THE EFFECT OF INTERNAL CONTROL PROCEDURES ON FORENSIC AUDIT COST OF GENERAL INSURANCE COMPANIES IN KENYA

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ABSTRACT

The prevalent frauds in modern organizations have made traditional auditing and investigation insufficient in detection and prevention of the various types of frauds. The general objective of the study was to determine the effect of internal control procedures on forensic audit cost of general insurance companies in Kenya. The specific objectives included: the effect of access control on forensic audit cost, the effect of physical audit on forensic audit cost, the effect of separation of duties on forensic audit costs, and the effect of periodic reconciliation on forensic audit cost of general insurance companies in Kenya. From the findings, there was a very strong relationship between the access controls and forensic auditing costs of general insurance companies in Kenya as indicated by the Pearson Chi-square of 170.269 with degrees of freedom of 143 and a P Value of .040 with 95% confidence. The study also found a relationship between physical audits and forensic audit costs as indicated by the Pearson Chi-square of 155.939 with a degree of freedom of 165 and an asymptotic significance of P = 0.048. The researcher found out that there was no statistically significant association between separation of duties and forensic audit costs as shown by the Pearson Chi-square of 120.522 with a degree of freedom of 121 and an asymptotic significance of P = 0.494. The researcher found out that there was a relationship between periodic reconciliation and forensic audit costs as indicated by the Pearson Chi-square is 159.161 with a degree of freedom of 143 and an asymptotic significance of P = 0.033. Therefore, the study concludes and recommends more emphasis be made on access controls, physical audits and periodic reconciliations in order to reduce organizational frauds, which lead to increased high costs of audits.

Keywords: General insurance companies, forensic audit cost, access control, periodic reconciliation, separation of duties

INTRODUCTION

The incidence of fraud continues to increase across private and public-sector organizations and across nations. Fraud is a universal problem as no nation is resistant, although developing countries and their various states suffer the most pain. Modern organized financial crimes have appear in form of employee theft, payroll frauds, fraudulent billing systems, management theft, corporate frauds, insurance fraud,
embezzlement, bribery, bankruptcy, security fraud (EFCC, 2004), among others, taking the center stage in the scheme of things; and on the scale of private, public and governmental preference. Financial crimes today have grown wild, and the emergence of computer software coupled with the advent of internet facilities has compounded the problem of financial crimes. Besides, the detection or minimization of these crimes are made more difficult and committing these crimes much easier (Izedonmi & Ibadin, 2012).

The prevalent frauds in modern organizations have made traditional auditing and investigation inefficient and ineffective in the detection and prevention of the various types of frauds confronting businesses world-wide (Onuorah & Appah, 2012). Therefore, fraud requires more sophisticated approach from preventative to detection. One of the modern approaches that can be used from the prevention to detection is called forensic accounting.

According to Joshi (2003), the term “forensic accounting was coined by Peloubet (1946), who said it is the application of accounting knowledge and investigative skills to identify and resolve legal issues. It is the science of using accounting as a tool to identify and develop proof of money flow. These tools and/or techniques, skills and knowledge can be invaluable for fraud and forensic accounting investigators.” Forensic accounting is the integration of accounting, auditing and investigative skills.

According to Insurance Regulatory Authority (2015), Insurance Fraud Investigation Unit (IFIU) report, the total number of cases reported in 2015 were One hundred and six (106), worsening by 21.8% from the eighty seven (87) cases reported in 2014. The amount involved aggregated to KES 366.90 million increasing from KES 102.76 reported in 2014. Personal needs, social needs, economic needs and the need to meet compensation-based targets provide some incentive to lay insurance claims. For example, Denis et al. (2005) and Johnson et al. (2003) find that compensation pressures and incentives are significantly associated with firms that have a fraud history. Hernandez and Groot (2007) find some association between the use of incentive systems and fraud risk.

STATEMENT OF THE PROBLEM

Forensic auditing is assistance in disputes regarding allegations or suspicion of fraud, which are likely to involve litigation, expert determination, and enquiry by an appropriate authority and investigations of suspected fraud, irregularity or impropriety which could potentially lead to civil, criminal or disciplinary proceedings.

According to the insurance regulatory authority (2017), annual report on the performance of insurance companies it reported insurance companies spent over KES 676.90 million as audit cost increasing from KES 202.76 million reported in (2015). Most studies on forensic auditing have dealt with forensic accounting as a tool to curb fraud in organizations. However, these studies have not indicated whether internal controls procedures can help to raise or lower the forensic auditing costs. There is lack of clarity as to how access control, physical audits, separation of duties and periodic reconciliation as internal controls affect forensic audit costs in the insurance industry in Kenya. This study therefore is aimed at filling this gap by conducting a thorough study on the effects of internal control procedures on forensic audit costs of general insurance companies in Kenya.

