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Internal Control Systems and External Audit Efficiency in the Public Sector, Kenya

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Abstract: *Empirical evidence has linked internal controls to external audit efficiency. Though studies have not been categorical on the nature and significance of the relationship between the two variables, there exists minimal literature in the context of the Kenyan public sector hence the motivation for this study. The study sought to determine the effect of internal control systems on external audit efficiency in the public sector. A descriptive research design was adopted. The target population was 137 respondents, therefore by use of Krejcie and Morgan's method of determination of a sample size the eventual sample size consisted of 103 respondents. The respondents were selected using simple random sampling method. A questionnaire was used to collect data. The data was analyzed using descriptive analysis and multiple regression analysis. The study found that internal control systems had a positive and significant effect on the external audit efficiency in the public sector, Kenya. In view of the study findings, several conclusions are noteworthy. With regards to control environment, it offers the base for building an internal control system that is effective. Risk assessment is critical to the conduct of all financial statement audits as it establishes values and offers the best way about the assessment on auditor's and guidelines on the design and performance in which their natural history, timing and the degree to the assessed risks is responsive. Segregation of duties is a fundamental foundation of the best management of risk and control internally within the Kenya's public sector. Continuous monitoring is ideal for effective and efficient management as such a strategy addresses the concern based on the issue of complying to the raised concerns, lack of resources and the desire to retain the independence of audit. The study recommends that the public sector in Kenya should establish a strong control environment through demonstration of integrity and ethical values. Risk identification and management should be a responsibility of all employees of the organisation and understand key business matters by identifying key emerging risks, have understanding of the process to identify, assess and mitigate risks associated with digitized processes. Segregation of duties weaknesses should be considered within the broader context of key organization risks and compensating controls. Monitoring should put emphasis on impact and accountability based on fact and evidence. This would make their reports more relevant to auditors. In addition, audit firms and auditors should get trained on monitoring. This will enable them to interpret the findings and utilize the same in audits.*
***Key Words**: Internal Control System, External Audit Efficiency, Control Environment, Risk Assessment, Segregation of Duties and Monitoring.*

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I. Introduction and Background

The external audit efficiency assists in improving activity improvement of an organization's members through an audit opinion formed through fewer resources (Ali et.al. 2012). External auditing efficiency will lead to timely and quality audit reports, savings on audit cost, and completion of a higher number of audit of per financial period Kitata (2016). "This will enable the external audit function to assess and provide reasonable assurance that risk management, control and governance systems are functioning as intended and will enable the objectives and goals of the organization to be met." In internal control, the control environment sets the organization's tone by influencing its people's control consciousness (Prawitt, 2008). The control environment is the internal control system's key element. It consists of elements such as ethical values, the integrity of staff responsible for formulating, establishing and administering controls, managers, audit committees, and the structure of the organization. The control environment depends heavily on the efficiency of the leadership and the board of directors. The control environment influences the consciousness of personnel (Verdina, 2011)

Risk assessment relates to the evaluation of variables that may inherently affect the achievement of the goals of the organization. The risk assessment method allows the organization to actively evaluate all of the company's appropriate risks. Within most organizations the management is mandated with the responsibility of ensuring that only acceptable risk face the firm. Chaney and Philipich (2012), assert that "risk assessment is the process used by an organization to decide how it will deal with the risks that pose a threat to achieving it objectives. It entails the identification and prioritization of objectives, the identification of risk and assessment of their likelihood and impact" (Ali, 2012).

Monitoring refers to "the process of assessing the quality of the internal control structure over time. Since internal controls are processes, it is usually accepted that they need to be adequately monitored in order to assess the quality and the effectiveness of the system's performance over time."Amudo and Inanga (2009), similarly agree that "monitoring of operations ensures effective functioning of internal controls system. It's through monitoring that an organization determines whether or not its policies and procedures designed and implemented by management are being carried out effectively by employees."

In Kenya like most Countries, the taxpayers and donors rely on internal control system in the public sector Hardiman (2006) and timely audit reports for accountability. The National Treasury recommends the use of internal financial controls to improve the efficiency of external audit at various levels of government Moturi and Gaitho (2014). "In the circumstances when an auditor plans to place reliance on any internal controls the auditor should identify and evaluate the controls and perform compliance tests on their operation. If the entity's internal control system is evaluated as being effective, the auditor can rely on these controls and decrease the level of detailed substantive tests." This can decrease audit costs, audit time and amount of auditors used.

