

IS FRAUD INVESTIGATION AS A FRAUD MITIGATOR? EVIDENCE FROM PUBLIC SECONDARY SCHOOLS IN KENYA

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Abstract: In secondary schools in Kenya, this study used Embu County as its study context to investigate the relationship between fraud investigation and fraud mitigation. In order to collect quantitative data for the study, a closed questionnaire was used, and the respondents' level of agreement with the constructs was gauged using a Likert scale of one to five. The gathered information was examined with SPSS and displayed in a table. The findings showed a mean response of 3.24 out of 5.00, which indicated a high degree of confidence that the majority of schools maintained a fraud risk assessment record. The majority of schools also undertook proactive audits in advance to stop fraudulent activity, with a mean response of 3.57 out of 5.00. The study also demonstrated that, when fraud investigation was maintained constant, fraud mitigation was explained by 3.665, with an increase in fraud investigation leading to a 0.029-unit drop in fraud mitigation. Overall, the results indicate that fraud investigation is essential for reducing fraud in secondary schools and that proactive audits and risk assessments for fraud should be given top priority in schools.

Keywords: Fraud Investigation, Fraud Mitigation, Public Secondary Schools

1. INTRODUCTION

The importance of a successful fraud investigation in the fight against fraud in Kenya's Embu County's public secondary schools cannot be overstated. We may unleash a potent force for positive change and gain new insights into fraud prevention and detection by investigating the influence of this important instrument on fraud mitigation. We can ensure a better future for future generations by reaffirming the importance of fraud detection in establishing an equitable and open educational system.

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To determine whether fraud has been committed and to gather factual evidence to back up the conclusions, fraud investigators use forensic techniques and tools (Silverstone, Horward, & Michael, 2004). Data mining and the Enclose tool are just two of the fraud investigation approaches used in forensic accounting practices. Encase Tool is a forensic accounting toolkit used to examine digital media during investigations, including discs, database servers, and flash discs. The tool is a pioneer in e-discovery, cyber security, and digital forensics (Oliver & Shanoi, 2006).

Data mining is the process of sifting through enormous amounts of data to find patterns (Wells & Joseph, 2006). The tool is used to identify patterns and connections between data. When expertly analyzed, data can reveal vital information about an organization. As a result of the data analysis, forensic accountants can create fraud profiles from the patterns in the database, which will enable the investigator to identify fraudulent activity. Additionally, it can be useful to display any warning signs that data discrepancies may exist.

Kenya's public sector has a long history of widespread corruption and fraud, which has cost the country's taxpayers a lot of money. The auditor general study states that fraud costs Kenya over \$4 billion a year. More than half the KSH in 2013 went to victims in the public sector. Since technology has made crime easier, there have been 4.1 billion frauds in East Africa (Omondi, 2013).

The effect of forensic accounting on an organization's performance has drawn the attention of academics (Gbegi & Habila, 2017; Mohamed et al., 2019). Kolapo and Olaniyan (2018) concentrated on how fraud investigations affect an organization's performance. In 2018, Abdullahi and Mansor carried out a study on the fraud prevention measures implemented by businesses. The results of the Gbegi and Habila (2017) study were used to assess the impact of evidence forensic accounting on litigation support services. These findings unmistakably highlight a conceptual gap that this study aimed to solve by demonstrating the impact of fraud investigation on fraud mitigation in public secondary schools in Embu County, Kenya.

2. LITERATURE REVIEW

Through the use of investigative techniques, Omar et al. (2013) assessed the effect of forensic accounting practices on fraud mitigation for institutions in Malaysia. As a result, the study used well-designed questionnaires to gather information from 50 respondents. The chosen states were the subject of a survey. For instance, the ministry of education in the Klang Valley undertook a fraud probe. According to the study's conclusions, forensic accounting practice was

a crucial element in helping the nation combat fraud and lower its crime rate. However, it was difficult to apply the study to Kenyan educational institutions because of the various geographical scopes and legal organizations.

Bangladeshi fraud and corruption can be found using forensic accounting, according to research by Islam, Rahman, and Hossan (2021). To find and stop fraud, it used technologies for fraud investigation. The study used structured questionnaires from 100 respondents to assess the level of corruption and deceit in the nation. The study concluded that implementing forensic accounting practices might dramatically lower the rate of corruption and exploitation.

A study on the usefulness of forensic accounting for identifying and preventing fraud in emerging economies was done by Julius and Stanley in 2021. The study employed a descriptive research design and concentrated on the Nigerian context. A well-designed questionnaire was used to obtain primary data from 250 respondents for the study as well. The results of the study revealed that by concentrating on forensic accounting techniques, fraud may be greatly reduced. The report also asserted that forensic accounting could guarantee the incorporation of characteristics like relevance and transparency. The detection of economic and financial abnormalities in Nigerian sectors was found to benefit from fraud investigation aided by forensic accounting techniques.

