

**THE EFFECT OF THE QUALITY OF RISK-BASED INTERNAL
AUDITING ON THE EFFECTIVENESS OF INTERNAL AUDIT IN
REGULATORY STATE CORPORATIONS IN KENYA**

BY

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DECLARATION

I the undersigned declare that this Research Project is my original work and has not been submitted for the award of a degree or academic credit in any other institution or university.

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This Research Project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This research project is dedicated to my wife Mercy and children, Shawny, Stephy and Adrian for inspiring me to work hard during my studies.

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ABSTRACT

The objective of the study was to determine the effect of the quality of risk based internal audit on the effectiveness of internal audit in Regulatory State Corporations in Kenya. The study considered all the forty Regulatory State Corporations listed on the website of the State Corporations Advisory committee (SCAC). Data was collected by use of questionnaires and analyzed using multivariate regression analysis. Correlation analysis was used to test the relationship between the variables and the independent variable. The study found that the quality of risk based internal auditing and effectiveness of internal audit had a positive significant relationship. The quality of risk based internal audit and management support for internal audit had a strong positive influence on the effectiveness of internal audit in RSCs in Kenya. Management support for internal audit had considerable effect on the availability of resources to internal audit. Professional qualification of internal auditors was found to have no influence on the effectiveness of internal audit.

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LIST OF ABBREVIATIONS

CAE	Chief Audit Executive (Head of Internal Audit)
ERM	Enterprise Risk Management
IIA	Institute of Internal Auditors
ISO	International Organization of Standards
RBIA	Risk Based Internal Auditing
RSCs	Regulatory State Corporations
SPSS	Statistical Package for Social Sciences
SCAC	State Corporations Advisory Committee

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Internal auditing in the public sector in Kenya can be used to improve the management of public resources in order to achieve Government objectives. In recognition of this, in 2006, the Government of Kenya launched the Public Finance Management Reform (PFMR) programme to coordinate reforms within the public finance management system. Among the targeted systems changes were budget formulation, public procurement, external audit, revenue collection and internal audit (www.pfmrp.go.ke).

As part of the Public Financial Management Reform (PFMR) programme, internal audit in the public sector in Kenya instituted the following reforms among others. Internal audit in the public sector adopted Risk Based Internal Audit(RBIA) and spearheaded development of Institutional Risk Management Policy Framework (IRMPF) in the public sector, adopted internal audit standards and best practices as promulgated by the Institute of Internal Auditors (IIA) and enhanced governance through establishment of audit & risk management committees (www.treasury.go.ke/oldwebsite). All these were to improve the effectiveness of internal audit in the public sector. Some of the impediments to the achievement of vision 2030 have been listed as corruption, inefficiency, wastage and poor risk management. It is thought that effective internal audit in the public sector can help reduce or eliminate inefficiency.

1.1.1 Quality of Risk Based Internal Auditing

RBIA involves determining where internal audit resources are most needed in an organization, then applying the internal audit resources to achieve maximum value for the organization. Audit resources are needed where an organization's resources are exposed to greatest risk. It is a shift from the usual audit cycle where internal auditors audit departments or divisions in yearly audit cycles as a tradition. The quality of RBIA is directly related to the accuracy of determining where the audit resources are most needed (risk analysis) in an organization and the quality of auditing done in the identified areas. The accuracy of risk analysis depends on how capable or mature an organization's risk management systems are and the quality of audits relate to how capable or mature the internal department of an organization is.

The Institute of Internal Auditors (IIA) defines RBIA as a methodology that links internal auditing to an organization's overall risk management framework. According to Yung-Ming and Mei (2008) RBIA involves evaluation of the corporate risk register for completeness, mapping the risk character of the corporation and planning and auditing based on the risk character of the organization. Ayavaz and Pehlivanli (2010) argued that auditing approaches are generally given the name of focus point of auditing. Therefore, efforts for complimenting the internal auditing to risk management process have contributed to RBIA to emerge.

The institute of internal auditor's Standard number 2010 on planning states that the CAE is responsible for developing a risk-based plan. The CAE takes into account the

organization's risk management framework, including using risk appetite levels set by management for the different activities or parts of the organization. If a framework does not exist, the chief audit executive uses his/her own judgment of risks after consultation with senior management and the board. Griffiths (2006) defined RBIA as the methodology which the internal audit department uses to provide assurance that risks are being managed to within the organization's risk appetite.

There is no generally agreed method of measuring the quality of RBIA. Most methods advanced are qualitative in nature and cannot be used in statistical analysis. According to Dieter (2011), the quality of internal auditing should be assessed in line with ISO requirements. In this respect, internal audit should have procedures which comply with ISO standards and adhere to them. According to IIA (2007), the quality of internal audit is based on planning, availability of internal audit charter, internal assessment of the internal audit department, professional development of internal auditors, quality assurance programmes in place, policies and procedures in place, resources management, risk management and communicating of the results of the audits.

Sciarra (2006b) based the quality of internal audit on the relationship between internal audit and management, qualifications of audit staff, audit charter, audit procedures and reports and the value added by internal audit to overall management of an organization. The IIA describes the quality of internal audit as the degree of adherence to the internal audit standards as issued by the institute of internal auditors.

Ernest and Young and KPMG attempted to come up with a quantitative method of measuring the quality of RBIA .The two papers basically used the same measures as the above authors but categorized the quality into levels of internal audit capability from level one to five.According to Ernest and Young (2009), internal audit capability is divided into five levels and it depends on how well the department plans its work, whether the roles, responsibilities and authority of internal audit are documented in the internal audit charter and how often the internal audit charter is updated with the current practices.

According to Ernest and Young (2009), internal audit capability levels can be categorized into five. Internal audit capability is at level one-when the work of internal audit is not documented in the internal audit charter, internal audit practices are outdated and internal audit work is Adhoc in nature. The internal audit capability level is at best (level5) if the work internal audit does is documented in the internal audit charter, internal audit plans its work well and the internal audit charter is updated regularly with the most current and best practices in internal auditing.

According to KPMG (2013), five levels of internal audit capability are categorized as follows; at level 1, internal auditing practice in use is traditional audit of transactions and records. Internal audit work is not planned but only involves execution and reporting. Level 2 of internal audit capability is characterized by traditional audit of transactions and records but internal audit plans its work. Level 3 of internal audit capability is characterized by traditional audit of transactions and records, internal audit plans its work

and there is Enterprise Risk Assessment (ERA) by the organization. Level 4 of internal audit capability is characterized by internal audit planning its work, ERA being undertaken in the organization and continuous improvement of the internal audit processes. The level five internal audit capability is characterized by internal audit planning its work, ERA being undertaken in the organization, continuous improvement of the internal audit processes and focusing on the most critical risks by internal audit. Using these models, the quality of RBIA can be measured on the scale of one to five and then used in statistical analysis.

1.1.2 Effectiveness of Internal Audit

Internal audit is effective if it adds value to the internal controls, governance, and risk management processes of an organization. The internal audit department in any organization (including State Owned Corporations) has a role of assisting the management in achieving their objectives and adding value to organizational operations by evaluating and improving the effectiveness of risk management, internal controls and governance processes, Akibo and Kamau (2012). Effectiveness of internal audit is how best internal audit accomplishes its objectives of adding value to an organization. Various authors have defined internal audit effectiveness in various ways, even describing it in ways indistinguishable from the quality of internal audit.

According to Fadzil (2005) ,Spraakman (1997) and Xiangdong (1997), internal audit effectiveness is related with the quality of procedures, such as the level of compliance with IIA standards or the ability to plan, execute and communicate audit findings. According to Frigo (2002), internal audit effectiveness is related to the ability to respond

to auditees' needs. The internal audit effectiveness would therefore relate to the accomplishment of planned audits, issuing audit reports on time and carrying out follow up on audit recommendations to close the audits.

Ziegenfuss (2000) reported that survey results of auditee's satisfaction and the percentage of recommendations that are implemented are the performance measures considered by the CAE to be most suitable to evaluate internal audit effectiveness. According to Ziegenfuss (2002) "when evaluating the effectiveness of the internal auditing operation, a positive response would be given when the internal auditor: (1) audits the achievement of the auditees' objectives and finds no problems, and no problems surface following the audit; or (2) audits and finds problems; and (3) recommends solutions to the problems; and the solutions resolve the problems". From this statement it is clear that outcomes address a wide range of aspects, i.e. all the elements on which audit activities have an impact. These include both efficiency and effectiveness of the audited processes, and corporate performances.