Like any other public sector audit committee, the government needs to use essential processes to monitor the behavior of management in the sector to improve proactive monitoring of economic, compliance reporting and disclosure processes (Magara, 2013). According to Njiru (2016), the audit committee performs a surveillance function by the ministries providing essential data to the parliament, political parties, the media, people and other organizations to regulate the government and its bureaucracy and highlighting its importance in serving the public interest.

In Kenya, the Office of the Auditor General, Kenya is the Supreme Audit Institution and its mandate is drawn from Article 229 of the Constitution of Kenya. Dwiyanto and Howard (2003) indicated that the main objectives of an external audit in the public sector are quality and timely reports, public sector accountability and good governance support, promote effective services sustainable management and quality services delivery. The budget allocation for the office of the auditor General has increased from Kshs. 1.5b in the financial year 2013 Appropriation Act (2013) to Kshs. 4.5 billion in financial year 2016 Appropriation Act (2016)

II. Statement of the Problem

While there is the general motivation of understanding the effect of internal control system on audit efficiency, there are specific concerns which form a motivation for this study. At present the Office of the Auditor General relies on the executive for budgetary allocation like all other public entities; given the budgetary constraints it is usually not possible to be allocated all resources required to carry out timely audits. Carson and Dowling (2005) indicate that timeliness of audit reporting is one of the critical qualitative characteristics of useful financial information. The Constitution of Kenya, 2010, requires within six months after the end of each financial year, the Auditor-General to audit and report on public entities.

However, related studies (Onyango, 2010; Magara, 2013; Njiru, 2016) that have been conducted in Kenya with regard internal control systems external audit efficiency in the public sector, Kenya is understudied area. A number of challenges are faced with regards to internal control concerned at the public sector, these include; lack of financial resources accountability, struggles with untimely financial reports, misuse and frauds of resources and most of the decision made have not yielded any desired results. Simiyu (2011) studied the efficacy of the internal control system in parastatals, Kenya. Study by Mugwe (2010) examined internal control procedures on production company performance in Kenya. Webola (2009) research explored the connection between internal control and resource management of NGOs in Tanzania obviously identified challenges such as liquidity issues, premature financial reporting, and accountability of economic assets, misuse and institutional resource fraud.

Despite the reliance on Internal Control Systems by the external auditor, it remains unclear if the same significantly affects the external audit efficiency especially in the public sector. It is in view of this background that the study seeks to fill the information gap by evaluating the role of internal control systems on the external audit efficiency in the public sector. Hence, in view of the study problem, the study sought to achieve the following specific objectives: The study sought to achieve the following specific objectives; To determine the effect of control environment on external audit efficiency in the public sector, Kenya; To establish the effect of risk assessment on external audit efficiency, Kenya; To determine the effect of segregation of duties on external audit efficiency, Kenya and To establish the effect of monitoring on external audit efficiency.

III. Review of Literature

The section reviews general theoretical literature and empirical literature relevant to the study.

a. Theoretical Review

The study highlights theories which anchored the study variables. The Theory of Inspired Confidence links public's expectations for the dependability of report on finances to the audit styles capacity to achieve the expectations, ensuring public requirement development and the auditing procedures over a given period. Variations in the requirements of the public and changes in the auditing methods result in deviations in the audit task approach Limperg Institute (1985). In view of the above, Carmichael (2004) shows that the auditor's requirements are to perform the test and obtain adequate audit evidence to confirm the audit that the financial reports reflect a real and honest perspective as expected by the public. The external audit carried out by a professional outsider generates trust for the stakeholders who rely on the financial reports. The internal controls will assure stakeholders that the objectives of the organization will be achieved as they will be carried out in an orderly manner.

The Agency Theory was initially suggested by Watts and Zimmerman, "a professional auditor evaluates the connection between two parties: investor and management. The agent (i.e. manager) accepts to perform specific duties for the principal (i.e. investors or shareholders) and the principal agree to compensation the agent" (Jensen and Meckling1976). This theory suggests that the auditor's responsibility is to supervise the manager-owner correlation. The management and the shareholders must understand that the auditor has no accountability. However, the responsibility of the auditor is to ensure that auditing is properly executed (Watts & Zimmermann, 1986).

b. Empirical Review

Numerous studies have been done on internal control systems and its relationship with external audit efficiency. Njeri (2014) researched the impact of the control environment on production companies ' audit effectiveness in Kenya. The research found that risk assessment, control environment, control operations and data & interaction have an important connection to the return on the assets of Kenyan production companies. It is suggested by the study that "all firms in the manufacturing sector in Kenya should implement internal control system. Improved financial performance was experience in manufacturing firms that had put more endevour on effective internal control systems compared to those that had a weak internal control system.

