Effect of Control Environment on Fraud Detection and Prevention at University of Eldoret, Kenya

[1]*Caroline Jemeli Koech &,* [2]*Kimani E. Maina*

[1]Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

[2] Lecturer, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

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[1]Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya
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Abstract

Internal controls help the institution to understand the organization's structure, work, and authority flows. They are designed to provide reasonable assurance regarding the achievement of operational objectives. Cases of fraud have significantly increased in public universities due to weakness of internal controls functions. This study hinder the growth and ruin the reputation of institutions of higher learning in terms of performance and accountability. The study was conducted in order to determine the effect of control environment on fraud detection and prevention at University of Eldoret, Kenya. This study was founded on contingency theory. Descriptive survey research design was used. Target population was accountants and internal auditors, the accessible population had involve 34 accountants and internal auditors at the University of Eldoret. A pilot study was conducted in order to test the validity and reliability of the research questionnaire. Content validity was used as a validity test while reliability was tested using Cronbach's alpha coefficient. The study used primary data which was collected using structured questionnaires. Both descriptive and inferential statistics was used for data analysis. Descriptive statistical tools included frequencies, percentages, means, variances, and standard deviations. Inferential statistics included Pearson's Product Moment Correlation and multiple regression analysis. Results were presented in tables. Findings revealed that Control environment positively and significantly influence fraud detection and prevention in the institution (β = 0.528; p < 0.05). The study further recommends that the governing body, possibly supported by the audit committee, should ensure that the control environment is periodically monitored and evaluated. The study findings will guide the institution to reduce variance in budgets through better reporting and budgetary control measures that reduces cases of fraud. It is expected that the findings will improve on internal controls in the organization.

1.0 Introduction

Internal controls are systematic measures instituted by an organization to conduct business in an orderly and efficient manner, safeguard its assets and resources, to ensure accuracy and completeness of its accounting data (Committee of sponsoring organization, 2011). The system of internal controls should emphasize on, proper identification measurement and monitoring of risks, control activities for each level of operation, creation of reliable information systems that promptly reports anomalies and detailed reporting of all operations. (Opromolla & Maccarini, 2010). An institution's internal controls should have the

following as its components: Risk assessment, monitoring, and assurance, information and communication and control environment.

The control environment sets the tone of an organization, influencing the control consciousness of its people. Lack of integrity and good ethical values enhance the level of frauds. Organization structures establish expected standards of conduct and sets performance measures and incentives within control environment to reduce the potential for fraudulent behavior (Ebimobowei, 2012).It is the foundation for all other components of internal control, providing discipline and structure. Human resource policies and practices on authority limits and transaction level procedures to minimize frauds. Control environment factors include the integrity, ethical values and competence of the entity's people; management's philosophy and operating style; the way management assigns authority and responsibility, organizes and develops its people; and the attention and direction provided by the board of directors (Oswal, 2016).

Fraud is an intentional, unlawful act that is covered up or misrepresentation that causes a loss. Fraud detection is to discover fraud and misconduct when it occurs and fraud prevention is to hinder a person from acting in fraudulent activities. Fraud can be in form of asset misappropriation, corruption and financial statement fraud. Deterrence and prevention involves good division of responsibilities, supervision of staff, monitoring work performance and putting measures in place to ensure that even when systems are accessed that there is proper control (Josiah, 2012). Fraud is one of the most perverse occurrences in public institutions, especially when the management is wanting in its abilities to ensure the safety of the organization's assets. Fraud occurs because of combination of opportunity that is it occurs when there is weakness in internal controls, pressure and rationalization. Fraud can affect a company's finances and its image negatively (Petrascu & Tieanu, 2014).

Statement of the Problem

Internal controls are designed to provide reasonable assurance regarding the achievement of operational objectives such as effectiveness and efficiency of operations, accurate and reliable financial reports, and compliance with applicable laws and regulations. It safeguards resources against loss due to waste abuse, mismanagement, errors, and fraud (Thomson, 2015). However, embezzlement of funds in institutions of higher learning is still rampant, which are put in place and structured to deal with elements of fraud detection and prevention (Kamau, 2014). Embezzlement of funds in institutions of higher learning leads to high liquidity problems thus, arrears in part – time payment of lecturers, stalled development projects, lack of expansion and some being declared technically insolvent.

A study by Owalla (2015) on effectiveness of internal audits in public educational institutions in Kenya recommends that management training courses to involve the function of internal audit and boardroom diversity enhanced not only to improve on the management function but also on the audit function. Modibbo (2015) study impact of internal audit unit on the effectiveness of internal control system of tertiary educational institutions recommends that internal audit unit should be established as a separate department to serve as custodian of internal control system. Munene (2013) studied on effects of internal controls on financial performance of technical training institution and there was lack of information sharing and adequate measures to safeguard assets in the institution. However, most studies did not discuss the internal controls in institutions of higher learning. Therefore, this study determined the effect of internal controls on fraud detection and prevention at university of Eldoret, Kenya.