At a process level, for example, the impact of internal audit activities has been related to cost savings generated by the implementation of suggested recommendations. At a corporate level, outcome can address the internal audit contribution to corporate performance, such as profit, growth, or share price; or its role in the avoidance of corporate failures by ensuring sound corporate governance, Sarens (2009).

Quality of work done by internal audit is also a measure of internal audit effectiveness. Gramling (2004) suggested that internal audit can be considered effective when the internal audit function “has a positive impact on the quality of corporate governance”. He also linked internal audit quality to the capacity to monitor and improve risk management and internal control processes. In fact, to improve risk management and internal control processes, the internal auditors have to convince the auditees about the quality of their work, persuading managers to implement their recommendations.

The internal auditors, in most cases, do not act on the internal controls and risk management system directly. They can identify an opportunity or an area of potential improvement and provide managers responsible of business processes with an evaluation of the internal control and risk management system. Audit findings and recommendations would not serve much purpose unless management is committed to implement them. Implementation of audit recommendations is therefore highly relevant to audit effectiveness.

1.1.3 Effect of Risk Based Internal Audit

Properly timed and performed risk assessment and response process by the experienced auditor provides the foundation for the entire audit – it focuses the auditor’s attention on identifying, assessing and responding to those risks that have the potential to materially affect the financial report. The risk-based audit approach provides the auditor with an approach to conduct the audit as efficiently and effectively as possible, benefiting both the audit team and the entity.

Focusing on critical risks by internal auditors align internal audit priorities with those of management resulting in adding value to the organizations they work for. High quality RBIA ensures that critical risks are accurately identified and properly evaluated and reported by internal auditors. According to Griffiths (2006), RBIA directs scarce internal audit resources at checking the responses to the risks that present a serious threat to an organization; he argues that regulations are now requiring directors to ensure these risks are properly managed. RBIA thus provides directors with assurance that this is happening, or a warning that it isn't. RBIA approach enables internal audit to know beforehand where the weaknesses are and where the assurance and advice. By focusing efforts to most important systems, internal auditors achieve more with fewer resources thus making them more effective.

1.1.4 Risk Based Internal Auditing in Regulatory State Corporations in Kenya

RSCs are authorities that enforce government laws and regulations in the interest of the public. They regulate the economy in order to protect public health, promote fair trade or keep economic order. Examples of RSCs are the Central Bank of Kenya (CBK), SACCO Societies regulatory authority (SASRA), Kenya Bureau of standards (KEBS), and Kenya maritime authority (KMA). RSCs have similar management structures in that they are highly specialized in their area of operation and the departments that enforce their mandates are normally known as technical departments or technical services. Stakeholders to the RSCs are normally the business community, the public and the Government. These stakeholders attach a lot of weight to the RSCs achievement of the regulatory mandate.

Internal audit departments in RSCs in Kenya are structured in the same way as internal audit departments in other organizations in the public sector. The structure and functions of internal audit in the public sector are stated in the Treasury circular number 16 of October 2005. In the above circular, the CAE reports to the board of directors functionally and to the chief executive officer administratively. Also in the circular, the internal audit function is independent of all operations of the organizations they work for. Internal audit only provide oversight in terms of assurance and consulting.

In 2005, the government hired professionals to join the internal audit department, introduced risk based internal auditing in the public sector through the budget speech of June 2005 and through the Treasury circular number 16 of 4th October 2005, established independent audit committees comprising non-executive directors drawn from both the private sector and the Government and adopted International Professional Practice Framework (IPPF) or the standards on internal auditing. The new audit committees were incorporated with the CAE as secretary in line with the Treasury Circular number 16 of 4th October 2005. The reports from internal auditors started finding their way to the Boards of Directors for the first time.

The Government of Kenya through the Treasury circular number 3 of 23rd February 2013 directed all CEOs in the public sector to develop and implement institutional risk management policy framework (IRMPF). Most organizations developed and implemented the framework while others are still in the process. The presence of risk management processes increased the adoption and quality of RBIA because risk assessment became

part of day to day management in the institutions that implemented the frameworks. Internal auditors in the public sector had the chance to leverage on risk management systems operated by management to plan and evaluate critical risks in their organizations. The quality of leverage between internal audit and risk management internal auditors are able to achieve and the effect it has on internal audit will be assessed in this study

1.2 Research Problem

Internal auditors provide management and boards of directors with assurance and consulting services concerning internal controls, risk management and governance processes .The institute of internal auditors define internal auditing as an independent assurance and consulting activity within an organization, that is designed to add value to the management of internal controls, risk management and governance processes. Internal audit helps management to identify areas where there are no controls or controls are weak thereby increasing risks such as loss of funds, frauds, misappropriation of assets, errors in accounting records and corruption. It is therefore important that the internal audit departments be effective in discharging their mandates.

Internal audit in public sector in Kenya is an independent and objective function that can effectively protect the interest of the public. The Agency theory looks at internal audit as a function that can protect the stakeholders (Principal's) interest by increasing accountability of management Sherer and Kent (1993).The theory of Transaction Cost Economics (TCE) sees internal audit as a corporate function that will protect the interest of various parties in the organization by ensuring that management act objectively in

transacting corporate business and that other parties trading with the corporation act objectively in implementing contracts between them and the corporation , Fama (1980).

Considerable research has been carried out on the determinants of internal audit effectiveness and found that internal audit effectiveness is affected by factors under internal auditor's control i.e. competence, internal audit quality assurance practices, professional proficiency and interpersonal skills and factors outside internal auditor's control i.e. internal audit resources, risk profile of the organization and management processes in use, Marika and Giovanni (2009). The Government of Kenya, in an attempt to improve public financial management practices, adopted RBIA in June 2005 to help increase the effectiveness of internal audit in the public sector by focusing audit resources on critical risk areas. This has seen a lot of resources channeled towards implementation of RBIA in the public sector in Kenya.

Studies carried out in various parts of the world show that RBIA is desirable. Ming and Mei (2008) of National Cheng Kung University, Taiwan, found empirical support that banks in Taiwan used a relatively high level of RBIA when disclosing more information about financial risk management, compliance risk management, technical risk management and a high level of non-performing loans was involved. They also found that the level of RBIA deployed was positively related to the size and complexity of the bank. Ayavaz and Pehlivanli (2009) ,found that internal auditing in Turkey had highly evolved from error-focused approach into risk management based approach They also

found that internal audit used risk management data to feed into their planning processes in order to focus resources in assurance on critical risks.

Mark S (2006) concluded that enterprise risk management had the greatest impact on internal auditing when the enterprise risk management process is mature, management and the audit committee have supported internal audit activity to have a role in enterprise risk management, the tenure of the CAE is longer, the organization is in banking or education sector and the internal audit function has provided more enterprise risk management leadership. Ming and Mei (2006) suggested that RBIA can be deployed in relation to financial management risks, compliance risks, technical risks and credit management risks to cushion an organization from unexpected events,

However, there have not been enough efforts, especially in Kenya, to try to investigate the effect of RBIA on the effectiveness of internal audit. Also, there have not been enough efforts to investigate the quality of RBIA in the public sector in Kenya following its implementation. Not enough efforts have been made to link RBIA to internal audit effectiveness. Given that RBIA has been adopted by the institute of internal auditors and the Government of Kenya, there is need to attempt to explain how RBIA affects the effectiveness of internal audit in state owned corporations in Kenya, in doing this, it is good to point out how the quality of RBIA affect the effectiveness of internal audit. This study attempted to explain the effect of the quality of RBIA on the effectiveness of internal audit. Investigating the effect of RBIA on the effectiveness of internal audit will help the authorities and practitioners compare the intended out comes of the internal audit

method that is currently in place with the actual outcomes and do the cost benefit analysis.

The research question to be answered by this study was whether the Government of Kenya was getting value for money in adopting RBIA. The research needed to answer the question, “does RBIA affect the effectiveness of internal audit in the RSCs? More so does the quality of Risk based internal auditing affect the effectiveness of internal Audit?”