Omondi (2013) conducted research in Kenya on the effect of forensic accounting services on fraud prevention and detection. Investigative techniques were used to identify and stop fraud at Kenyan commercial banks. The study used inferential statistics to analyze primary data from 47 respondents using a descriptive research design methodology. The results of the study revealed that forensic accounting practices might considerably lower the rates of corruption and crime, particularly bogus expenditure claims. The analysis revealed a large gap in Kenya's auditing criteria.

In 2014, Kyalo, Kalio, and Ngahu performed a survey study in Nakuru County, Kenya, to examine how fraud prevention might improve the quality of financial reporting by national governments. The goal of the project was to improve financial reports through investigative techniques. As a result, a descriptive research methodology was used in the study. 106 people were surveyed using a standardized questionnaire to gather data. Accountants and officers in charge of procurement made up the respondents. The results of the study revealed that improving financial statements helped with fraud identification and prevention.

In their study, Waihinya and Ondigo (2017) examined how forensic accounting services affected listed companies on the Nairobi Securities

Exchange. The study's main objective was to evaluate how forensic accounting was utilized in conjunction with investigative techniques to reduce fraud. A straightforward questionnaire was used to gather information from the 61 NSE-listed companies. The results of the study indicated that effective internal controls were helpful in maximizing fraud mitigation strategies. Like this, the study made the point that regular internal control monitoring increases the risk of fraud since fraudsters can spot it and use it to their advantage. Even though the study's results were obtained in Kenyan commercial banks, they nonetheless have relevance for governmental organizations. The primary factor was that both dealt with people's most important asset—money.

3. METHODOLOGY

Through closed and open-ended questionnaires, respectively, both qualitative and quantitative data were acquired. The use of a descriptive research strategy allows for a full analysis of the research problem's background. To determine the features and frequency of research variables, a descriptive approach was adopted. Since a descriptive design gave a thorough and systematic description of the population, circumstance, or phenomenon, it was useful.

The 137 public secondary schools in Embu County's accountants were the study's target population. Since the study's target group was rather small, a census of the 132 respondents was conducted. Census studies were favoured since they helped to eliminate sample problems and allowed for the impartial generalization of data (Orodho, 2014).

The basic data for this study came from a survey that included both open-ended and closed-ended questions; a concurrent design was utilized to gather the data (Anandarajah, 2001). A standardized, closed-ended questionnaire was used to collect quantitative data. This study used multiple regressions to conduct descriptive and inferential analyses. To increase precision and accuracy, SPSS version 20 was required. The outcomes of the descriptive analysis were presented in tables and figures. In the context of the inquiry, the mean and standard deviation were the most important metrics of central tendency.

The study used multiple regression models to analyze data as shown below.

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where:

Y= fraud mitigation in public secondary schools in Embu

β_0 = intercept constant

β_1 - β_4 = Regression coefficients

X_1 = fraud investigation

ϵ = error term

4. STUDY FINDINGS

Results of the response rate, respondents' demographics, and the research variable are presented in this section. According to the gender, age, and educational level specified by the study's respondents, the conclusions on the demographic characteristics of the respondents are reported.

4.1. Response rate

Only 120 of the 132 administered questionnaires had all the answers completed when they were returned. This information was gathered from the 120 accountants indicated in the appendix who work for various secondary schools in Embu County. This reflected a 90.91 percent return rate for the surveys that were sent out.

Since Hennink et al. (2020) claimed that a response rate of 50% was sufficient for analysis, the response rate was regarded as sufficient. The administration of the questionnaire with numerous follow-up calls to clarify any unclear questions was credited with the high success rate, which in turn enhanced the high response rate. The findings are shown in Table 1.

Table 1: Response Rate

| <i>Rate Response</i> | <i>Responses</i> | <i>Percentage</i> |
|----------------------|------------------|-------------------|
| Returned | 120 | 90.91% |
| Not returned | 12 | 9.09% |
| Total Distributed | 132 | 100.0% |

4.2. Demographic characteristics of the respondents

Gender of respondents

The purpose of this study was to identify the respondents' gender distribution. Out of the 120 responses, 62 were discovered to be female. This accounted for 51.7% of the survey participants. Male responders made up 48.3% of the total. This result suggests that both male and female respondents were included in the survey, proving that it was not biased towards either gender. Table 2 displays the results:

Table 2: Gender of respondents

| | | <i>Frequency</i> | <i>Percent</i> | <i>Valid Percent</i> | <i>Cumulative Percent</i> |
|-------|--------|------------------|----------------|----------------------|---------------------------|
| Valid | Female | 62 | 51.7 | 51.7 | 51.7 |
| | Male | 58 | 48.3 | 48.3 | 100.0 |
| | Total | 120 | 100.0 | 100.0 | |

Table 2 presents respondents' gender distribution. Out of the 120 respondents, it was discovered that 62 were women. 51.7% of the respondents constituted this group. Men made up 48.3% of the responses. This result suggests that both male and female respondents were included in the survey, indicating that there was no gender bias.