STUDY OBJECTIVES

The general objective of the study was to determine the effect internal control procedures on forensic auditing costs of general insurance companies in Kenya. The specific objectives were;
1. To determine the effect of access controls on forensic audit costs of general insurance companies in Kenya.
2. To evaluate the effect of physical audits on forensic audit costs of general insurance companies in Kenya.
3. To evaluate the extent of separation of duties on forensic audit costs of general insurance companies in Kenya.
4. To establish the effect of periodic reconciliations on forensic audit costs of general insurance companies in Kenya.

Research Hypothesis

The study was guided by the following hypotheses:

\( H_01 \) – Access controls have no significant effect on forensic audit costs of general insurance companies in Kenya.

\( H_02 \) – Physical audits have no significant effects on forensic audit costs of general insurance companies in Kenya.

\( H_03 \) – Separation of duties has no significant effects on forensic audit costs of general insurance companies in Kenya.

\( H_04 \) – Periodic reconciliations have no significant effects on forensic audit costs of general insurance companies in Kenya.

LITERATURE REVIEW

The following theories guided the study:

Fraud Triangle Theory

Fraud Triangle Theory was established by Cressey (1959). The theory posits that fraud offenders can be categorized into: Independent businessmen, long term violators, and absconders. Independent businessmen are involved in borrowing and they keep the funds for themselves, while long term violators are involved in borrowing to protect family (Ewa, & Udoayang, 2012). The absconders take the cash and run and they are normally unmarried, antisocial people who fault outside impacts or individual deformities for their activities. Pressure is financial, vice and work related while opportunity is in the controls around the working environment, accounting and procedures. Opportunity is also affected by performance apprehension because view of location is the best impediment (Fish, 2012). Shrouded controls don't deflect fraud and the controls can't be unsurprising. This theory is applicable to this study based on the assumption that insurance companies in Kenya can establish internal audit functions like; proactive fraud audits, compliance to policies, risk management and reliability of financial reporting to detect fraudulent activities among their clients thus enhancing their profitability.

Agency Theory

The agency relationship is based on the agency theory of (Jensen & Meckling, 1976). They define the agency relationship as "a pact under which one or more persons (the principal(s) engage another person (the agent) to perform some service on behalf of the principal which involves delegating some decision-making authority to the agent". There three components of this definition given by Jensen and Meckling (1976) are existence of a contract between a principal and an agent, performance of a service and delegation of decision-making authority.
The objective of agency theory is to design a contract that minimizes the cost of service performed by the agent to the principal.

**Institutional Theory**

Institutional theory, offers a contrasting explanation that may be used to understand the adoption and design of control practices within organizations. This theory, more sociological in character, originates from work done by Meyer and Rowan (1977) and DiMaggio & Powell (1983). It has been said that institutional theory is becoming an important theoretical perspective in accounting and organization theory research Dillard, Rigsby and Goodman (2004). According to this theory, organizations develop and design structures, processes and systems not primarily based on rational economic cost benefit analysis, but because they are more or less required incorporating new practices and procedures.

According to Meyer and Rowan (1977) this means that organizations are driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organizational work and institutionalized in society.

**Conceptual Framework**

A conceptual framework is a research tool envisioned at assisting a researcher to develop awareness and understanding of the situation under enquiry and to communicate it. When clearly articulated, a conceptual framework has prospective usefulness as a tool to assist a researcher to make meaning of consequent findings. It explains the possible connections between the variables (Smith, 2004).

**Independent Variables**

- **ACCESS CONTROLS**
  - Approval authority
  - Policies and procedures
  - Use of passwords
  - Electronic access logs
  - System lockouts

- **PHYSICAL AUDITS**
  - Physical asset track/hard counting
  - Insurance policy reviews
  - Standardized documents

- **SEPARATION OF DUTIES**
  - Clear defined roles
  - Independent review of claims
  - Compatibility of duties

- **PERIODIC RECONCILIATIONS**
  - Bank reconciliation
  - Time taken between reconciliation
  - Variations from budget