1.3 Objective of Study

To examine the effect of the quality of Risk-Based internal auditing (RBIA) on the effectiveness of internal audit in RSCs in Kenya

1.4 Value of the Study

Audit committees of the boards of directors are interested in the performance of internal audit. They will benefit from this study by comparing various internal audit departments' performance and the quality of risk based internal auditing. This will provoke them to improve the effectiveness of their internal audit departments. Executive management depends on internal audit and risk management systems to evaluate and manage critical risks that may affect the achievement of corporate goals. They will benefit from the results of this study since it will inform them on how to increase the effectiveness of the two systems. The government of Kenya as the representative of the public is interested in the service delivery by RSCs and will be interested in how internal audit and risk management systems are working in state corporations. It will benefit from this study in that they will know how the management reforms in the public sector are being

implemented. The professional internal auditors will benefit from this study by comparing the quality of RBIA they have in place and the quality they should have in order to realize the effectiveness they need.

The academicians will benefit from the results of this study in that they will get to interrogate the concept of risk management and relate it to the performance by the internal audit departments. More so, the academicians will want to carry out more studies to increase knowledge in this line of study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This Chapter entails previous studies done that are relevant to the effectiveness of internal audit and RBIA. It is divided into three sub-chapters namely audit theories, empirical studies and summary.

2.2 Audit Theories

They detail various believes as to why internal audit is necessary and what internal audit does. The theories generally describe internal audit in detail. There are two theories namely: - agency and transaction cost economics theory.

2.2.1 Agency Theory

The Agency theory is the best known and most used theory in justifying demand and use of internal and external auditing services. According to the agency theory a company consists of contracts between the owners of economic resources (the principals) and managers (the agents) who are charged with using and controlling those resources, Jensen and Meckling, (1976). Agency theory assumes that agents have more information than principals and that this information asymmetry adversely affects the principals' ability to monitor whether or not their interests are being properly served by agents. Furthermore, an assumption of agency theory is that principals and agents act rationally and use contracting to maximize their own wealth. A consequence of this assumption may be the "moral hazard" problem Jensen and Meckling, (1976) .Agents may face the dilemma of acting against the interests of their principals. Since principals do not have access to all available information at the time a decision is being made by an agent, they are unable to

determine whether the agent's actions are in the best interest of the firm. To reduce the likelihood of this problem, principals and agents engage in contracting to achieve optimality, including the establishment of monitoring processes such as internal auditing Adams (1994). Specifically, internal auditing is considered a bonding cost borne by agents to satisfy the principals' demands for accountability, Sherer and Kent, (1983). DeFond (1992) and Francis and Wilson (1988) discuss the importance of the separation of ownership and control. Specifically, the more diffused the ownership of a company, the higher the divergence in preferences of the owners and managers and the lower the observe ability and control of agents' actions by the principals. Thus, as the diffusion of ownership increases, so does the demand for monitoring.

DeFond (1992) argues that the greater the ownership interest of managers, the more closely aligned their preferences are with those of the outside owners. Since owner-managers have an opportunity for entrepreneurial gains, they have incentives to increase the value of the firm, Francis and Wilson, (1988). The larger the proportion of ownership, the more aligned will be the interests of managers and shareholders. This is because managers with small or negligible stock ownership may engage in the moral hazard problem and allocate resources in ways that are not consistent with the interests of non-managing shareholders, Chow (1982). This conclusion gives an alternative way of taking care of the agency problem that may complement the internal audit as an answer to the agency problem.

Jensen and Meckling (1976) argue that similar to the principal/agent problem between shareholders and management, there is a conflict between debt holders and management (also see DeFond, (1992). Specifically, as the proportion of debt in a company's capital structure increases, so does the need for monitoring through auditing (cf. Chow, 1982; Francis and Wilson, 1988). As Watts and Zimmerman (1986) argue, auditor assurance reduces lenders' monitoring costs. Carcello *et al.* (2005b) report that an increased proportion of debt also affects a company's investment in its internal auditing. From this it follows that scarce audit resources will be applied more effectively by improving the quality of RBIA as debt increases.

Fama (1980) used agency theory to examine the hierarchical relationships in large, multi-division companies. In this context, the company's top management is viewed as the principal who delegates responsibility and authority to subordinate managers (agents) for effective utilization of a portion of the firm's resources, leading to the possibility of moral hazard problems between divisions and top management. Top management tries to mitigate this problem by instituting organizational controls, including internal auditing (San Miguel, Shank and Govindarajan, (1977)). This argument suggests that there is more need for internal auditing in large multidivisional companies than in smaller ones. It is more difficult for top management in larger firms to oversee the firm, which creates a greater demand for internal auditing to compensate for the loss of control, Khalik (1993).

The operations of a company with only one or few levels of hierarchy are primarily controlled by means of direct supervision and personal observation. However, as companies grow, multilayered hierarchies evolve and authority is often delegated down

the chain of command (Abdel-Khalik, 1993). The reduced observeability in hierarchies can cause loss of control Williamson and Ouchi, (1981). This loss of control is due to three factors. First, observe ability of subordinates' actions decreases as the chain of command expands. Second, the longer the chain of command, the more likely that communication will become distorted Katz and Kahn, (1966). Third, communication down the chain of command passes through several filters, which subject it to summarization, misinterpretation, and possible intentional manipulation, Williamson and Ouchi (1981). Thus, as the number of hierarchical levels in the company increases, the demand for monitoring also grows. The increased demand for monitoring in turn indicates the need for a larger or more efficient Internal Audit.

2.2.2 Transaction Cost Economics Theory

The TCE attempts to bring out the concept of cost of doing business in a very wide perspective and looks at how to monitor them. One of the ways proposed by this theory for monitoring internal costs of doing business is use of internal monitoring. The objective of TCE is to explain different forms of organization based on the differences in transaction costs. Firm is seen as a governance structure, rather than as a production function, Williamson, (1996). The firm is not seen as a black box as in neoclassical economics. It is described as an organizational construct in different hierarchies, market, hybrids, Williamson (1981). In addition, TCE tries to identify and mitigate contractual hazards, Williamson, (1996) and links the possible hazards to behavioral assumptions. The first assumption relates to bounded rationality, Simon, (1976), the notion that decision makers' capabilities are bounded in terms of formulating and solving problems and processing all information during the decision-making process. The second

assumption deals with opportunism or possible conflicts because individuals are promoting their own self-interest. Opportunism is a variety of self-interest seeking, but extends simple self-interest seeking to include self-interest seeking with guile. It is not necessary that all agents be regarded as opportunistic in identical degree. It suffices that those who are less opportunistic than others are difficult to ascertain and that, even among the less opportunistic, most have their price, Williamson, (1979). These behavioral assumptions lead to incomplete contracting and as a consequence, monitoring of the contract is required to prevent or to handle conflicts. Governance is the economizing response to infuse order and to realize mutual gains, Williamson, (1999). Transaction cost economics provides a basis for describing a contractual or transactional relationship between parties, in which each party expects something from the other Speklé, (2001). This can be a relationship within the organization, but also between organizations. The choice of mechanism depends on a comparative analysis of the transaction costs characteristics like asset specificity, uncertainty and frequency, Williamson, (1996).

The key characteristic asset relates to opportunity losses due to investments in alternative sources. Asset characteristics may take the form of physical, human, site-specific, dedicated assets or investments and brand name capital. Uncertainty or risk indicates the predictability of the environment and sight on possible disturbances to which transactions are subject. Uncertainty also has a behavioral component, in the sense of potential non-disclosure, manipulation of information. Frequency denotes the recurrence of transactions. Depending on these characteristics, TCE analyses the most economic, value

preserving governance structure to infuse order, thereby to mitigate conflict and realize mutual gain, Williamson, (2002). Within a firm there is more administrative control to govern transactions than within a market. Also, within a firm the disputes about incomplete contracts will first be solved within a firm, while in the market any disputes need to be taken to court. Williamson argues that an internal monitor has an advantage over external monitors, as he has greater freedom of action, a wider scope, understands the language of the firm and can rely on less formal evidence, Williamson, (1975). With that TCE seems to imply an advantage of the internal auditor over the external auditor.

2.3 Empirical Review

This section will look at research already done to examine the determinants of the effectiveness of internal audit. The section will also look at research already done that brings out the evidence of the effect of risk based internal auditing and risk management on the effectiveness of internal audit.