4.2.2. Age of respondents

According to the survey findings, many accountants were in the 35–44 age range, with a percentage of 47.5%, followed by those in the 25–34 age range with a percentage of 25.0%. This may be explained by the fact that, according to a 2019 study from the Kenya National Bureau of Statistics, people in these age groups make up the bulk of the nation's population. According to the findings of the respondents' ages, both age groups were represented in this survey, indicating that there was no bias in favor of any one age group. The results are displayed in Table 3:

Table 3: Age of respondents

| | | <i>Frequency</i> | <i>Percent</i> | <i>Valid Percent</i> | <i>Cumulative Percent</i> |
|-------|------------------|------------------|----------------|----------------------|---------------------------|
| Valid | 18-24 years | 5 | 4.2 | 4.2 | 4.2 |
| | 25-34 years | 30 | 25.0 | 25.0 | 29.2 |
| | 35-44 years | 57 | 47.5 | 47.5 | 76.7 |
| | 55 years & above | 28 | 23.3 | 23.3 | 100.0 |
| | Total | 120 | 100.0 | 100.0 | |

4.2.3. Respondents level of education

This study aimed to determine how long an accountant had been employed by a school and to assess instances of fraud and the methods employed to mitigate it. According to the study's findings, 46.7% of the respondents have worked for a company for more than three years. This might have been caused by the application of improved fraud mitigation techniques. These results imply that the respondents had the necessary experience to adequately answer the study's questions. Table 4 displays the results:

Table 4: Respondents highest level of education

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

4.3. Descriptive statistics on fraud investigation and fraud mitigation

This section investigated whether proactive audits in high-risk areas, regular investigations into any red flags discovered during routine audits, the maintenance of risk assessment registers by schools, digital forensics on electronic devices, and data analysis of transactions to spot any unusual trends could reduce fraud in public secondary schools in Embu County, Kenya.

Statements about the methods mentioned were given to the respondents, and they were asked to indicate how much they agreed or disagreed with the statement regarding the fraud investigation. They were instructed to use the following numerical codes: 1 for “strongly disagree,” 2 for “disagree,” 3 for “neither agree nor disagree,” 4 for “agree,” and 5 for “strongly agree.” The conclusions discovered using the data that was gathered are shown in Table 5 below. To analyze and present the results of the various processes utilized, Table 5 was used.

Table 5: Descriptive statistics for fraud investigation

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

The analysis of the data from the 120 respondents showed that 67.5% strongly agreed and agreed that their institutions regularly looked into any red flags found during routine audits. 10.8% of respondents didn't seem to agree or disagree that routine investigations were carried out in case red flags were found. The outcomes of the findings are shown in the table above.

The average score for all responses to the question was 3.24 out of 5, which indicates that most institutions maintained a register for assessing the danger

of fraud. When asked whether their universities performed digital forensics on electronic devices, 44.2% of respondents said they disagreed or strongly disagreed. The adoption of manual finance processes may have contributed to this. 13.3% of the respondents were undecided, meaning they had no opinion. The average of the responses was 2.98/5.00, which was a little higher than typical. The degree of confidence in the results is not relevant when deciding whether to support or oppose the use of digital forensics in financial systems.

Instead of waiting for a fraudulent activity to occur, which would cause the organization to lose its assets and force them to start the whole auditing process, proactive auditing is done on financial systems when fraud risks are found. With the help of the data gathered, most schools conducted proactive audits in advance to make sure that fraudulent activity wouldn't bring down their systems. The replies that were gathered have a mean score of 3.57 out of 5.00.

A key technique for spotting anomalous patterns in financial data that may be caused by fraud is transaction analysis. Analyzing the transaction gives the opportunity to find the culprits who might be held accountable. Out of the 120 respondents, 94 agreed or strongly agreed that their schools analyzed transaction data to look for any unusual trends. This corresponds to 78.3% of the participants. These figures attest to the efficacy of data analysis in identifying anomalous patterns that can indicate fraudulent actions using financial data.

