent authorities are all sent a message by these controversies. The Financial Gazette on March 13, 2014 reported that ZESA became embroiled in a scandal involving over US \$180 million by selecting the unsuccessful or incorrect bidders for a tender to build a solar power facility. Citizens began to seriously wonder why such a threat could occur within the organization. Additionally, ZETDC found itself in another scandal involving US\$9 million in 2019. Also, in 2020, another huge scandal involving millions of dollars was uncovered in this organization. To add on, Paramount (Pvt) Ltd was given a tender to supply smart meters to the company but henceforth, the latter failed to meet all the specifications that were required in tender

documents. Also, Paramount did not conduct the FATs at their factory to assess the performance of these meters. Hence, this was indicated as a fraudulent activity.

In Zimbabwe, in some of the state owned enterprises, there is widespread fraud but the companies are reluctant to disclose the information. On another note, another top executive at ZESA financially prejudiced the company of about US\$420 000. There was acquisition of prepaid electricity meters without getting the requisite PRAZ approval, hence this violated Sections 26 and 28 of the Procurement Act 22:14. This raised alarm to the public as to why these fraudulent activities are being undetected wherefore they are causing funds mismanagement.

Forensic audit is review or examination and analysis or evaluation of a company's or organization's financial statements and financial records to ascertain evidence that will be presented in court or any evidence that will be presented in any other legal procedure (Tardi, 2022). So, as a specialized service, forensic auditing includes accounting, auditing, gathering evidence, and reporting legally. These procedures are used to bring to light any form of fraud. Companies opt to go for a forensic audit instead of a regular internal audit in the sense that there will arise a chance that the extracted evidence will be used in legal proceedings. The idea behind forensic auditing is to comprehend the fraudster's motivations, the intentions for committing fraud and as well as detecting these reasons. Forensic accountants are defined as experienced auditors, accountants and investigators who bridge the gap between accounting and law who also investigates legal and financial documents and these forensic accountants are particularly hired to fork out any intuition of any criminal conduct surrounding an entity or they are engaged by an organization just for prevention of any fraudulent activity to take place (Okoye and Okaro, 2012).

1.2 Research Objective

To analyze the effects of forensic auditing in detecting fraud in State Owned Enterprises particularly ZESA

2. How Forensic Auditing Services Aid in Detecting Fraud

Detection of fraud is performed in a number of ways by forensic auditing services. Accountants must adapt their operational style, method, and scope to accommodate forensic audits (Osisioma, 2018). It is an important preventive tool which assists to recognize the areas that are at risk of suffering some form of any criminal activity in organization because there are various internal control systems in these organizations but these are prone to violation by some employees who take advantage of weak internal controls. Forensic auditing services are essential in fraud detection and they greatly aid in its detection. An empirical study on how forensic auditing services can aid in detecting fraud was carried out to five SOEs and three audit firms. The research revealed that people who had experience in forensics and audits were interrogated. It has been shown that using systematic auditing approaches to look for fraud in firms is quite effective. The results demonstrated how crucial forensic audit services are for spotting fraud.

In order to determine how forensic auditing services, assist in identifying fraud, Islam, Rahman, and Hossam (2017) carried out a study in Bangladesh. Thirty organizations, 10 multinational corporations, twenty chartered accountants, and management accountants took part in the study. The study's findings showed that 46% of multinational corporations, management accountants, and 67% of chartered accountants felt that forensic auditing services considerably help in fraud detection. The authors got to the conclusion that forensic auditing services are essential or significant in spotting fraud in Bangladesh as a result of this.

Njanike, Dube and Mashayanye (2009) conducted a research to seek to see the usefulness of forensic auditing in identifying, investigating and preventing bank frauds in Zimbabwe. The study ascertained the core of the forensic auditor in detecting fraud where 30 forensic auditors from 13 commercial banks, 4 audit firms and building societies were used. According to the study, forensic auditing is very important and significantly helps in the safeguarding of the banks' assets; as a result,

the facilitation of forensic auditing services is very important in bank's detection for frauds by banks and also makes it possible for investigation and litigation support services of the cases of fraud. There is proof that the rise of forensic auditors has helped to rebuild trust and integrity in some State Enterprises. So, forensic auditing services includes application of accounting principles, auditing skills and investigative procedures in solving several legal issues and so forensic auditors assists lawyers, courts, regulatory bodies and various institutions in investigating financial frauds. Fraud is categorized into four according to Kenyon and Tilton (2015) and these are asset theft, financial reporting fraud, and fraudulent methods of getting funds and assets and in liabilities and expenditures.