Kiptoo and Muthoni (2013), of Mount Kenya University carried out a study to evaluate the internal audit functions' role in financial reporting in Eldoret municipal council in 2012. The study was published in the Journal of Emerging Trends in Economics and Management Services in September 2013. The study used a questionnaire to survey 197 employees of the municipality. The study concluded that internal audit played an effective role in financial risk management in the municipal

Kasava (2012), in the study project for the MBA degree of the university of Nairobi titled, “The effect of risk based auditing on financial performance of the banks in Kenya” it was concluded that risk based auditing through risk assessment, risk management, annual risk based planning, internal auditing standards and internal auditing should be enhanced. The author argued that this would enable the firm to be able to detect risks on time and concentrate on high risk areas leading to increased transparency and accountability, hence enhancing financial performance. The author farther argued that proper planning improves efficiency, accuracy, completeness, timeliness, convenience and clarity.

The study found that credible audit reports, auditor independence to identify and rectify audit errors, effective implementation of audit recommendations, financial management and compliance with accepted audit standards, effective internal audit staff and independent audit committee influence financial performance in commercial banks. From the findings, the study recommended that management in commercial banks in Kenya should adopt effective risk based audit practices such as risk assessment, risk management, annual risk based planning, internal auditing standards and internal auditing staffing to enhance effective and efficient financial performance.

Wery and Lambin (2012) carried out a study titled ‘enhancing the internal audit function through the internal audit maturity model’. The study was sponsored by PWC and was undertaken in Luxembourg using secondary data from available literature. They explained that the internal audit maturity model is based on the level of documentation,

planning and risk management capabilities. They suggested that level one maturity is when auditing is Adhoc; the role of internal audit is not documented in an audit charter and current practice is not adopted immediately. Level five maturities is the opposite and in between are other levels. The authors argued that a mature internal audit function will add value to the organization. This study suggested that mature internal audit functions are more effective than immature internal audit functions.

Ongeri and Okionga (2011) carried out a study to assess the effectiveness of internal audit systems in management of decentralized funds in Kisii Local Authority in 2011. The study surveyed 124 upper and middle cadre employees and councilors. The study concluded that internal audit effectiveness was average due to lack of professional proficiency on the part of internal auditors, lack of independence where internal audit reported to another department which was one of the auditees and poor supervision of internal auditors.

Okibo and Kamau (2011) carried out a study to explore the compliance with internal audit quality assurance standards in state owned corporations. The study was carried out in 2011 in 30 state corporations in Nairobi through a survey using questionnaires. The study was published in International Journal of Research studies in management in 2012. The study concluded that internal audit departments in state owned corporations in Kenya did not comply with quality assurance standards as required by the institute of internal auditors.

Cohen and Sayag (2010) carried out a study titled the Effectiveness of Internal Auditing: An Empirical Examination of its Determinants in Israeli organizations. The target population for this study was managers and internal auditors from all Israeli organizations that conduct internal audits. Questionnaires were mailed to 292 organizations that met this criterion, based on a list compiled by the Institute of Internal Auditors in Israel. Each organization received two questionnaires, one for the general manager and one for the internal auditor. The data collection process took about nine months, with numerous reminders sent to each of the organizations. At the end of the collection process, 108 organizations' general managers and internal auditors had both responded to the questionnaires. The study found that there were very high correlations between perceptions of top management support and the auditing effectiveness. No significant correlations were found between professional proficiency and career advancement and auditing effectiveness.

Marika and Giovanni (2009) carried out a study titled 'internal audit effectiveness: Relevant drivers of auditee's satisfaction'. The study looked at all factors both within and without internal audit function that affect the effectiveness of internal audit. The analysis showed that different factors are important to drive internal audit effectiveness. However, not all of them are under internal auditors' control. Among controllable factors, the most relevant deal with competence and professional proficiency of internal auditors, an adequate "promotion" of internal audit at company level, and the modes of interaction between auditors and auditees during audit interventions. Instead, factors which are not completely under internal auditors' control include, on the one hand, resources available

to the audit function (budget and people of the audit team); on the other hand, the risk profile of the organization and its Key Performance Indicators.

Ayavaz and Pehlivanli (2009) undertook a study titled “enterprise risk management based internal auditing and Turkey practice” in May 2009 in Turkey .The study was published in the Serbian Journal of management in December of the same year. The study was designed in form of a survey .The study found that internal auditing in turkey had highly evolved from error-focused approach into risk management based approach but maintained the tradition approach of testing and examining. The study also found that internal audit used risk management data to feed into their planning processes in order to focus resources in assurance on critical risks. The study farther found that internal audit offered mentorship and advice to risk management departments. The study however found Turkey lacking behind the rest of the world on international level in RBIA adoption.

Yee et al (2008) carried out a study titled ‘Perceptions of Singaporean Internal Audit Customers Regarding the Role and Effectiveness of Internal Audit’. Interviewees were selected from a sample of 25 organizations including banks, insurance companies, hotels, food retailers, financial institutions, government bodies, and petroleum companies. To find out how these individuals viewed the internal audit function interviews were conducted. Managers were divided by the researchers into four generic categories, based on seniority, experience, and decision-making autonomy. 83 Singaporean managers that are customers of internal audit at the 25 sample organizations were interviewed. There

were 18 interviews with directors, 22 with financial controllers, 20 with mid-level managers and 23 with general executives.

A total of 65 per cent of the interviewees believed that having the ability to properly evaluate the internal control system is the most essential aspect for effective internal auditing, ahead of auditor independence which received 19 per cent support. At the same time, most interviewees (75 per cent) agreed that, as a department, internal audit is mainly involved with resolving problems and recommending improvements. A total of 64 per cent of the interviewees agreed that in analyzing the function of the internal audit, the key area of concern for the audit committee should be reviewing and monitoring management's responsiveness to the findings and recommendations of the internal audit. 63 per cent thought that proper identification of organizational risks and their appropriate management were the areas where assurance from the internal audit function is most demanded by internal audit customers. 73 per cent of respondents believed that the most important criterion to evaluate the internal auditor's work should be the consistency of the internal audit report with the results of the work performed.

Ming and Mei (2008) of National Cheng Kung University, Taiwan, carried out a study to investigate the extent of adoption of risk based internal auditing in Taiwan banking industry. They used questionnaires and data from annual financial reports to carry out the study. The study found empirical support that banks in Taiwan used a relatively high level of RBIA when disclosing more information about financial risk management, compliance risk management, technical risk management and a high level of non-performing loans

was involved. The study also found that the level of RBIA deployed was positively related to the size and complexity of the bank. The study found that the level of RBIA deployed was negatively related with the banks information disclosure about environmental and safety risk, internal processes and change management.

Mihret and Yismaw (2007) carried out a study titled internal audit effectiveness: an Ethiopian public sector case study. The case-study method was used. A large public sector higher educational institution in Ethiopia was chosen for the study. To assist the external validity of conclusions drawn, the author pointed out that there were commonalities in policies, procedures and organizational contexts of most public sector entities in Ethiopia and the same internal audit manual was used by all public bodies in Ethiopia.

The study found that the internal audit office of the organization studied had low technical staff proficiency and high staff turnover, which would limit its capacity to provide effective service to the management. Internal audit recommendations were not afforded enough attention. Though the audit reports were generally well prepared, they did not separately highlight the status of past audit results and they could be presented in a more consistent way. Besides, the audit evidence was attached to the reports. This provided a bulky appearance to the audit reports and reduced readability.

The distribution of the audit reports was limited – the report was addressed to the Chief Executive Officer, but copies were not provided to other senior management officers to

which the auditee reported. Furthermore, there was no mechanism in place to follow-up implementation of audit recommendations.

The internal audit office did not prepare strategic plans. The authors argued that the absence of strategic plan would minimize audit effectiveness by undermining the office's ability to prepare well thought annual plans, assist management in managing risk and determine its projected resource requirements in due time. The scope of internal audit services was limited to the audit of regular activities. The Internal Audit Office did not apply consistent documentation styles for audit work.

Audit quality and management support significantly influenced audit effectiveness in the organization studied. Organizational setting, except for the budgetary status of internal audit, enabled effective internal audit and the attributes of the auditees were apparently not significant enough to undermine audit effectiveness.