On the other hand, Ofori (2011) investigated the effectiveness of control environment in Ashanti region, Ghana Post Company limited. It was found out from the study that assessment of risk is similarly effective in reviewing internal control system risk assessment component at Ghana Post. An indication from the study was that, "majority of the respondents agree to the assertion that there is an effective control activity functioning at Ghana Post. With regard to the internal control information and communication system assessment, it was evident form the studies that many respondents were satisfied with the structure hence considering it effective."

Vu Thu and Segura (2015) did a study on the control environment and internal auditor in Egypt. Statistics test and analysis results show that "there is no correlation between the internal control environment and possibility of internal auditors in detecting fraud, or in other words, internal control environment does not have an influence on the possibility of internal auditors in detecting fraud. In other words, the internal control environment cannot explain the possibility of internal auditors in detecting fraud. Although previous researchers found that internal control environment and its elements are very important and have a connection with fraud occurrence within organizations, there is no previous research on the correlation of internal control environment and possibility of internal auditor in detecting fraud.

In his study, on detection of misstatement and audit risk assessment in Nigeria, Dechow (2012) found out that "the application of audit risk models statistically and significantly affects the detection of misstatement in financial statements. Hence, the paper concludes that audit risk models reduce the level of fraudulent financial reporting through the detection of misstatements in audit practice."

Vaittinen (2015) investigated risk management, internal control and audit for Companies in Finnish Public. It was a qualitative case-study research that compared Finnish public companies corporate governance re-porting practices. In accomplishing empirical part of the research, the companies' financial statements and annual reports were compared. The study found differing reports in terms of information comprehensiveness, accuracy and style even with a small sample of six companies which followed Code recommendations. The study concluded that the nature of reporting could be very inconsistent and incomparable given a larger sample to study.

Szívós (2016) studied fraud and audit risk assessment methods and the effects the make on decision concerning planning decisions. The study found that "if auditors' assessed fraud risk is higher, they do not modify significantly the preliminary audit plan by including fraud effective tests compared to that condition when they assess lower fraud risk. Instead, in a high risk condition Hungarian auditors typically increase sample size and have a higher propensity to consult with an external forensic expert. When auditors assess a higher fraud risk level, the total budgeted hours for the engagement is significantly higher compared to the case when auditors assess a lower fraud risk level and the percentage of hours they assign to more experienced audit staff is significantly higher than in a lower assessed fraud risk condition."

In view of Vitalis (2012) study on Business Risk and Audit Risk, An integrated model with experimental border test outcomes stated that "some people are biased towards previous knowledge, but that efficiency pressures do not interact to further impact this bias. From an audit perspective, my results indicate a bias in certain auditors toward positive client-specific experience during the risk-assessment process. Together these results suggest that auditors should be mindful whether this experience bias impedes the risk-assessment process.

Mwachiro (2010) established the effects of segregation of duties on audit of Kenya Revenue Authority revenue collection. From the study, it was discovered that "for internal controls to work, the five components of control environment, risk assessment, control activities, information and communication and monitoring must be available." The study found that weak inner controls encouraged loss of income, far-reaching collusion and income embezzlement.

Doyle (2010) sought to establish determinants of weaknesses in the segregation of responsibilities in the internal control of financial reporting revealed that the planning and scope stages of the audit process accounted for companies. "The audit quality of outsourced ITC is strongly and directly related to the firms. Improvement of audit quality of outsourced ITC may be achieved through evaluation of control design and operating effectiveness by service auditor as well as direct evaluation by the client in service provider location."

Tseng (2011), established duties segregation, enterprise risk management, and firm performance in Ghana. Based on the study findings, it is confirmed that "the firm performance relation is indeed contingent on the proper match between ERM and the following five variables: environmental uncertainty, industry competition, firm size, firm complexity, and monitoring by the board of directors. This finding is robust, even when I correct for the self-selection bias, choose different cut-offs of high performing firms, use alternative measure for board monitoring, and consider an alternative timing for firm performance."

Hulstijn (2011) studied continuous monitoringand auditing practice in the Netherlands. The study found that "no prescribed audit procedures or internal audits are required for implementing project. But in practice companies listed on the stock market are ahead in the implementation of project. Those companies have an IA department and have to comply with regulations as Tabaksblat. Management support and peoples' willingness and their awareness to cooperate are of importance for succeeding a project. Financial institutions are ahead in implementing the project because of their experience of risk mitigation for decades, and because of compliance with regulations. Production companies are also far, because of their business processes with relative ease of risk analysis and risk mitigation."