Njanike, Dube and Mashayanye (2014) carried out research pertaining to the external auditors' inability to identify and stop fraud. Results of their findings showed that KPMG did two reviews one after the other and they failed to recognize fraud that was later discovered by the forensic auditors.

Haron, Mohamed, Jomitin and Omar (2020) established that a forensic auditor is essential for an organization or a company because his or her services have the intention to lessen the number of fraud happenings in a public sector. Henceforth, a forensic auditor has an advantage over an internal or external auditor in that the former (forensic auditor) investigate beyond the figures or amounts. Four public sector organizations in Malaysia which are the Federal government, the State government, Local Authority and the Statutory Bodies provided the public administrators with questionnaires and conducted interviews for this study. Eiya and Otor (2019), made a suggestion that forensic auditing is an important tool for fighting against financial crimes where the forensic auditor should always use his expertise as an expert witness, expertise and experience in support of his expert opinion regarding an evidence or issue. Bierstaker et al., (2016) illustrate that although the company's use of forensic auditing, is minimum for any fraudulent event detection and prevention, it has the highest rating of mean effectiveness.

Okoye (2018) applied primary and secondary data to an examination of forensic audit as a detection and prevention technique of fraud. Questionnaires used were 370 in the area of Kogi. Data analysis was drawn using tables and simple percentages. The analysis of variance (ANOVA) was applied to the study as a statistical tool to test hypotheses. The results revealed that the application of forensic auditing significantly aid in reducing fraud occurrence and fraud malpractices in the public sector and also helps better in detecting and preventing cases of fraud in public sector organizations.

Also, advancement in technology have deduced proactive fraud detection techniques which analyzes data and transactions to isolate symptoms of fraud such as trends, numbers and other related anomalies (Albrecht and Zimbelman et al., 2019). On the other hand, Bierstaker et al., (2015) gave a conclusion that password protection, firewalls and computer viruses are regularly used to curb fraud. Forensic auditors are very effective in applying their techniques while also accountants do not necessarily apply these techniques as anti-fraud skills.

3. The Role of Forensic Auditing in SOEs

Peter et al. (2019) surveyed a study that determined the role of forensic auditing on fraud detection in Nigerian state owned enterprises and the authors analyzed the types of fraud, the trends of frauds and the losses suffered by companies for the past decade. Organizations like Nigerian commercial banks were discovered to frequently commit frauds like counterfeiting and fraudulent withdrawals. Descriptive data were used, and they revealed that banks actively using active forensic auditing really reported minimal losses and lower fraud incidents. Thus, the study came to the conclusion that the importance of forensic auditing in combating corporate fraud cannot be overstated.

Boritz, Kotchetova and Robinson (2016) revealed that forensic auditing is substantially more effective than internal and external auditors in identifying frauds, which are nowadays more common. To add on to that, forensic auditing procedures and its techniques have significance in curbing fraud (Srivastava, Mock and Turner,

2015). In addition, it was revealed that, according to research studies that proactive forensic data analysis applied on computer based sophisticated analytical tests is of utmost importance to forensic auditor in detecting that fraud which might be hidden for a number of years.

There was a study carried out regarding the perception of fraud detection by accountants as well as strategies or techniques to stop it. The results of the survey showed that although forensic auditing was chosen by firms as a last resort to deal with fraud, it was recognized as the most successful method for reducing fraud in those organizations. These findings also tally with those of Ernst and Young (2003) which were conducted on global fraud survey, which confirmed only 20% companies applied forensic auditing whilst the level of satisfaction is more than 85% high. It was showed that the role of forensic auditing is very vital in organizations and an important tool in detecting and preventing fraudulent activities.