Beasley et al (2006) carried out an exploratory study to find out the impact of risk management systems on the internal audit function. The study was done in form of an online survey to CAEs around the world. The survey involved 122 respondents. The study concluded that enterprise risk management had the greatest impact on internal auditing when the enterprise risk management process is mature, management and the audit committee have supported internal audit activity to have a role in enterprise risk management, the tenure of the CAE is longer, the organization is in banking or education

sector and the internal audit function has provided more enterprise risk management leadership. This study confirms that RBIA impacts internal audit function.

In conclusion, the determinants of the effectiveness of internal audit have been proposed as the support from executive management, the ability of internal audit to plan and carry out audits, report results and follow up on the implementation of audit recommendations and the independence of internal audit among others. Stakeholders in internal auditing all over the world have supported RBIA as a method that can significantly improve the ability of internal audit to plan well, focus on critical areas, report on the most important issue and spare time to follow up on implementation of internal audit recommendations. RBIA has been advanced as the best method of internal auditing by many authorities, chief among them the institute of internal auditors. Governments, including the Government of Kenya have adopted RBIA as the standard internal audit method. There exists a gap in empirical research and in theory as to how RBIA or rather, the quality of RBIA affects the effectiveness of internal audit departments. Most studies evaluate the extent of adoption of RBIA or the factors associated with effective internal audit departments.

RBIA allows the Auditors to concentrate on the most critical risks that can materially affect the interests of stakeholders in a firm. This in turn targets internal audit resources on areas that once solved, add greatest value to the firms and build credibility of internal auditors. Credible internal audit departments have an opportunity to get their recommendations implemented by management, in the process, becoming more effective.

2.4 Summary of Literature Review

Literature review shows that internal auditing provides an independent and objective opinion to an organization's management as to whether its risks are being managed to acceptable levels. The literature clearly shows that the determinants of effectiveness of internal audit are affected by various players i.e. the internal auditors themselves, audit committees and management. The literature has also shown that risk based internal auditing and risk management in general is beneficial to internal audit, management and the board. What has not come out clearly in literature is how risk based internal auditing can affect the effectiveness of internal audit.

Internal auditors can leverage on the risk register of the organization when planning and when auditing. The ability of the internal audit department to evaluate the adequacy of the risk management systems, including the risk register, depends on the capability of the internal audit department in terms of personnel. On the other hand, RBIA improves the capability of internal audit by directing audit resources where they are needed most. The study was an attempt to close the gap that seems to exist in other studies by comparing the quality of RBIA in various RSCs with the effectiveness of internal audit. The researcher believes that how RBIA is implemented in various RSCs differ and thus the effectiveness of internal auditing.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The main purpose of the study was to examine the effect of the quality of RBIA on the effectiveness of internal audit in RSCs in Kenya. This chapter presents research design, population of study, data collection and data presentation methods that were employed.

3.2 Research Design

The study was carried out as a census survey of RSCs in Kenya. A survey is a means for gathering information about the characteristics, actions or opinions of a large group of people, Pinsonneault and Kraemer (1993). The survey design is appropriate as it will enable collection of quantifiable data to investigate the effect of the quality of RBIA on the effectiveness of internal audit in RSCs in Kenya. A census survey is advantageous over the other types of surveys due to its accuracy. Since respondents involved in census surveys are the members of a given population, the survey data collected is more reliable and accurate than the data gathered from sampling surveys.

3.3 Population of Study

According to Cooper and Schindler (2000), population of a research study is the census of all items or objects that possess the characteristic or that have the knowledge of the phenomenon being studied. The population of the study included all the 40 RSCs in Kenya (See Appendix I). The names and addresses of these RSCs were obtained from the State Corporations Advisory Committee (SCAC) website www.scac.go.ke. This research studied the entire population and therefore there was no need for a sample.

3.4 Data Collection

The data was collected by means of questionnaires sent to the head of internal auditor senior officials familiar with the operations of internal audit. The questionnaire was designed such that the respondent was given multiple choice questions to make it easy and faster for them to respond. Each multiple choice had a quantitative score attached on it for the purpose of measurement (See Appendix II). However, for the purpose of data collection, the quantitative scores were not included in the questionnaire that was circulated. This was because a pre-data collection test showed that questionnaires with quantitative scores looked complicated to the respondents.

The questionnaires were arranged in three parts, A B and C in order to measure different variables specified in 3.6 below. Questionnaires were circulated both in person and through email. In executing the survey, the researcher maintained ethical considerations. The researcher also maintained confidentiality of individual RSCs information and has reported survey results only in the aggregate as emphasized by Salant and Dillman (1994).

3.4.1 Data Reliability

Reliability is often used to refer to the consistency of survey responses over time. According to Saland and Dillman (1994), obtaining population estimates must be identified by obtaining the desired response rate and preferred level of accuracy of the survey. In this study, the researcher aimed at 95% confidence that the corresponding statistic for the population will fall within the specified range of the sample statistic.

3.5 Data Analysis

Data analysis involved two steps. Step one was to convert the data into quantitative form using the scores attached to each of the chosen answer. Part A of the questionnaire had twelve questions which assessed the quality of risk based internal auditing. The final score for part A for each questionnaire was between 1 and 5. The twelve questions were the parameters adopted from the literature review. Each parameter had multiple choice answers with a score attached to them. However, the scores were excluded from the questionnaires that were distributed to avoid making questionnaires look complicated. The same method was applied for part B which measured the effectiveness of internal audit. The parameters for Part B also came from the review of literature on effectiveness of internal audit. Various authors put forward various parameters that can be used to measure the effectiveness of internal audit. The researcher blended all of them and came up with ten questions that had multiple choices with scores attached to each choice .Like in A, the scores were excluded from the distributed questionnaires to simplify them for the responded.

Part C of the questionnaire tested the attitude of the internal auditors based on each of the three parameters, (M) support by management for the internal audit, (r) availability of resources to internal audit to carry out its work and (P) professional qualification of internal auditors themselves. Again the questions had multiple choices which had a score attached to them with the lowest score being 1 and highest score being 5. The scores were not included in the questionnaires that were circulated to simplify them for the respondents

The second step involved the analysis of the quantitative data. The data analysis involved the use of measures of frequencies and multiple regression analysis using SPSS version 13 for windows in order to test the hypotheses and draw conclusions. The findings of this study have been presented by use of frequency tables in order to convey meaning or to clarify information that may not be clear within the data.

3.6 Model Specification

As per the literature review done in Chapter Two, the findings revealed that quality of RBIA has an effect on the effectiveness of internal audit. This study determined the relationship between effectiveness of internal audit (E) and Quality of RBIA (Q). The general form can be written as: $E=f(Q)$. Where, E is a dependent variable and Q is an independent variable.

It was taken into consideration that there are other factors that affected the effectiveness of internal audit apart from the quality of RBIA. From the literature review, it was clear that the effectiveness of internal audit is also affected by availability of resources, management willingness to implement internal audit recommendations and professional proficiency of internal auditors among others.

The empirical model resulting was as follows:

$$E = \beta_0 + \beta_1 Q + \beta_2 r + \beta_3 m + \beta_4 p + \alpha$$

Where;

E= Effectiveness of internal auditing

Q = Quality of RBIA

β_0 = Constant (y- intercept)

$\beta_1, \beta_2, \beta_3,$ and β_4 = Coefficients of Determination

r = Availability of Resources

m= Management Support

p= professional proficiency of internal auditors

a=Random Error

This model helped to establish whether there exists a relationship between the quality of RBIA and the effectiveness of Internal Audit and whether this relationship is positive or negative. This model also established whether there are other factors that impact on effectiveness of internal audit. Multiple R and R^2 were used to measure the strength of the relationship between the independent variables and the dependent variable. An F test was used to determine if the relationship can be generalized to the population represented by the sample. A t-test was used to evaluate the individual relationship between each independent variable and the dependent variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings derived from data collected and further analyzed. The analyzed data is presented in tables in form of percentages. The chapter constitute of the analysis of responses obtained for each question and the analysis of statistics explaining the effect of the quality of risk based internal auditing on the effectiveness of internal audit in Regulatory state corporations in Kenya .