**Dependent Variable**

- **FORENSIC AUDIT COSTS**
  - Total Costs
RESEARCH METHODOLOGY

This study adopted a descriptive survey research design. Connaway and Powell (2010) noted that descriptive study helps to accurately incorporate the individual characteristics of the objects under the study. A questionnaire was designed and administered to assess the effect of internal control procedures on forensic audit costs. The population of the study was the 47 general insurance companies registered by the insurance regulatory authority. A multiple linear regression using SPSS was then applied to analyze the effect of internal control procedures on forensic audit cost. Every value of the independent variable $x$ is associated with a value of the dependent variable $y$. This relationship was summarized as follows:

$$ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + E $$

Where:

$Y$ = Forensic Auditing Costs

$\beta_0$ = Constant

$X_1$ = Access controls

$X_2$ = Physical Audits

$X_3$ = Separation of duties

$X_4$ = Periodic Reconciliations

$\beta_1, \beta_2, \beta_3, \beta_4 =$ Regression co-efficient

$E$ = Error term

RESULTS AND DISCUSSIONS

Reliability Tests

Reliability measures the degree to which a research instrument yields consistent results or data after repeated trials (Mugenda and Mugenda, 2003).

Table 1 Reliability

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach alpha</th>
<th>N items</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Controls</td>
<td>.803</td>
<td>11</td>
<td>Accepted</td>
</tr>
<tr>
<td>Physical Audits</td>
<td>.752</td>
<td>7</td>
<td>Accepted</td>
</tr>
<tr>
<td>Separation Of Duties</td>
<td>.775</td>
<td>4</td>
<td>Accepted</td>
</tr>
<tr>
<td>Periodic Reconciliations</td>
<td>.894</td>
<td>7</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Validity test was done to ensure that the degree with which a measurement procedure or a questionnaire measures the characteristic it is intended to measure (Lewis, 1999). These include, content, construct, and criterion validity (Orodho, 2009).

Summary statistics for forensic audit cost

Access control

The researcher issued statements regarding to access controls implemented by the insurance firms in Kenya to indicate the extent to which respondents agreed or disagreed in a scale of 1 to 5 and the results were summarized in table 2.
The findings indicated that majority of the respondents agreed that they have policies and procedures in place that safeguard their assets with a statistic mean of 2.04 having a standard error of 0.182 and a standard deviation of 1.241. The standard deviation in this case was not large enough and therefore meant that the variable concentrated across the mean. In this case, the standard error of the mean provided a rough estimate of the interval in which the population mean is likely to fall. The standard deviation indicated that there was deviations of the desired variables from the mean. On the other hand, the researcher determined the skewness which in this case had a statistic value of 1.214, an indication that the responses were skewed towards the left with a standard error of .347. The results therefore depicted that most of the insurance companies had policies and procedures in place to safeguard their assets from fraud activities. Such kind of a measure is seen to reduce the forensic auditing costs in the insurance companies thus making them to reduce their costs of operations.

However, on the fact that insurance companies had biometric access control devices within their institutions to help in fraud detection, the findings indicated that majority of the respondents disagreed with a mean of 3.36 with a standard error of .198 and a standard deviation of 1.358. Again, the variables concentrated across the mean with a negative skewness of -0.483 and a constant standard error of .347. A Biometric device is a security identification and authentication device. Such devices use automated methods of verifying or recognizing the identity of a living person based on a physiological or behavioral characteristic. These characteristics include fingerprints, facial images, Iris prints and voice recognition.
On the other hand, the researcher wanted to determine the extent to which respondents agreed or disagreed to
the fact that their access control system provided real time monitoring and reporting of access control events. The respondents agreed with a mean of 2.19 and a standard error of .163 and a standard deviation of 1.116. The findings indicated a skewness of 1.173 with a standard error of .347. Most insurance companies invest heavily on access control systems because they know that these systems provide real-time monitoring of access control events. On the other hand, organizations are keen to reduction of their operational costs, and if they begin by reducing their audit costs, it therefore means that in turn their operational cost is reduced. This explains the reason to investing in access control systems.

**Summary statistics for physical audit**

The researcher conducted summary statistics for physical audit on forensic audit cost to examine the degree with which they agreed or disagreed with them in a scale of 1 to 5 as indicated below:

**Table 3: Physical Audits**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our insurance company does regular head count of physical assets track</td>
<td>2.53</td>
<td>.197</td>
<td>1.349</td>
</tr>
<tr>
<td>Our insurance company recruits people with knowledge in fraud detection</td>
<td>2.28</td>
<td>.179</td>
<td>1.228</td>
</tr>
<tr>
<td>Our insurance company recruits people with experience in fraud detection</td>
<td>2.27</td>
<td>.171</td>
<td>1.174</td>
</tr>
<tr>
<td>Our insurance company does regular insurance policy reviews</td>
<td>1.45</td>
<td>.203</td>
<td>1.393</td>
</tr>
<tr>
<td>Our insurance company does frequent audits of its records e.g. Monthly</td>
<td>1.36</td>
<td>.189</td>
<td>1.293</td>
</tr>
<tr>
<td>Our insurance company acquaints the staff with the report findings of audits carried out is implemented.</td>
<td>2.56</td>
<td>.184</td>
<td>1.259</td>
</tr>
<tr>
<td>Action on recommendations of audits carried out is implemented.</td>
<td>2.23</td>
<td>.173</td>
<td>1.183</td>
</tr>
</tbody>
</table>

On regular hand count of physical assets and track, a significant aspect that minimizes the incidences of fraud, the respondents casts their doubt on this. This was because majority of them were neutral with a statistic mean of 2.53 and a standard error of 0.197. The finding indicated that the insurance companies may be doing a physical head count of their assets but not on a regular basis. The deviation from the mean was measured by a standard deviation of 1.349 which indicated that the variables concentrated across the mean.

On the other hand, the researcher was curious to identify the extent to which the respondents agreed or disagreed with the fact that the insurance companies recruited people with knowledge in fraud detection. The response elicited another neutral indication of a statistic mean of 2.28 with a standard error of .179 which showed that the statistic mean was not very far from the population mean. The finding also indicated a standard deviation of 1.228 and measured a skewness of .985 with its standard error of .347.

Apart from the employees having knowledge on fraud detection, the researcher was curious to know if the insurance firms employed staff that had experience in fraud detection. A similar response was produced. The finding from table 3 in this case registered a statistic mean of 2.28 which indicated that the majority of the
respondents were neutral to this statement. This registered a standard error of .171 and a standard deviation of 1.174. The skewness reported an .861 with a standard error of .347. The finding had an indication that insurance companies in Kenya did not differentiate between knowledge and experience in matters of detecting fraud when it comes to effecting employment. The finding also indicated that fraud was not a major issue in insurance companies so long as the organization has not come across it.

Table 4: summary statistics of Extent of Separation of Duties

Separation of duties was seen as an act of ensuring that each individual in the organization performs his own duty. Table 4 summarizes separation of duties in insurance companies.

<table>
<thead>
<tr>
<th>Separation of duties</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organization assigns different people responsibility for recording transactions</td>
<td>2.62</td>
<td>.198</td>
<td>.527</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.360</td>
<td></td>
<td>.347</td>
</tr>
<tr>
<td>Our organization assigns different people responsibility for maintaining custody of assets</td>
<td>2.47</td>
<td>.201</td>
<td>.587</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.381</td>
<td></td>
<td>.347</td>
</tr>
<tr>
<td>Our organization assigns different people responsibility for authorizing transactions</td>
<td>2.06</td>
<td>.176</td>
<td>1.118</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.205</td>
<td></td>
<td>.347</td>
</tr>
<tr>
<td>Our organization does not let the person initiating the insurance claim approve the payment</td>
<td>1.00</td>
<td>.155</td>
<td>.113</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.063</td>
<td></td>
<td>.347</td>
</tr>
</tbody>
</table>

The fact that the insurance companies assigned different people responsibility for recording transactions was met with varied reactions. Majority of the respondents cast their doubt on the statement since the mean value was 2.62 with a standard error of .198 and a standard deviation of 1.360. The finding indicated that most organizations either assigned different people responsibilities for recording transactions or did not. The finding was skewed to the right by registering a skewness value of .527 and a standard error of .347.

The finding meet with a standard deviation of 1.318 which indicated that the response was concentrated across the mean.it also registered a skewness value of .587.

This was true after the finding proved the agreement to the statement by registering a mean of 2.06 with a standard error of .176 and a standard deviation of 1.205 and skewness of 1.118. the study therefore advices that for purposes of accountability and an enabling environment for separation of duties, the insurance companies should embrace the act of assigning different people responsibility of authorizing transactions as opposed to one person.