Eyisi and Ezuwore (2019) gave a conclusion that forensic auditors have improved management accountability and have strengthened independence and provide evidence to use in court unlike internal auditors who may face bias. Forensic auditing also impacts positively on corporate governance hence reduction in corporate failure and improved perception upon investors. Forensic auditing is proved to be an important and vital tool in strengthening corporate governance in organizations and this was according to Enofe, Ekpulu and Ajala (2019).

Litigation support services are a role played by forensic auditors in SOEs and also these forensic auditors also have the knowledge on how to deal with curbing crimes and corruption through providing mechanisms that holds people liable for the criminal activity as well as lowering cases of any fraudulent activities without detection and this is according to Oluwapelumi (2021). Also, Mukoro, Yamusa and Faboyede (2019) conducted a study on the role of forensic auditors in detection of fraud and national security. The main aim of the study was to explore forensic auditors' role in addressing the savage cycle of fraudulent activities devastating the public sector in Nigeria. The study focused on how the application of forensic

auditing skills such as the investigative or examining skills, documentation, litigation services and reporting can be used to halt fatal crimes. The Federal Inland Revenue Service (FIRS) was the main focus and so population of the study and the survey research was applied in conducting the research. The data that was used for the study was from the primary source through the administration of the questionnaire. To test the hypotheses, the regression analysis statistical method was applied.

The importance to differentiate between the role of a forensic auditor and an internal auditor was emphasized by Apostolou and Crumbley (2018) and they argued that an auditor determines compliance with the auditing standards within the organization whilst a forensic auditor investigates and examines the accounts of an organization for possibility or occurrence of fraud and the evidence used in litigation purposes. In addition, forensic auditing normally engages in a fully comprehensive, detailed effort to penetrate concealment tactics according to Apostolou and Crumbley (2015, p.41). This can be explained by analyzing the costs, efforts, time and labor required to conduct a specific forensic audit of an organization which differs to auditing a set of financial statements (Krell, 2012).

Another research of the chosen sample's objective was to identify the set of abilities or methods that a forensic auditor need. The study's findings showed that forensic auditing integrates knowledge of auditing, accounting, statistics, IT, legal guidelines, and human abilities. Accordingly, it is stated that forensic auditing is a multidisciplinary field. A forensic auditor has the necessary skills, knowledge and techniques in each of the specified areas above. When data is large, statistical knowledge assists in analyzing data. Information and communication technology is essential for detecting cybercrimes, and social engineering attacks require the use of human talents and techniques as well. Tiwari and Debnath (2017) state that as can be seen that there is an association between forensic auditing and legal issues, the know-how in the section of law plays a vital role in within the forensic auditing profession.

Another study identical to the one above was conducted on the knowledge and task performance of internal auditors and forensic auditors about the portrayal of fraud-related problem. The focus of this study was on the public sector, with Nigeria serving as its base. The findings of this study were interesting as they pointed out that both the knowledge and fraud risk assessment are positively related to fraud related problem representation according to Popoola, et al (2015). The study also highlighted the significance of having subject specific knowledge by a forensic auditor.

4. The Effects of Forensic Auditing on Fraud Detection

Zhambe (2019) carried out a research to determine how forensic auditing services affected the ability of state-owned businesses listed on the Zimbabwe Stock Exchange to detect fraud (ZSE). Listed firms on the ZSE made up the population of the study's descriptive research design. Data was gathered employing a structured questionnaire composed of the question that reads forensic auditing effects on fraud or crime minimization. The authors came to the conclusion that forensic auditing and its services are particularly helpful in uncovering fraud among state owned firms and ZSE listed corporations.