4.2 Responses

Forty questionnaires were sent out after the researcher conducted the respondents and asked for their permission. Twenty eight responses were received. This accounted for 70% response rate. The questionnaires had three parts. Part A tested the Quality of RBIA, part B tested the effectiveness of internal audit and then part C tested the respondents' attitudes towards management support for internal audit, availability of resources to internal audit and professional qualification of internal auditors

4.3 Descriptive Statistics

Questionnaires were used to collect responses in order to test the hypothesis. Each question on the questionnaire had a score attached to it. Responses from the respondents were tabulated and scored. A score of five meant a variable had scored the maximum

while a score of one meant a variable had scored the minimum .SPSS was used to analyze the data for descriptive statistics and the results were summarized inAppendix IV.

Each variables were measured on the scale of 1-5 where five was the best score and one was the worst score. The means for the effectiveness of internal audit, Quality of internal audit, management support for internal audit, availability of resources to internal audit and professional qualification of internal auditors were 4.0357,3.8893,4.0714,4.1071 and 4.4643 respectively. Put in form of percentages, the average scores for the effectiveness of internal audit, quality of internal audit, management support for internal audit, availability of resources to internal audit and professional qualifications of internal auditors were 80.7% ,77.8%,81.4%,82.1% and 89.3%.This means that internal audit in RSCs performed favorably against the chosen parameters by scoring high everages.

The variance of the effectiveness of internal audit, quality of internal audit, management support for internal audit, availability of resources to internal audit and professional qualification of internal auditors were 0.147, 0.607, 0.291,0.321 and 0.406 respectively. The variances show that while the independent variables varied a lot around the mean, the dependent variable (effectiveness of internal audit) varied less from one RSC to another. Therefore, the quality of internal audit in RSCs in Kenya was the least homogeneous while the effectiveness of internal audit was the most homogeneous variable.

4.4 The Effect of the Quality of Risk Based Internal Auditing on the Effectiveness of Internal Audit in Regulatory State Corporations in Kenya

In order to test the effect of the quality of risk based internal auditing on the effectiveness of internal audit, the responses were coded into numerical values between 1 and 5 for each variable see (Appendix III).SPSS was used to analyze the data and the results weresummarized see (Appendix V).The variables were analyzed for correlations (See Appendix VI).

4.4.1 Analysis and Interpretations

The estimated model was (See Appendix IV):

$$E=1.84+0.476Q+0.1398M+0.263r-0.152P+0.328$$

The "R Square of 0.41471" indicates that 41.47% of the variability in the effectiveness of internal audit is associated with the quality of RBIA, management support for internal audit, availability of resources to internal audit and professional qualifications of internal auditors. This shows that, the explanatory power of this model is good. The R Square and adjusted R of 41.47%%, 31.29%% and F significance of 0.01255 (which significance is less than 0.05) show that the model is good for study. The "Multiple R 0.64398" indicates that the correlation between actual and predicted effectiveness of internal audit is 64.4%%.

The t-statistic was used to test the hypothesis that there is a relationship between the quality of RBIA and effectiveness of internal audit.

H0: $B_1 = 0$: There is a relationship between the quality of RBIA and effectiveness of internal audit

H 1: $B_1 \neq 0$: There is no relationship between the quality of RBIA and effectiveness of internal audit

From the analysis, the t-statistics is 2.753, the t-significant value is 0.0113 (2 tailed). Given that, t significance value is less than 0.05, the null hypothesis is accepted. In conclusion, the effectiveness of internal audit is positively related to the quality of internal audit. Also noted is that management support to internal audit, availability of resources to internal audit and professional qualifications of internal auditors are not related to the effectiveness of internal audit.

Correlation analysis (See Appendix V) was used to analyze the correlation of the variables. The effectiveness of internal audit was found to have significant correlations with the quality of RBIA at 49.1% at significance level of 0.01 and significant correlation with management support at 37.8% at significance level of 0.05. Management support to internal audit had significant correlation with the availability of resources to internal audit at 45.8% at significant level of 0.05.

In conclusion, the effectiveness of internal audit is correlated with the quality of internal audit and management support for internal audit. On the other hand, management support for internal audit is correlated to the availability of resources to internal audit. The study showed that professional qualifications of internal auditors were not correlated with any

variable in the model. The variable seems to have a negative effect on the model with a negative beta.

4.5 Discussions

The responses provided useful information on the RBIA practices in RSCs in Kenya. To begin with, risk management practices in RSCs were found to be good. 57.1% of respondents indicated that risk assessment in their organization is done quarterly. 96.4% of respondents indicated that risk assessment reports were discussed with management and the board in their organizations. 75% of the respondents indicated that regular training was offered to staff and the board on risk management.

Proficiency and professionalism of internal auditors in RSCs in Kenya were also found to be good. 53.6% of respondents indicated that all internal auditors in their organizations were certified members of professional organizations. 57.1% of respondents indicated that internal audit reports addressed key risks facing their organizations. 60.7% of respondents agreed that internal auditors kept management and the board informed of the key risks facing their organizations quarterly.

However, the responses showed that RBIA practices in RSCs in Kenya needed major improvements in some areas. For example, only 35.7% of respondents agreed that risk registers in their organizations contained most important risks only. This means that only 35.7% of risk registers in RSCs in Kenya were useful for decision making. 35% of respondents agreed that internal audit in their organizations always based internal audit

plans on the risk register. Proper audit planning demands that key risks are addressed. Not basing internal audit plans on the risk register may indicate that key risks are not addressed by internal audit plans. 39.3% of respondents agreed that internal auditors in their organizations are assessed for quality annually by independent party. The question is then, who audits the auditor in the remaining 60.7% of the organizations? This is an area that may need internal audit stakeholder's attention.

Other areas that were found wanting were performance by internal audit, implementation of recommendations by management and relationship between internal audit and management. Only 10.7% of respondents strongly agreed that internal audit recommendations are implemented by management. Only 21.4% of respondents agreed that internal audit in their organizations carried out all planned audits and only 32.1% of respondents agreed that internal audit in their organizations issued audit reports on time. Only 25% of respondents indicated that internal audit in their organizations suggested solutions that solved problems and only 7.1% of respondents strongly agreed that internal auditors in their organizations were thorough such that they could not miss to capture an obvious error or fraud in the course of their work.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The objective of the study was to determine the effect of the quality of RBIA on the effectiveness of internal audit in RSCs in Kenya. This chapter is a recap of the findings detailed in the previous chapters and recommendations for further research to researchers and policy makers. The significant findings are summarized and conclusions drawn.

5.2 Summary

The study established that the quality of RBIA is positively related to the effectiveness of internal audit. The study showed that the quality of RBIA and management support for internal audit had a huge influence on the effectiveness of internal audit in RSCs in Kenya. The study also established that management support for internal audit had considerable influence on the availability of resources to internal audit. Professional qualifications of internal auditors did not play any role in the effectiveness of internal audit in RSCs in Kenya contrary to popular believe.

From the study, RSCs in Kenya were strong in risk management. Majority of them had Risk Management Policy Framework in place, risk assessment procedures in place and they carried out regular risk assessment and risk management training. Majority of staff working in internal audit departments in RSCs in Kenya are certified members of professional bodies relevant to internal audit. However, the study revealed that internal auditors were not thorough in their work, audit recommendations were not good enough to solve observed problems, internal auditors did not carry out all planned audits and

internal auditors did not hand in audit reports on time. It was also revealed that internal audit plans did not address executive management concerns and that quality assessment for internal auditors by third parties was not done regularly.

5.3 Conclusions

In conclusion, internal audit in RSCs in Kenya has strived and attained a good level of effectiveness. However, there are areas which the study revealed that more work needed to be done. It would be prudent for internal audit in RSCs for example, to strive to have good relationship with management. This is in view that minority of respondents strongly agreed that management supported the efforts of internal auditors. This is important because the study showed that management support had huge influence on the effectiveness of internal audit. Internal audit should strategize and seek to be major players in the attainment of performance contracts since that is what matters to management and the board of RSCs in Kenya. The study revealed that internal audit in RSCs in Kenya is not a major player here. Finally, internal auditors need to incorporate the views of management and the board in their plans. This is because the study revealed that internal audit plans did not cover issues of concerned to management and the board.