Aramide and Bashir (2015) studied Nigeria's Local Government Level on studied the effectiveness of financial accountability and monitoring; it was to establish a better view of internal control system effectiveness for an economical accountability of finances. The research locale was in of Oyo State, Nigeria local government council area. The outcome of the findings indicated that internal control system is important for the worthy financial accountability in the regional government area in Oyo State, Nigeria. The study consequently suggested that them or effort in guaranteeing proper and effective internal controls system to be put in place so as to improve accountability of finances.

Ademola, Adedoyin and Alade (2015) sought to determine the effect of monitoring in audits of Nigeria Public Sectors. Ascertaining the internal controls system reliability, effectiveness and efficiency in the public sector was the main objective of the study. In particular, the need to verify whether the efficacy of the internal control system helps to detect and prevent fraud in the public sector and to define how the internal control system can help the political, financial and fiscal management of the Nigerian economy. Ademola et al. (2015) concluded that; "the establishment of internal control play a vital in prevention of fraud and irregularities." In view of this, more planned processes of internal control systems establishments as a way of preventing public sector entities fraud should be focused by management and relevant authorities. Specifically, if there is an effective internal control system there is an increase in fraud prevention.

IV. Research Methodology

The study adopted descriptive research design to obtain information concerning the current status of the phenomena to describe "what exists" on variables in a situation. This descriptive design was appropriate because it enabled the study to do a descriptive analysis of the relationship between microfinance services and their effect on financial performance of small and medium enterprises. The target population was all the 137 audit managers of the Office of the Auditor General, Kenya as per the staff establishment of the Auditor General strategic plan 2015-2018. The sample size was 103 respondents drawn from a target population of 137 obtained through proportionate sampling method. The study used questionnaires administered to each respondent to collect primary data. To achieve content validity expert opinion was sought to authenticate the subject and the arrangement of the questionnaire before dissemination to determine if the items are appropriately worded to avoid misunderstanding. Reliability was determined by examining the consistency of the study results of the measuring items based on repeated trials. Cranach's alpha coefficient was used to test for reliability of the instrument. Kline (1999) classified that a Cronbach alpha value of 0.8 was ideal for reliability of intellectual based surveys. Collected data was edited to ensure accuracy and completeness, and then items were coded and scored. Multiple Regression Analysis (Standard), Descriptive Statistics (means and standard deviations) and inferential statistics were used to analyze data. SPSS software (version 21.0) was adopted to assist in data analysis and presentation. The study used tables and charts to present the findings. The following regression model guided the study.

$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$

Where:

β_0 = Intercept
β_1- β_4 = Coefficients
Y = External Audit Efficiency
X_1 = Control environment
X_2 = Risk assessment
X_3 = Segregation of Duties
X_4 = Monitoring
ε **=** Error term

V. Results and Findings

The results of the analyses were presented in tables as shown below. Table 1 below presents results on regression analysis and coefficient of determination.

Table 1: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.702[a]	.694	.684	.432	.493	22.835	4	94	.000

a. Predictors: (Constant), Monitoring, Risk assessment, Segregation of duties, Internal control systems

Source: Field Data (2019)

Table 4.8 shows a model summary that provides information about the regression line's ability to account for the total variation in the dependent variable. The result on adjusted R^2 indicates that control environment, risk assessment, segregation of duties and monitoring explain 68.4% of the changes in the external audit efficiency in the public sector, in Kenya. This means that other variables not studied contribute 31.6% of the external audit efficiency in the public sector, Kenya.

Analysis of Variance (ANOVA) was used to determine the linear relationship among the variables under investigation. Using this method, the sum of squares, degrees of freedom (df), mean square, value of F (calculated) and its significance level was obtained. The results are shown in Table 2.

Table 2: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.065	4	10.266	21.748	.000[a]
	Residual	17.561	94	.187		
	Total	34.626	98			

a. Predictors: (Constant), Monitoring, Risk assessment, Segregation of duties, Internal control systems

b. Dependent Variable: Eternal audit efficiency

Source: Field Data (2019)

The p-value of 0.000[a] indicates that the regression model was a good fit in predicting how monitoring, risk assessment, segregation of duties and internal control systems influenced external audit efficiency in the public sector, Kenya. The F calculated at 5% level of significance was 21.748 since F calculated is greater than the F critical (value = 10.266), this shows that the overall model was significant.