A crucial stage in ensuring that people with high integrity are hired for the institution is employee recruitment. The typical hiring process starts with public notices of open positions, followed by applications from the public, shortlisting, interviews, and the announcement of the findings. This allows for the hiring of all qualified personnel. 48 respondents said they had observed this procedure being used. 52 more people volunteered because interviews were a requirement for hiring. The combined proportion of the two groups is 83.3%. This suggests that most of the schools used the proper hiring standards.

This study found that even though most schools used forensic accounting techniques, there were still several fraud incidents. Considering this, the study deviates from Nwankwo's (2013) study on fraud mitigation, which found that forensic accounting techniques could reduce fraud in public organizations. In addition, it concurs with Gilboa (2012) that a shift in an employee's behaviour could be a sign of a crime in progress.

4.4. Regression analysis on the influence of fraud investigation and fraud mitigation

For the results of fraud investigation and fraud mitigation, a regression analysis was done. The model is not significant in explaining the variables,

as can be observed from the p value being greater than 0.05. Because of the regression analysis's non-significant findings, it is not possible to conclude that fraud investigation at Kenya's public secondary schools has a direct and meaningful impact on fraud mitigation. This is because neither the study's variables nor its focus are statistically significant. The study came to the conclusion that fraud detection is not relevant because it failed to disprove the null hypothesis.

Several contextual factors may be to blame for the regression analysis's lack of significance. According to Omondi (2013), Kenya's public secondary schools operate in a variety of settings with a range of resources, administrative procedures, and socioeconomic circumstances. Understanding these tiny differences is crucial for creating effective fraud prevention techniques. Kenya's public secondary schools can implement worldwide best practices and compare their anti-fraud initiatives to those of other nations' effective models. This could make it easier to find successful tactics that the current study might not have taken into account. The equation for the linear regression is $Y=3.665-0.029X1$. This shows that fraud mitigation is explained by 3.665 when fraud investigation is kept constant. Every unit increase in fraud investigation results in a 0.029-unit reduction in fraud mitigation.

According to the regression analysis's findings, schools should adopt a multifaceted strategy for preventing fraud rather than relying exclusively on statistical models. According to Waihinya and Ondigo (2017), these include a combination of policies, practices, internal controls, employee training, and community engagement. According to the findings, secondary public schools should concentrate on establishing reliable internal controls that offer checks and balances in financial operations. These consist of strict approval procedures for expenditures, regular reconciliations, and division of labour. The results are shown in Table 6

Table 6: Regression analysis

| <i>Model</i> | <i>Unstandardized Coefficients</i> | | <i>Coefficients^a</i> | | <i>t</i> | <i>Sig.</i> | <i>Correlations</i> | | |
|--------------|------------------------------------|-------------------|----------------------------------|--|----------|-------------|---------------------|----------------|-------------|
| | <i>B</i> | <i>Std. Error</i> | <i>Standardized Coefficients</i> | | | | <i>Zero-order</i> | <i>Partial</i> | <i>Part</i> |
| | | | <i>Beta</i> | | | | | | |
| 1 (Constant) | 3.665 | .640 | | | 5.723 | .000 | | | |
| X1 | -.029 | .072 | -.037 | | -.403 | .688 | -.036 | -.037 | -.037 |

a. Dependent Variable: Y

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

Despite the fact that the regression analysis did not clearly establish a link between an inquiry and fraud mitigation, it does nonetheless highlight the necessity of a comprehensive and specialized strategy for fraud prevention in Kenya's public secondary schools. The findings support the importance of fraud detection and prevention in Kenya's public secondary schools. Schools may greatly improve their capacity to prevent and identify fraud by putting in place a variety of preventative measures, internal controls, community participation, and technological solutions. These controls must be ongoing procedures requiring constancy and adaptability.

5.2. Recommendations

Despite the study's non-significant results, it is essential to stress that the importance of fraud prevention and detection should not be underestimated. It is advised that future research activities employ a more thorough and complete data collection technique in order to strengthen the efforts in this field. This ought to cover a wider range of parameters and a larger sample size, providing a more in-depth understanding of the elements impacting fraud prevention and detection in Kenya's public secondary schools.

The study also suggests that a longitudinal study be carried out because it might be quite valuable in this area. Researchers can find patterns and evaluate the long-term efficacy of fraud prevention strategies by observing trends and variations in fraud incidence over time. This longitudinal perspective could clarify how strategies change over time and point out where changes are needed to effectively counter new threats.

The report also urges schools, educational authorities, governments, and non-profit organizations to cooperate in order to build a group strategy to combat fraud. Finally, it suggests collaboration among stakeholders. In order to create effective and flexible fraud prevention techniques, this collaborative effort can entail exchanging best practices, combining resources, and utilizing collective experience.

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Conflict of Interest

There is no conflict of interest involved in the publication of this paper.

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