5.4 Limitations of the Study

This study was done in form of a survey by use of questionnaires. The questionnaires were in form of questions and multiple choice answers in order to make it easy for the respondent and the researcher to work with. The questionnaires therefore, did not give room for respondents to explain their answers. Also since the researcher only interacted

with the respondents through the questionnaire, it would be difficult to tell how truthful the individual respondents were or how much thought they put in before responding. Since the scores for each response were developed by the researcher from literature reviewed, it follows that the questionnaires might have contained one form or another of researcher imposition of what is important and what is not important.

However, the researcher would like to clarify that this study has gone through the highest form of vetting by the most qualified supervisors, from development and formulation of the research problem, writing of the proposal, collecting of data and interpretation of the findings. This should give any reader of this study confidence in the findings.

5.5 Recommendations for Further Research

This study revealed that the quality of RBIA, management support for internal audit, availability of resources to internal audit and professional qualifications of internal auditors only explained 41% of the change in effectiveness of internal audit. A study should be carried out to find out the other factors which account for the remaining 59%. Secondly, this study only focused on the RCS in Kenya, a study of the effect of the quality of RBIA for the whole public sector in Kenya should be done by other researchers in furtherance of knowledge in this area. Thirdly, further research should be carried out to establish the most accurate way of measuring the quality of RBIA and the effectiveness of internal audit. Currently, there is no one universally agreed criteria for measuring the two very important parameters for internal audit.

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APPENDICES

APPENDIX I: REGULATORY STATE CORPORATIONS IN KENYA(Source
www.SCAC.go.ke)

1. Tea Board of Kenya
2. National Tea Zones Development Authority
3. National Irrigation Board
4. Kenya Sugar Board
5. Kenya Sisal Board
6. Kenya Plant Health Inspectorate Services
7. Kenya Dairy Board
8. Horticultural Crops Development Authority
9. Coffee Board of Kenya
10. Council for Legal Education
11. Commission for Higher Education
12. Electricity Regulatory Board
13. Energy Regulatory Authority
14. Retirement Benefit Authority
15. Capital Markets Authority
16. SACCO Societies Regulatory Authority
17. Kenya Revenue Authority
18. Central Bank of Kenya
19. Communications Commission of Kenya (CC
20. National Environment Management Authority (NEMA)
21. Kenya Bureau of Standards (KEBS)
22. Kenya Accreditation Service-(KENAS)
23. Public Archives Advisory Council
24. Betting Control & Licensing Board
25. Water Services Regulatory Board
26. NGO Co-ordination Bureau
27. NGO Co-ordination Board
28. Catering Training & Tourism Development Levy Trustees
29. Kenya Tourism Board
30. Export Processing Zones Authority
31. Export Promotion Council
32. Maritime Authority
33. Kenya Industrial Property Institute
34. Investment Promotion Center
35. Export Promotion Council

- 36. Export Processing Zones Authority
- 37. Transport Licensing Board
- 38. Kenya Civil Aviation Authority
- 39. Kenya Ports Authority
- 40. Kenya Airports Authority

APPENDIX II:QUESTIONNAIRE

Please choose only one answer for each question. Thank you very much for your participation in this survey.

What is your designation?

- ☐ Internal Auditor
- ☐ Management

PART A: Quality of risk based internal auditing

1. Risk assessment in your organization is undertaken on

Choices	Scores
<input type="checkbox"/> Quarterly Basis	0.5
<input type="checkbox"/> Half Year Basis	0.4
<input type="checkbox"/> Annual Basis	0.3
<input type="checkbox"/> Bi- Annual Basis	0.2

2. Risk management reports are normally discussed by senior management and the Board

Choices	Scores
<input type="checkbox"/> YES	0.5
<input type="checkbox"/> NO	0.1

3. Staff and the Board are regularly trained on risk management in your organization

Choices	Scores
<input type="checkbox"/> YES	0.5
<input type="checkbox"/> NO	0.1

4. How frequently is the risk register updated in your organization?

Choices	Scores
<input type="checkbox"/> More than once a month	0.5
<input type="checkbox"/> Once a month	0.4
<input type="checkbox"/> Bi- Monthly (once every 2 months)	0.3
<input type="checkbox"/> Quarterly (Once every 3 months)	0.2

- ☐ Half Yearly 0.1
- ☐ Once an year 0.1
- ☐ No more than once every several years (2 to 5 years) 0.1

5. There is a risk management policy framework in your organization

Choices	Scores
<input type="checkbox"/> YES	0.5
<input type="checkbox"/> NO	0.1

6. The risk register in your organization captures current risks facing your organization

Choices	Scores
<input type="checkbox"/> Most important risks only	0.5
<input type="checkbox"/> Some but not all important Risks	0.4
<input type="checkbox"/> All risks (Important and Not important)	0.3
<input type="checkbox"/> I don't know	0.1

7. Your organization has a risk assessment procedure which has been duly approved

Choices	Scores
<input type="checkbox"/> YES	0.5
<input type="checkbox"/> NO	0.1

8. Internal audit in your corporation prepares Annual Plans based on the risk register

Choices	Scores
<input type="checkbox"/> Always	0.5
<input type="checkbox"/> Sometimes	0.4
<input type="checkbox"/> Never	0.1
<input type="checkbox"/> I don't Know	0.1
<input type="checkbox"/> Strongly Disagree	0.1

9. Internal audit's Charter is regularly updated with current practices

Choices	Scores
<input type="checkbox"/> Regularly (One we get to know of them)	0.5
<input type="checkbox"/> Occasionally (on a pre-determined schedule)	0.4

- | | |
|----------------------------------------------------------------|-----|
| <input type="checkbox"/> Once in a while (in a no given order) | 0.1 |
| <input type="checkbox"/> I don't Know | 0.1 |

10. Independent assessment by outside quality assurance provider of your internal audit department is done?

- | | |
|-----------------------------------------------------|-----|
| <input type="checkbox"/> Yearly | 0.5 |
| <input type="checkbox"/> Once every 2 years | 0.4 |
| <input type="checkbox"/> Once every 3 years | 0.3 |
| <input type="checkbox"/> Once for more than 3 years | 0.2 |
| <input type="checkbox"/> Strongly Disagree | 0.1 |

11. Internal audit plans cover all significant issues of concern to the audit committee and executive management

- | Choices | Scores |
|-----------------------------------------------------|--------|
| <input type="checkbox"/> Strongly Agree | 0.5 |
| <input type="checkbox"/> Agree | 0.4 |
| <input type="checkbox"/> Neither agree nor disagree | 0.2 |
| <input type="checkbox"/> Disagree | 0.1 |
| <input type="checkbox"/> Strongly Disagree | 0.1 |

12. Annual internal audit plans are reviewed at least quarterly in line with quarterly risk management reports

- | Choices | Scores |
|------------------------------|--------|
| <input type="checkbox"/> YES | 0.5 |
| <input type="checkbox"/> NO | 0.1 |

PART B: Effectiveness of internal audit

1. Most internal audit recommendations are implemented in your organization

- | Choices | Scores |
|-----------------------------------------|--------|
| <input type="checkbox"/> Strongly Agree | 0.5 |
| <input type="checkbox"/> Agree | 0.4 |

- | | |
|-----------------------------------------------------|-----|
| <input type="checkbox"/> Neither agree nor disagree | 0.3 |
| <input type="checkbox"/> Disagree | 0.2 |
| <input type="checkbox"/> Strongly Disagree | 0.1 |

2. Internal audit in your organization carry out

- | Choices | Scores |
|-----------------------------------------------------|--------|
| <input type="checkbox"/> Strongly Agree | 0.5 |
| <input type="checkbox"/> Agree | 0.4 |
| <input type="checkbox"/> Neither agree nor disagree | 0.3 |
| <input type="checkbox"/> Disagree | 0.2 |
| <input type="checkbox"/> Strongly Disagree | 0.1 |
| <input type="checkbox"/> | |

3. Internal audit reports are normally helpful as they address key risks in your organization

- | Choices | Scores |
|-----------------------------------------------------|--------|
| <input type="checkbox"/> Strongly Agree | 0.5 |
| <input type="checkbox"/> Agree | 0.4 |
| <input type="checkbox"/> Neither agree nor disagree | 0.3 |
| <input type="checkbox"/> Disagree | 0.2 |
| <input type="checkbox"/> Strongly Disagree | 0.1 |