Objective

The objective of the study was to determine the effect of control environment on fraud detection and prevention at University of Eldoret, Kenya.

Research Hypothesis

H_{01}: Control environment has no statistically significant effect on fraud detection and prevention at University of Eldoret, Kenya.

2.0 LITERATURE REVIEW

Theoretical Framework

This section presents a discussion of theories, which form a basis for the conceptualized relationship between control environment on fraud detection and prevention. The theory is contingency theory.

Contingency Theory

Fred Fiedler developed contingency theory in 1964. It is the study of organizational behavior in which explanations are given as to how contingent

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factors such as technology, culture and the external environment influence the design and function of organizations. Contingency theory is used to describe the relationships between the context and structure of internal control effectiveness and organizational performance, especially reliability of financial reporting. The location of information in relation to technology and environment has an important influence on organization structure. In uncertain environments with non-routine technology, information is frequently internal. Where environments are certain, or where technology is routine, information is external. The dimensions of structure and control include authority structure and activities structure, i.e., rules and procedures that determine the discretion of individuals. Authority relates to social power. In the contingency model, decentralized authority is more appropriate where uncertain environments or non-routine technology exist. Centralized authority is more appropriate when environments are certain.

The assumption underlying contingency theory is that no single type of organizational structure is equally applicable to all organizations. Rather, organizational effectiveness is dependent on a fit or match between the type of technology, environmental volatility, the size of the organization, the features of the organizational structure and its information system. Empirical study suggests that internal auditors who are specialized and higher in internal audit ability achieve internal control effectiveness analysis and that the firm benefit from the organizational effectiveness via internal control mechanism efficiency. Identified some factors, which management control systems; these are external environment, technology, structure and size, strategy and national culture (Cadez & Guilding, 2008)

The theory suggests that the demands imposed by technical tasks in the organization encourage the development of strategies to coordinate and control internal activities. The functions also can vary considerably, depending on the area of a company under audit and the type of business model, so auditors must carefully manage their inspections and consider variables to get the job done. The contingency theory also can be applied to an audit team's structure. Typically, audit team managers receive audit projects. They then create ad hoc audit teams for the projects, selecting auditors based on expertise and experience in the

subject areas, and on auditor availability, all of which add up to contingencies for any given audit project (Daft, 2012).

Review of Empirical Studies
Influence of Control Environment on Fraud Detection and Prevention

Barra (2010) conducted a study on the impact of internal controls and penalties on fraud. The results showed that the presence of the control environment measures and separation of duties increases the cost of committing fraud. Thus, the benefit from committing fraud has to outweigh the cost in an environment of segregated duties for an employee to commit fraud. The findings show that the firm's least-cost scenario with managerial employees is to enforce maximum penalties. The firms least cost scenario with non-managerial employees is to use alternative internal controls while imposing minimum penalties. Despite the researcher indicating segregation of duties to charge the penalties, he failed to measure level of fraud with all internal audit functions.

Sarens and De Beelde (2016) conducted a study on internal controls in Belgium to illustrate the importance of the control environment when studying internal auditing practices. They found that certain control environment characteristics like tone-at-the-top, level of risk and control awareness, extent to which responsibilities related to risk management and internal controls are clearly defined and communicated are significantly related to the role of the internal audit function and fraud detection within an organization.

Ewa and Udoayang (2012) carried out a study to establish the impact of internal control design on banks'' ability to investigate staff fraud and staff life style and fraud detection in Nigeria. Data were collected from 13 Nigerian banks using a four point Likert Scale questionnaire and analyzed using percentages and ratios. The study found that Internal control design influences staff attitude towards fraud such that a strong internal control mechanism is deterrence to staff fraud while a weak one exposes the system to fraud and creates opportunity for staff to commit fraud.

William and Kwasi (2013) did a research on the significance of internal control in the rural banking sector. They wanted to examine whether effective internal control system is adopted by the bank in the Eastern Region of Ghana. The

population for this study included internal auditors, management, account personnel, and other staff in the bank. The employees at senior level, middle levels, and lower levels were included in the study too. The study concluded that the internal control systems assist management and auditors in executing their duties. Secondly, management establishes the internal controls by adopting policies and procedures with each system of control having specific functions to perform. Thirdly, the computers should be provided with passwords to provide security for the in formations of the bank to prevent fraudulent acts. Fourthly, auditors should employ professional judgment to asses and design audit risk procedures in order to minimize audit risks. Fifthly, substantive tests should be used by auditors to appraise the performance of internal accounting controls and identified weaknesses communicated.