The coefficient of determination was carried out to assess how well a model explains and predicts future outcomes. The findings are presented in Table 3.

Table 3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.702	.433		1.621	.000
	Control environment	.610	.089	2.022	7.011	.001
	Risk assessment	.670	.108	1.064	6.204	.000
	Segregation of duties	.817	.067	3.246	12.194	.002
	Monitoring	.605	.097	1.570	6.237	.000

a. Dependent Variable: Eternal audit efficiency

Source: Field Data (2019)

From the above regression model, holding monitoring, risk assessment, segregation of duties and internal control systems constant, external audit efficiency in the public sector, Kenya would be 70.2%. The study extracts the regression equation from Table 3 as follows:

$$\mathbf{Y = 0.702 + 0.610\ X_1 + 0.670\ X_2 + 0.817\ X_3 + 0.605X_4}$$

Where Y = External audit efficiency
X_1= Control Environment
X_2= Risk assessment
X_3= Segregation of duties
X_4= Monitoring

VI. Interpretation of Results and Discussion

As shown in Table 3 monitoring, risk assessment, segregation of duties and internal control systems constant had a positive and significant effect on the external audit efficiency in the public sector, Kenya as indicated by beta values. Segregation of duties was found to have a greater influence at 81.7% on the external audit efficiency in the public sector, Kenya followed by risk assessment (67.0%), internal control systems (61.0%) and monitoring (60.5%).

The study established that control environment had a positive and significant effect on external audit efficiency as indicated by t-values ($t= 7.011$, $p < 0.05$). Vu Thu and Segura (2015) study which evaluated control environment and internal auditor in Egypt and found that there is no correlation between the internal control environment and possibility of internal auditors in detecting fraud, or in other words, internal control environment does not have an influence on the possibility of internal auditors in detecting fraud

The study revealed that risk assessment had a positive and significant effect on external audit efficiency as indicated by t-values ($t = 6.204$, $p < 0.05$). Vaittinen (2015) which found differing reports in terms of information comprehensiveness, accuracy and style even with a small sample of six companies which followed Code recommendations.

The study found that segregation of duties had a positive and significant effect on external audit efficiency as indicated by t-values ($t = 12.194$, $p < 0.05$). Tseng (2011) study established duties segregation, enterprise risk management, and firm performance in Ghana. Dechow (2012) found out that the application of audit risk models statistically and significantly affects the detection of misstatement in financial statements.

The study examined that monitoring had a positive and significant effect on external audit efficiency as indicated by t-values ($t = 6.237$, $p < 0.05$). Aramide and Bashir (2015) who established a better view of internal control system effectiveness for an economical accountability of finances. Njeri (2014) study concluded that risk assessment, control environment, control activities and information and communication have a significant relationship with the return on Kenyan manufacturing firms' asset.

VII. Conclusion and Recommendations

In view of the study findings, several conclusions are noteworthy. With regards to control environment, it offers the base for building an internal control system that is effective and also operates within the organization's vision to attain its strategic objectives. Risk assessment is critical to the conduct of all financial statement audits as it establishes values and offers the best way about the assessment on auditor's and guidelines on the design and performance in which their natural history, timing and the degree to the assessed risks is responsive. Segregation of duties is a fundamental foundation of the best management of risk and control internally within the Kenya's public sector. Continuous monitoring is ideal for effective and efficient management as such a strategy addresses the concern based on the issue of complying to the raised concerns, lack of resources and the desire to retain the independence of audit.

In view of the findings on control environment, the study recommends that the public sector in Kenya should establish a strong control environment through showing integrity and ethics. Identification and management of risks should be made accountable to the entire organization's staff. Segregation of duties weaknesses must be considered within the broader context of key organization risks and compensating controls. Monitoring should put emphasis on impact and accountability based on fact and evidence. This would make their reports more relevant to auditors. In addition, audit firms and auditors should get trained on monitoring.

VIII. Areas of Further Studies

The study focused on how control environment, risk assessment, segregation of duties and monitoring influences external audit efficiency in Public sector in Kenya. Therefore, it is recommended that similar studies should be carried out in both public and private sector in Kenya as this would help in validating the findings and conclusions of this study. Moreover, further research should be carried out to investigate the effect of other factors that have not been conceptualized in this study particularly considering the empirical implication of the coefficient of determination reported from the output of model summary.

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