4. Internal audit reports are normally issued on time in your organization

- | Choices | Scores |
|-----------------------------------------------------|--------|
| <input type="checkbox"/> Strongly Agree | 0.5 |
| <input type="checkbox"/> Agree | 0.4 |
| <input type="checkbox"/> Neither agree nor disagree | 0.3 |
| <input type="checkbox"/> Disagree | 0.2 |
| <input type="checkbox"/> Strongly Disagree | 0.1 |

5. Internal audit contributes a lot to the attainment of the performance contract targets

- | Choices | Scores |
|---------|--------|
|---------|--------|

<input type="checkbox"/> Strongly Agree	0.5
<input type="checkbox"/> Agree	0.4
<input type="checkbox"/> Neither agree nor disagree	0.3
<input type="checkbox"/> Disagree	0.2
<input type="checkbox"/> Strongly Disagree	0.1

6. Internal auditors are thorough and they don't miss obvious errors or fraud

Choices	Scores
<input type="checkbox"/> Strongly Agree	0.5
<input type="checkbox"/> Agree	0.4
<input type="checkbox"/> Neither agree nor disagree	0.3
<input type="checkbox"/> Disagree	0.2
<input type="checkbox"/> Strongly Disagree	0.1

7. Internal auditors suggest solutions that solve problems in your organization

Choices	Scores
<input type="checkbox"/> Strongly Agree	0.5
<input type="checkbox"/> Agree	0.4
<input type="checkbox"/> Neither agree nor disagree	0.3
<input type="checkbox"/> Disagree	0.2
<input type="checkbox"/> Strongly Disagree	0.1

8. Internal auditors keep senior management and the board informed at least quarterly

Choices	Scores
<input type="checkbox"/> Strongly Agree	0.5
<input type="checkbox"/> Agree	0.4
<input type="checkbox"/> Neither agree nor disagree	0.3
<input type="checkbox"/> Disagree	0.2
<input type="checkbox"/> Strongly Disagree	0.1

9. Root causes of risks are promptly identified by internal audit

Choices	Scores
---------	--------

<input type="checkbox"/> Strongly Agree	0.5
<input type="checkbox"/> Agree	0.4
<input type="checkbox"/> Neither agree nor disagree	0.3
<input type="checkbox"/> Disagree	0.2
<input type="checkbox"/> Strongly Disagree	0.1

10. Senior management and the Audit Committee members are very satisfied with the performance of the head of internal audit in your organization

Choices	Scores
<input type="checkbox"/> Strongly Agree	0.5
<input type="checkbox"/> Agree	0.4
<input type="checkbox"/> Neither agree nor disagree	0.3
<input type="checkbox"/> Disagree	0.2
<input type="checkbox"/> Strongly Disagree	0.1

PART C: Management support, professional proficiency of internal auditors and availability of resources

1. Management supports the effort of internal auditors in your organization

Choices	Scores
<input type="checkbox"/> Strongly Agree	5
<input type="checkbox"/> Agree	4
<input type="checkbox"/> Neither agree nor disagree	3
<input type="checkbox"/> Disagree	2
<input type="checkbox"/> Strongly Disagree	1

2. Internal auditors in your organization are allocated adequate resources to carry out their work as planned

Choices	Scores
<input type="checkbox"/> Strongly Agree	5
<input type="checkbox"/> Agree	4

- | | |
|-----------------------------------------------------|---|
| <input type="checkbox"/> Neither agree nor disagree | 3 |
| <input type="checkbox"/> Disagree | 2 |
| <input type="checkbox"/> Strongly Disagree | 1 |

3. How many of the internal auditors are certified members of relevant professional bodies?

- | Choices | Scores |
|----------------------------------------|--------|
| <input type="checkbox"/> All | 5 |
| <input type="checkbox"/> Most of them | 4 |
| <input type="checkbox"/> A few of them | 3 |
| <input type="checkbox"/> I don't know | 1 |

APPENDIX III: DATA OBTAINED FROM THE RESPONDENTS

QUESTIONNAIRE	QUALITY OF RBIA (Q) ON SCALE OF 1 TO 5	EFFECTIVENESS OF INTERNAL AUDIT ON SCALE OF 1 TO 5	MANAGEMENT SUPPORT (M) ON SCALE OF 1 TO 5	AVAILABILITY OF RESOURCES (r) ON SCALE OF 1 TO 5	PROFESSIONAL QUALIFICATION OF INTERNAL AUDITORS (P) ON SCALE OF 1 TO 5
QUESTIONNAIRE 1	4	4	5	4	5
QUESTIONNAIRE 2	4	4	4	4	5
QUESTIONNAIRE 3	3	3	4	4	4
QUESTIONNAIRE 4	5	4	4	5	5
QUESTIONNAIRE 5	4	4	4	4	4
QUESTIONNAIRE 6	4	5	5	5	5
QUESTIONNAIRE 7	2	3	3	3	5
QUESTIONNAIRE 8	2	4	3	5	3
QUESTIONNAIRE 9	4	4	4	4	5
QUESTIONNAIRE 10	3	4	4	3	5
QUESTIONNAIRE 11	3	4	4	5	4
QUESTIONNAIRE 12	3	4	5	5	4
QUESTIONNAIRE 13	4	4	4	4	5
QUESTIONNAIRE 14	4	4	4	4	5
QUESTIONNAIRE 15	5	4	4	4	5
QUESTIONNAIRE 16	4	4	4	4	3
QUESTIONNAIRE 17	4	4	4	4	4
QUESTIONNAIRE 18	4	4	5	4	4
QUESTIONNAIRE 19	4	4	3	3	4
QUESTIONNAIRE 20	5	5	4	4	4
QUESTIONNAIRE 21	5	4	4	4	4
QUESTIONNAIRE 22	4	5	5	5	4
QUESTIONNAIRE 23	5	4	4	4	4
QUESTIONNAIRE 24	5	5	4	4	5
QUESTIONNAIRE 25	4	4	4	4	5
QUESTIONNAIRE 26	4	4	4	4	5
QUESTIONNAIRE 27	3	3	4	4	5
QUESTIONNAIRE 28	4	3	4	4	5

APPENDIX IV: DESCRIPTIVE STATISTICS

		Q	E	M	r	P
N	Valid	28	28	28	28	28
	Missing	0	0	0	0	0
Mean		3.8893	4.0357	4.0714	4.1071	4.4643
Mean as a %		77.8	80.7	81.4	82.1	89.3
Std. Deviation		.77905	.38318	.53945	.56695	.63725
Variance		.607	.147	.291	.321	.406

APPENDIX V: REGRESSION ANALYSIS

Source variable.. Q POWER value = .500

Dependent variable.. E

Listwise Deletion of Missing Data

Multiple R .64398
 R Square .41471
 Adjusted R Square .31292
 Standard Error .32852

Analysis of Variance:

	DF	Sum of Squares	Mean Square
Regression	4	1.7588514	.43971286
Residuals	23	2.4823016	.10792616

F = 4.07420 Signif F = .0122

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
Q	.301309	.109447	.476173	2.753	.0113
M	.136314	.192149	.139805	.709	.4852
r	.244179	.181003	.263343	1.349	.1905
P	-.127979	.150071	-.152181	-.853	.4026
(Constant)	1.840970	1.056475		1.743	.0948

APPENDIX VI: CORRELATIONS						
		Q	E	M	r	P
Q	Pearson Correlation	1	.491(**)	.265	.025	.167
	Sig. (2-tailed)		.008	.172	.899	.395
	N	28	28	28	28	28
E	Pearson Correlation	.491(**)	1	.378(*)	.360	-.107
	Sig. (2-tailed)	.008		.047	.060	.589
	N	28	28	28	28	28
M	Pearson Correlation	.265	.378(*)	1	.458(*)	.115
	Sig. (2-tailed)	.172	.047		.014	.559
	N	28	28	28	28	28
r	Pearson Correlation	.025	.360	.458(*)	1	-.245
	Sig. (2-tailed)	.899	.060	.014		.208
	N	28	28	28	28	28
P	Pearson Correlation	.167	-.107	.115	-.245	1
	Sig. (2-tailed)	.395	.589	.559	.208	
	N	28	28	28	28	28
** Correlation is significant at the 0.01 level (2-tailed).						
* Correlation is significant at the 0.05 level (2-tailed).						