Conceptual Framework

A conceptual framework is a concise description of a phenomena usually aided by graphic of major variables of the study. It shows the interaction of variables under study (Mugenda, 2008). The study had control environment as the independent variables while fraud detection and prevention at University of Eldoret, Kenya as dependent variable (Figure 1). It is hypothesized that the independent variables influence the dependent variables.
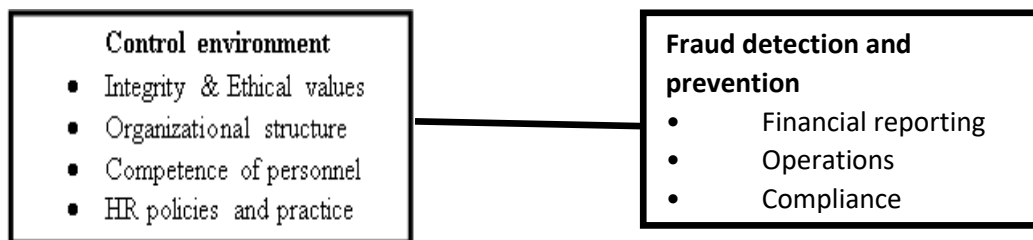
Fig; 2.1 Conceptual Framework

3.0 Research Methodology

Research Design

Research design defines the study type, research questions, hypothesis, variables, data collection methods, and a statistical analysis plan (Cooper & Schindler, 2004). This study used a descriptive survey research design. The importance of this research design would help because it accumulates findings from all forms of data while providing answers to various aspects being studied because of numerical and observational element is involved.

Population of the Study

According to Denzin and Lincoln (2014), the population in a study is the collection of people or elements onto which a measure is subjected in order to make inferences. Target population of this study comprises of all accountants and internal auditors in Kenya. Accessible population was accountants and internal auditors of the Univerity of Eldoret.

Census Survey

The study used census survey. A census survey collects complete information from all participants in the population. Its enable rare population and small groups. The study targets 34 accountants and auditors as respondents from University of Eldoret.

Data Collection Instruments

The study used self-administered questionnaire in order to gather primary data on internal controls on fraud detection and prevention. The questionnaire was based on a Likert scale while others were factual questions aimed at avoiding perceptions and bias. Such information is best described through questionnaires (Kothari, 2004).

Pre-Testing of Research Instruments

The pilot study refers to a small-scale preliminary study conducted in order to evaluate feasibility prior to performance of full-scale research. A pilot study was conducted to test the validity and reliability of research questionnaire. It involves 10% of the size of sample population (Kothari, 2004).

Validity

Validity is the degree to which findings truly represents the phenomenon you are claiming to measure. It ensures program operates on clean, correct, and useful data (Ofanson & Aigbokhaevbolo, 2006). Content validity of research questionnaire was enhanced by requesting industry experts and the supervisor to express an opinion on the terminologies used in the questionnaire.

Reliability

Reliability is the consistency with which a research instrument measures the content area it is intended to measure. The coefficient ranges from minimum (0.00) to maximum positive (1.00). A cronbach alpha of 0.7 was the benchmark of deciding whether the instrument is reliable. A coefficient above or equal to 0.70 is considered sufficient for most cases (Sreevidya & Sunitha, 2011).

Data Collection Procedures

After testing the validity and reliability of the research questionnaire, the researcher sought the consent of Jomo Kenyatta University of Agriculture & Technology and the management of various Universities within Eldoret Town. The research questionnaires were then be administered on the sampled respondents by the researcher in person.

Data Processing & Analysis

Data preparation was clean, sort code, transform and model data with the aim of identifying and highlighting useful information that can be used to support the decision making process (Barako, 2010). Analysis was through descriptive and inferential statistics. In particular, descriptive statistics include use of mean, frequencies and standard deviations. Inferential statistics include use of regression and correlation analysis. The tool of analysis used is statistical Package for Social Science (SPSS V.20). The results was presented using tables, pie charts and graphs to give a clear picture of the research findings at a glance. The following multiple regression was used;

$$Y = \beta_0 + \beta_1 X_1 + \mathcal{E} \ldots \ldots \ldots \ldots \ldots \text{Equation 3.1}$$

Where: Y represents (fraud prevention and detection)

β_0 represents the y-intercept

β_1, -represents coefficients of risk assessment, monitoring and assurance, information and communication and control environment respectively.