It was found that forensic auditing reduces fraud in banking industry according to Abgaje and Adeniran (2018). Adegbie and Kutus et al. (2018); Enofe, Utomwen and Danjuma (2015) alluded that forensic auditing is an effective tool for curbing fraudulent activities in banks and other corporations and this boosts corporate governance in organizations. The study of Nandini and Ajay (2021) argued that forensic auditing is a crucial tool for preventing company failure and enforcing corporate governance rules. Additionally, forensic auditing raises the investor's degree of satisfaction. Odebalu (2018) revealed that mitigation of financial irregularities was seen in Nigerian commercial banks as a result of forensic investigation and forensic litigation which were statistically significant in illustrating changes in financial statements. According to Oladejo and Oluwasen (2015), forensic

auditing is significantly useful in combating fraud and also in its reduction in the Nigerian commercial banks and impacts positively upon their performances.

A study was also carried out by Onyali, Onodi and Okafor (2015) that ascertained the effects of forensic auditing skills in corporations' fraud detection in Nigerian banks. There was a survey design applied where a questionnaire with open and closed questions were used as research instrument. The study used 30 commercial banks, South East zone of Nigeria and 95 managers of the bank, the accountants and also supervisors were charted. The data gathered the instances of fraud over the past decade and simple regression analysis was employed in analyzing data. There was also development by the authors of Z-tests for three hypotheses to test them. The data revealed that forensic examination and its expertise are very essential or critical in unearthing and instituting financial misdemeanors occurrences and so this pushes the major need of forensic auditing in the banks.

Ogutu and Ngalu (2016) engaged in a study on the use and effects of applying forensic auditing skills in curbing fraud in state corporations in Kenya. The study of forensic auditing skills has become an essential tool in mitigating and prevention of various crimes. The authors applied a descriptive survey research design and made use of questionnaires. The study identified a number of situations in which forensic auditing can be extremely helpful, including fraud detection and prevention, bankruptcy, insolvency, reorganization, financial statement deception, economic damage calculations, and family disputes.

The importance or effects of forensic auditing in controlling financial irregularities that destroy the business continuity and soundness in Nigeria's Deposit Money Banks. Survey design methods were used and the primary data were gathered via administration of a structured questionnaire covering 17 banks out of the 22 Deposit Money Banks that are fully operating in the country. This gives a 77.3% of the total show up. In this study, the Ordinary Least squares method was applied to analyze and test hypotheses. The findings revealed that the participation of qualified and experienced forensic auditors will not only contribute to the mitigation of frauds in

Deposit Money Banks but would also instill the much needed reasonable and rational behavior in Nigerian banking sector. The study recommended that regulatory authorities, within the demarcations prescribed by the law authorize the banks to create a distinctive department for forensic which will be managed by a professional forensic auditor which will develop and regularly implement efficient and very effective internal control systems, timely prosecution of perpetrators by assuming that they are criminals and as a deterrence to others who may want to do the same and to work out adequate training and development programs for the staff especially in fraud so as to minimize the number and intensity of bank frauds in the banks in Nigeria.

A study carried out by Elias (2020) on the use of forensic auditing in detecting fraud and its control in South Africa. The literature was reviewed using secondary data and the effects and importance of forensic auditors were carefully analyzed. The study maintained that forensic auditing expertise, techniques and skills enhances timely detection of fraud, investigation and also for the fraudsters to be prosecuted for fraud which would harm the soundness of an economy.

Dada, Enyi and Owolabi (2018) carried a study looking on applying forensic auditing skills for effective examination of cases that related to bribery to make sure that correct legal action of these perpetrators is enacted. They drew a conclusion that applying forensic auditing techniques is essential in investigating and in the detection of cases of bribery and it has a positive association with prevention of bribery acts but it has not been instrumented by the anti-corruption agency. Similar study was also conducted by Dada, Owolabi and Okwu (2016) that discussed the relevance or effects of forensic auditing in the effective mitigation of fraud malpractices in Nigeria and the results of the hypotheses tested showed that reduction of fraud is significantly and positively related to fraud investigation and detection through forensic auditing.