This could be the reason why an overwhelming majority strongly agreed with the statement by registering a mean of 1.00 with a slight standard error of .155 and a standard deviation of 1.063.
Table 5: Summary Statistics of Periodic Reconciliation

The researcher posed statements regarding to periodic reconciliation to the respondents to understand the extent to which they agreed or disagreed to them and the results were summarized in table below:

<table>
<thead>
<tr>
<th>Periodic Reconciliation</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Error</td>
<td>Mean</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Our institution conducts bank reconciliation regularly</td>
<td>1.98</td>
<td>.134</td>
<td>.921</td>
</tr>
<tr>
<td>Our institution conducts creditors reconciliation frequently</td>
<td>1.85</td>
<td>.129</td>
<td>.884</td>
</tr>
<tr>
<td>Our institution conducts debtors reconciliation frequently</td>
<td>1.81</td>
<td>.116</td>
<td>.798</td>
</tr>
<tr>
<td>There is frequent training of our staff in relation to forensic audit.</td>
<td>2.89</td>
<td>.167</td>
<td>1.147</td>
</tr>
<tr>
<td>Our Employees perform their duties with high professionalism</td>
<td>2.00</td>
<td>.122</td>
<td>.834</td>
</tr>
<tr>
<td>Claims handled by our employees are based on the organizations policies and regulations</td>
<td>2.60</td>
<td>.201</td>
<td>1.378</td>
</tr>
<tr>
<td>Our employees are aware of the risk assessment culture involved in forensic audit</td>
<td>2.02</td>
<td>.171</td>
<td>1.170</td>
</tr>
</tbody>
</table>

Majority of the respondents agreed with a mean of 1.98 and a standard error of .134 and a standard deviation of .921. The response elicited a skewness value of .917. The study went further a step ahead to examine if the insurance companies conducted regular creditors reconciliation. The finding indicated that a majority of the respondents agreed with a mean of 1.85 and a standard error of .129 with a standard deviation of .884. on regular debtors reconciliation, majority of the respondents also agreed with a mean of 1.81 and a standard deviation of .798.

Finally, the researcher wanted to examine if employees were aware of the risk assessment culture involved in forensic audit. Majority of the respondents agreed with a mean of 2.02 and a standard deviation of 1.170.

Regression Analysis

Table 6 Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-1.137</td>
<td>2.648</td>
<td>-.429</td>
</tr>
<tr>
<td></td>
<td>Access controls</td>
<td>.472</td>
<td>.091</td>
<td>.621</td>
</tr>
<tr>
<td></td>
<td>Physical audits</td>
<td>.120</td>
<td>.079</td>
<td>.181</td>
</tr>
<tr>
<td></td>
<td>Separation of duties</td>
<td>-.018</td>
<td>.136</td>
<td>-.019</td>
</tr>
<tr>
<td></td>
<td>Periodic reconciliation</td>
<td>.168</td>
<td>.109</td>
<td>.215</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Forensic audit costs
In fitting the regression model, the researcher determined the regression coefficients which showed the extent to which each independent variable contributed to the dependent variable. The independent variables were access controls, physical audits, separation of duties and periodic reconciliation against a dependent variable of forensic audit costs. From the regression coefficients, both access controls, physical audits and periodic reconciliation were significant at 0.05 significant levels. A regression equation was then fitted as follows:

\[ Y = -1.137 + 0.472X_1 + 0.120X_2 - 0.018X_3 + 0.168X_4 + \varepsilon \]

Where:
- \( Y \) = Forensic Accounting Costs
- \( X_1 \) = Access controls
- \( X_2 \) = Physical Audits
- \( X_3 \) = Separation of duties
- \( X_4 \) = Periodic Reconciliation

**CONCLUSION**

The study concluded that most of the insurance companies had not adopted technology in effecting their control devices. Consequently, the study concludes that most insurance companies in Kenya had secured their systems with passwords that enhanced protection of their data from fraudulent activities. Finally, the study rejects the null hypothesis by confirming that there existed a strong significant relationship between access controls and forensic auditing costs. For the insurance companies to minimize their forensic audit costs, it must enhance access controls to their systems.

Regarding physical audits and forensic audit costs, the study concluded that most insurance companies did regular head count of physical assets on a regular basis to track cases of fraud at the initial stages. Finally, a null hypothesis was rejected by confirming a strong significant relationship between physical audits and forensic audit cost.

Concerning the extent of separation of duties and forensic audit costs, the study concluded that insurance companies in Kenya did not assign different people responsibilities for recording transactions. It was discovered that in most insurance companies, it was not the same person who initiated the insurance claim approved the same payment thereby limiting cases of fraud.

Finally, regarding the effect of periodic reconciliation and forensic audit costs, the study concluded that majority of the insurance companies did their account reconciliations with third parties including banks, creditors and debtors. This was to enable them tally with the accounts of the third parties to avoid fraudulent payments to them. Equally, employees performed their duties with lots of professionalism thus avoiding fraud which in turn reduces costs of forensic audit. The study therefore concludes that there existed a strong significant relationship between periodic reconciliation and forensic audit costs. Insurance companies that did periodic reconciliations reduced their costs of forensic audit.

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