X_1 represents control environment

$\mathcal{E}$ represents the random error term

4.0 FINDINGS AND DISCUSSIONS

Descriptive Statistics

The study sought to find out views of respondents on control environment. The results are presented in Table 4.1

Table 4.1 Descriptive Statistics for Control Environment

	N	Min	Max	Mean	Std Dev
i. Great degree of integrity and ethical values are upheld in all organizational decisions	34	1	5	4.088	.712
ii. The organization has well defined hierarchical structure	34	1	5	3.382	1.498
iii. The organization has defined measures on skills and competence of staff	34	2	5	4.206	.729
iv. The organization has a human resource policy	34	1	5	4.029	.834

It study noted that respondents were in agreement that organization has defined measures on skills and competence of staff (mean = 4.206; std. dev = .729; variance = .532). It was also established that respondents were in agreement that great degree of integrity and ethical values are upheld in all organizational decisions (mean = 4.088; std. dev = .712; variance = .507). Respondents also agreed that the organization has a human resource policy (mean = 4.029; std. dev = .834; variance = 0.696). The accountants and internal auditors were also unsure of whether or not the organization has well defined hierarchical structure (mean = 3.382; std. dev = 1.498; variance = 2.243). The findings of the study concurred with the early study by Sarens and De Beelde (2016) on internal controls in

Belgium to illustrate the importance of the control environment when studying internal auditing practices. The study noted that control environment are positive and significant. The study revealed that organizational structures are well defined to the role of the internal audit function on fraud detection and prevention within an organization.

Relationship between Control Environment on Fraud Detection and Prevention

The study also assessed the relationship between control environment on fraud detection and prevention at University of Eldoret. The correlation analysis results presented in Table 4.2

Table 4.2: Control environment Correlation Analysis

		Fraud detection and prevention
Control environment	Pearson Correlation	.512
	Sig. (2-tailed).	.020

**. Correlation is significant at the 0.05 level (2-tailed).

The results show that the relationship between control environment and fraud detection and prevention was positive and significant ($r = 0.512$; $p < 0.05$). This implies that the more factors on control environment improves nature of fraud detection and prevention in the institution.

Table 4.3`: Evaluating Individual Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig.
(Constant)	.679	1.243		2.492	.041
Control environment	.528	.208	.458	2.537	.007

a. Dependent Variable: fraud detection and prevention

The study also found that control environment significantly predicts fraud detection and prevention in the institution ($t = 2.537$; $p < 0.05$). The study rejected the null hypothesis that control environment has no significant effect on fraud detection and prevention at University of Eldoret, Kenya at a significance level of 5%. It was concluded that control environment has significant effect on fraud detection and prevention at University of Eldoret, Kenya. The study revealed that the staff were trained to implement the accounting standards and the institution financial systems. This is in agreement with the study conducted by William and Kwasi (2013) internal control systems assist management and auditors in executing their duties.

Regression Model

The regression function shown in Equation 4.1 was used to explain results of regression analysis.

$$Y = 0.679 + 0.528X_4 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \text{Equation 4.1}$$

The study also established that improving control environment by 1 unit enhances fraud detection and prevention by 0.528 units. Results in the equation 4.1 also indicated if institution do not implement fraud detection and prevention results will be constant at 0.679 units. Out of four factors analyzed, control environment was the most important factor in generating 1 unit of fraud detection and prevention. Therefore, institution ought to focus on control environment to enhance detection and prevention of Frauds. Contingency theory advocates how culture and the external environment influence the design and functions of organizations, hence it enhance fraud detection and prevention through control environment.

5.0 Summary
Control Environment on Fraud Detection and Prevention
The study noted that accountants and internal auditors were in agreement that organization has well defined hierarchical structure. The

accountants and internal auditors were also unsure of whether or not the organization has defined measures on skills and competence of staff. The accountants and internal auditors were in agreement that organization has a human resource policy which is clear on recruitment, promotions and dismissals. It was established that accountants and internal auditors were in agreement that great degree of integrity and ethical values are upheld in all organizational decisions. The results show that the relationship between control environment and fraud detection and prevention was positive and significant. It was noted that improving control environment leads to significant enhancement of fraud detection and prevention. Findings on effect of control environment on fraud detection and prevention support contingency theory which advocated that strategies coordinate on internal controls on control environment are adequate.

Conclusions

From the findings of the study, it was concluded that there is a positive and significant relationship between control environment on fraud detection and prevention. The accountants and internal auditors lack independence, honest, due care in performing duties hence compromise decisions in the university. Weakness within the organization structure that normally exposes resources to loss due to fraud. The internal audit units are ineffective because of insufficient internal audit staff. The components control environments are not properly put in place especially in the area of authorization, approval, and supervision, segregation of duties and personnel control thus affects level of fraud detection and prevention in the university.

Recommendations

The management and the internal audit unit of the university should recruit additional internal audit staff to make them sufficient in discharging their duties. The university should ensure that all the features of effective internal audit unit like audit structure and resources, internal audit approach and audit plan are properly put in place, sound and effective. Internal audit staff be trained periodically in implementing and strengthening their work towards the universities. Also management should encourage all staff to report major failings and weakness promptly so as to ensure the effectiveness of the internal controls.

Recommendations on Theories

Contingency theory is used to describe the relationship between the context and structure of internal control effectiveness and organizational performance. It implies that the more factors on control environment improves nature of fraud detection and prevention in the institution.

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