A study conducted by Ogutu and Ngahu (2016) that was determining the effect or the impact of forensic auditing techniques in reducing fraud in Nakuru County, Kenya by

accounting firms. 25 practicing accounting firms which are registered in Nakuru area and a top manager representing each firm as a participant were used in the research. Application of the census method were put to use in the study in sampling and analysis of data was shown using descriptive analysis. 97% of respondents to the study agreed that forensic auditing abilities or procedures are extremely helpful in identifying and preventing fraud. Additionally, the authors discovered that improving fraud detection and prevention for every auditor requires the use of investigative, legal, and fraud strategies. As a result, the study concluded that forensic auditing abilities are extremely important for efficient fraud detection since they have a significant impact on reducing fraud by accounting companies.

5. Can Forensic Auditing Significantly Alleviate or Reduce Fraud in SOEs

Studies have shown that forensic auditing expertise can lower the likelihood of fraud according to Igweonyia (2016), Ozuomba, Ofor and Okoye (2016). Okolie (2014) explains that the services of highly trained forensic auditors are highly requisite so as to reduce fraud and corrupt activities. Forensic auditors play a vital role on litigation support in SOEs and largely have a critical role in reducing fraudulent activities in these SOEs through providing of various mechanisms to hold people liable as well as alleviating the instances of fraudulent activities without detecting them (Mukoro, Yamusa and Oboyede, 2017). Forensic auditing can significantly reduce fraud and government should highly rely on forensic auditors in observing and enquiring alleged fraudulent activities or incidents (Kamal and Tanim, 2016).

There was an evaluation made whether forensic auditing can considerably aid in reducing fraud in Nigerian commercial sectors according to Oyebisi, Wisdom, Olusogo and Ifeoluwa (2018). The survey study design employed primary data sources. The set hypothesis was tested using the simple linear regression together with the analyzing of variance (ANOVA). Their findings showed that there is an adverse association with regards to the adoption of the IFRS and FDI as there has basically a poor level of awareness of forensic auditing and foreign accounting in the

Nigerian commercial sector. On the other hand, the study did not look into other business divisions of the companies that were listed on the stock exchange.

Asalou et al. (2020) discovered in their research that implementing forensic audits significantly lessens the issue of tax evasion. The study's sample size was 301, and the researcher used a quantitative research methodology for it. According to the study's findings, forensic auditing is a crucial component in reducing financial fraud.

Owolabi, Dada and Olaoye (2016) conducted a study to which the employment of forensic auditing techniques can ensure effective prevention of corruption with effective investigation and detection of embezzlement in Nigeria. The study concluded that it is evident that forensic auditing or accounting techniques goes a long way in the investigation and detection of these malpractices but because of EFCC which has not established a forensic auditing or accounting unit or section in conducting its research its investigation, their findings revealed no evidence of embezzlement prevention by the application of forensic auditing skills (Owolabi, Dada and Olaoye, 2018). While Gbegi and Adebisi (2014) ascertained forensic auditing techniques in the investigation of fraud in the Nigerian public sector in which they reached at a conclusion that forensic auditing techniques along with the expertise have considerable impact or effect in unearthing on minimizing fraud in Nigeria's public sector.

According to previous studies by Dada, Owolabi, and Okwu (2014) and Madumere and Onumah (2016), it has been proved that fraud reduction is significantly and positively related to fraud investigation and detection through forensic auditing. Fraud detection and control is influenced by forensic auditing according to Ehioghiren and Atu (2016). Forensic auditors are found to have high levels of capability and competence that is they have knowledge, skills and task performance fraud risk evaluation than internal or external auditor in terms of fraud prevention, detection and responsiveness and this is in accordance with Popoola, Ahmad and Samsudin (2016).

There was also an examination whether forensic auditing helps reduce fraud by detection and thereby preventing on deposit money banks using branches in Ibadan metropolis. Purposive sampling techniques were applied to a total of 80 respondents who were selected from 5 branches. The study used survey design, and a questionnaire was utilized to collect the data. Also, regression analysis, Analysis of Variance (ANOVA) and Pearson moment correlation techniques were applied. The results showed that procedure knowledge, forensic auditing expertise, and a legal background are very important and aid in fraud prevention. There is need for forensic audit in the deposit money banks in order for effective performance in this sector. To add on, there need to be an improvement in the implementation of forensic auditing in the banking sector so as to halt fraud and financial crimes.

Eliezer and Emmanuel (2019) revealed that there is a positive association between forensic auditing and fraud detection. A study carried out to show the significance of forensic auditing in combating fraud. Out of the 24 respondents, 15 and 7 of them strongly agree and agree respectively to the notion that forensic auditing is a concrete mechanism to combat fraud significantly.

An empirical analysis was carried out by Okoroyibo and Omorogie (2019) on forensic auditing and financial fraud in Nigeria. According to their study, they examined the correlations of the presence of forensic auditors (PFA), the number of auditors with forensic auditing techniques (NAFT), Extent of forensic auditing practices (EFAP), Extent of employee theft (EET), Extent of financial fraud (EFR) and extent of top management fraud (ETMF). Evidence gathered showed significant negative correlations between PFA, NAFT and EFAP with EFR. Also, Dada, Owolabi and Okwu (2018) tried to look at the effectiveness of forensic auditing in decreasing fraudulent practices in Nigeria, and the study's findings indicated that forensic auditing's use in fraud investigation and detection is strongly and favorably related to fraud reduction. Honigsberg (2020); Nawawi and Salin (2018); Yeoh (2019), alluded that an upward rise in fraudulent menaces and internal and external auditors flop to spot the fraud, forensic auditing as a profession obtains validity. This suggests a set of instruments

to detect fraud and fraudsters. All businesses, anywhere in the globe, are seriously at risk from fraud. The 2018 Reports to the Nations, which was carried out by Association of Certified Fraud Examiners exposed that there were 2 690 occupational cases of fraudulent activities from 125 countries in an aggregate of higher than US\$7 billion dollars for all cases and US\$130 000 dollars per case on average. As a result, it was emphasized how important forensic auditing was and how its methods actually cut down on fraud.

6. Research Methodology

The study adopted a quantitative research methodology. A questionnaire was used to collect data. The targeted populace in this study were junior and senior members of the staff of ZESA. The sample that was accessible to questions of the study were the senior and junior staff of ZESA.

Table 1: Target Population and Sample

Category	Target Population	Sample	Sample Size %
Top Executive	10	6	60
Finance	14	8	57
Internal audit employees	8	5	63
Employees	15	6	40
Legal	7	3	43
Total	54	28	52

7. Results

Table 2: Role of forensic auditing in SOEs

Response	Frequency	Percentage (%)
To provide enough evidence for litigation purposes	14	31%
It provides investigation services and compliance strategies	11	24%
Help prevent, detect and deterring fraud	18	40%
To attract more investors into business	2	4%
Total	45	100%

Source: Field work data

Table 2 shows that, 31% of the respondents mentioned that forensic auditing provide enough evidence for litigation purposes, 24% of the respondents said forensic auditing provides investigation services and compliance strategies, 40% said that it helps prevent, detect and deterring fraud and 4% said forensic auditing attract more investors into the business. The results show that majority of the respondents (40%) were of the view that forensic auditing help prevent, detect and deterring fraud. This implies that forensic auditing is a mechanism to mainly prevent fraud in SOEs.

7.1 Effect of forensic auditing on fraud detection

The researchers sought to find out the association between forensic auditing and fraud detection at ZESA. The symmetric measures, Pearson Correlation and Chi-square tests were employed to test. The chi-square results from the 2×2 contingency chi-square handout. Request Phi (for 2×2) or Cramer's V (for larger than 2×2) as a measure of association when using the SPSS Crosstabs method. Phi and Pearson's correlation are the same.

H0: There is positive relationship between forensic auditing and fraud detection at ZESA

H1: There is no positive relationship between forensic auditing and fraud detection at ZESA

Table 3: Effects of forensic auditing on fraud detection

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig.(2sided)	Exact Sig.(1sided)
Pearson Chisq	0.929	1	.118		
Continuity Correction	.726	1	.107		
Likelihood Ratio	.223	1	.98		
Forensic auditing				.74	.56
Linear by Linear Association	.106	1	.118		
No. of valid class	45				

Source: Field work data

Table 4. Chi-square tests

Chi ²	4.8
Df	2
P value	0.05

Source: Field work data

Table 5: SPSS Chi-square distribution observations

		Forensic auditing	Fraud detection
Forensic auditing	Pearson Correlation	1	.307****
	Sig.(2-tailed)		.33
	N		45
Fraud detection	Pearson Correlation	.307***	1
	Sig.(2-tailed)	.33	
	N	45	

**** Correlation is Significant at 0.05 level (2-tailed)**

Correlation results

The values for p - for the two tests are identical. In light of these findings, a positive correlation is there between forensic auditing and fraud detection at ZESA, evidenced by (.307). However, the significance is (.33) which shows that, forensic auditing is very low and this has an effect on fraud. The Pearson correlation coefficient is equivalent to a particular shortcut formula called the point-biserial correlation that is used to calculate the correlation between a binary and continuous variable.

Chi-square and correlation significance tests will not always yield the same statistical conclusion, but they frequently do provide same statistical conclusion. In contrast to the significance test for correlation, which employs the t -distribution, chi-square tests are based on the normal distribution (note that $z^2 = \chi^2$). Given large sample sizes (e.g., $N > 45$) this will result in the same t and normal z -distributions (or, at least, extremely close). As determined by the computations made above, the correlation coefficient between forensic auditing and fraud detection is equal to (.307***) and taking into consideration that the level of significance is greater than (0.05).

After carrying out a comprehensive examination of the data that was obtained and presented, it emerged that:

- Forensic auditing is very handy in detecting fraud in SOEs.
- Forensic auditing is mainly the mechanism to detect and prevent fraud in SOEs.
- Positive relationship exists between forensic auditing and fraud detection and prevention.
- There is a chance that internal controls may not be effective in fraud detection and prevention executed by employees or individuals caused by various reasons.

- The auditing of material misstatement performed by management may be difficult as management may be involved in the fraud scandal and they might opt not to disclose or they might conceal the fraudulent act.

The findings concur with Sule et al., (2019) who noted that, forensic auditing plays a crucial role in detecting and preventing fraud. The same was also observed by Saifullah and Abbas (2020) who noted that, 60% of the respondents said forensic auditing helps to detect and prevent fraud.

8. Conclusion

Based on the findings it can be concluded that, forensic auditing has got a significant positive correlation relationship in fraud detection in SOEs. It was found that, forensic auditing although used by ZESA it is not properly being effectively implement to detect and prevent fraud. • Forensic auditing could be seen as a necessary benchmark in providing evidence where fraud is prevalent especially in state owned enterprises and this evidence could be helpful in support litigation services. Despite being expensive, regular forensic audits can help these state owned business cut back on fraud.

9. Recommendations

From the findings outlined, the researcher recommended the following pertaining to ZESA and its subsidiaries to alleviate fraudulent activities and all crime related malpractices.

- Regular rotation of external auditors might help in auditor's independence maintenance and so as a result ensuring its objectivity is not compromised.
- State owned enterprises should enhance and change their organizational structures to enable greater integration with forensic auditing department responsibilities. To detect fraud, a more hands on approach is required, so adequate structures and regulations

are essential to distinguish and direct the activity of the forensic auditing section from some. This will make sure that there is no interference between the forensic department's work and conflict of interest of the company.

- Strategies to fraud detection and prevention should start with the board of directors and the management. Management should adopt a proactive strategy for detecting fraud by adopting a clear tone regarding fraud. So all stakeholders must be informed of the company's policies and procedures. The tone at the top encourages whistle blowers when there is a notice of a red flag and makes it easier for forensic auditors to identify fraud. It is important to create a company fraud policy that instructs staff members on what to do if fraud is detected. Such a policy outlines the company's fraud management strategy and makes it clear that no one has the right to commit fraudulent acts, not even for the company's advantage.
- Management and staff should receive training on identifying fraud and strategies to prevent it. They learn about the signs of fraud in the training and the necessary actions they should take. Also, they should receive training on the company's procedures along with internal controls. Employees should be informed of the repercussions of engaging in fraud, as this will help make sure they abide by the rules and policies that have been established.

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