

**THE EFFECT OF ADOPTION OF COMPUTERIZED AUDITING ON AUDIT
QUALITY IN KENYA**

BY

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DECLARATION

I declare that this project is my original work and has not been presented for a degree in any other University.

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This project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

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ABSTRACT

The role of the computer has expanded greatly in many types of businesses and throughout many areas of those businesses. Audit firms have begun to integrate the computer into many more areas than just the standard use of word processing for generating letters and reports. Auditing as a profession has also been under a lot of pressure to produce quality work, due to recent collapse of multinational corporations. There has been many researches done on audit quality, but none has handled the effects of computerized auditing on audit quality in Kenya. This study was undertaken to determine the extent of adoption of computerized auditing in Kenya and the effects of adoption of computerized auditing on Audit quality in Kenya.

The study adopted descriptive survey research design. The target population was made up of 712 audit firms obtained from the Institute of Certified Public Accountants of Kenya ICPA (K). A sample was selected randomly to avoid bias. The study used primary data which was collected using questionnaires. A regression analysis was applied to the parameters to determine the effect of adoption of computerized auditing on audit quality.

The findings from this study indicated that 26 firms out of the 105 respondents had adopted computerized auditing, and this can be regarded as relatively high. The study found that the challenges inhibiting the adoption of computerized auditing in Kenya were lack of proper computer trainings, lack of technical support, and the high cost of acquisition and maintenance of computer audit software and computer hardware. The

findings of the study indicated a positive relationship between adoption of computerised auditing and audit quality.

The study recommends that, managers should set aside resources for training and acquisition of computers and software for computerized auditing which will in turn improve audit quality. The government should also put policies in place that will ensure security of information and ensure safety of information in case of failures and breakdowns.

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LIST OF ABBREVIATIONS AND ACRONYMS

- CAATs- Computer-assisted-auditing techniques
- CAATTs- Computer-assisted-auditing tools and techniques
- CIS- Computer Information Systems
- GAS- General audit software
- IAASB- International Auditing and Assurance Standards Board
- IS- Information systems
- ISB- Independence Standards Board
- IT- Information technology
- POB- Public oversight Board
- SAS- Statement on Auditing Standards
- SPSS- Statistical Package for Social Science
- TAM- Technology Acceptance Model
- UK- United Kingdom

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The Auditor is charged with the responsibility of carrying out the audit and giving a report at the end of the process. The auditing profession is currently operating in a dynamic and challenging environment as numerous forces are affecting the business activities of audit firm. Financial data recorded by books has been changed by computers now. Computers and networks provide most of the information needed for auditing. In order to be effective, auditors must use the computer as an auditing tool, audit automated systems and data, understand the business purposes for the systems, and understand the environment in which the systems operate. A time is coming when it will be impossible to conduct an audit without using audit software.

However, the introduction of computer technology in audit work has a lot of questions to be answered. First it is not clear whether the move will improve in the quality and accuracy of auditors firms as they carry out their work. Also there is a contradiction on whether this move has had any significant effect on quality of auditors work (Kimanywenda, 2011)

The Kenyan government policy to lift duties on imported computers and related equipment has resulted in an increase in the number of computers in the country. This has made businesses change from using the traditional accounting systems to computerised systems.

Despite the widespread computer adoption in the business environment, the extent of computerised auditing adoption by Kenyan audit firms remains unclear. Many organizations have transferred to the use of computers to do their work more effectively and efficiently.

IT has greatly impacted the audit profession in the past two decades. More firms are using electronic workpapers (Winograd, Gerson & Berlin, 2000; Shumute & Brooks, 2001; Pricewaterhouse Coopers, 2003) and larger firms are developing computerized decision aids for audit functions such as client acceptance and risk assessment (Dowling, 2007). One type of IT often promoted by professionals and now recommended by audit standards is CAATs. CAATs can be defined as, tools and techniques employed to audit computer applications and used to extract and analyze data (Braun & Davis 2003).

1.1.1 Computerized Auditing

Computerised auditing is the employment of the technologies by auditors to perform some audit work that otherwise would be done manually or outsource. It is now very common to use computers in the audit process, unlike in the past, auditors frequently outsource technical assistance in some auditing areas from information system auditor, also called electronic data processing auditor. The rate of growth of the information system practices within the big audit firms was estimated at between 40 to 100 percent during 1990 and 2005 (Vendrzyk & Bagranoff, 2003).

One of the initial computer applications employed in the audit was the performance of numerous structured and repetitive tasks which the auditor would normally have had to perform himself. Such tasks involved checks for completeness and accuracy including re computation of account balances and client schedules. A number of general and a number of specialized types of software packages are available for use in the audit profession. Four commonly used general types of software packages used in the audit profession are word processing, electronic spread-sheet, data base management, and graphics packages (Moscove, Simkin & Baganoff, 2000).

Preparation of audit working papers could also be facilitated by computer-based aids in cases where the working paper format remained consistent from year to year and the tedious process of formatting now working papers for each audit engagement could be avoided. The use of decision support tools in the audit has now expanded to include a greater range and higher level of complexity of tasks which is believed to have reduced the frequency of errors and incorrect decisions. The computer may be employed for audit tasks such as analytical reviews involving data comparison and identification of irregularities, identification of potential problem areas and unusual items, and selection of appropriate substantive and compliance test procedures. (Bonar & Hopwood, 2001),

Computer-based audit sampling techniques have been available to audit firms for several years. Currently, more modern and sophisticated sampling techniques are available including statistical applications that previously would have been performed manually by the auditor. Decision support systems may also be used for staff scheduling, audit engagement budgeting, and time management (Ibid).

Some of the specialized software are computer assisted auditing tools (CAATs) and they are now play an important role in audit work. Computer assisted auditing tools are used to compliment the manual audit procedures. There are many CAATs available in the market. The challenge to the auditors is to choose the most appropriate ones for their work. Both the generalized audit software (GAS), that integrates overall audit functions and other similar software are available to support their work. However, GAS packages tend to be more widely used due to its low cost, high capabilities and high reliability (Ibid).

Audit technologies have become vital tools to enhance audit efficiency and effectiveness in the challenging contemporary audit profession (Bierstaker, Burnaby, & Thibodeau, 2001).

1.1.2 Audit Quality

There is no one universally accepted definition of “audit quality”. Audit quality is, in essence, a complex and multi-faceted concept. Several authors have tried in the past to define “Audit quality”, like one DeAngelo (1981) defines audit quality as the market-assessed joint probability that a given auditor will both detect material misstatements in the client’s financial statements and report the material misstatements. Palmrose (1988) also defines audit quality in terms of level of assurance. Since the purpose of an audit is to provide assurance on financial statements, audit quality is the probability that financial statements contain no material misstatements. In fact, this definition uses the results of the audit, that is, reliability of audited financial statements to reflect audit quality.

Audit quality is one of the most important issues in audit practice today. The quality of the financial information is dependent, among other things, on audit quality (ISB, 2000). However, there have been concerns about audit quality in the present audit environment, where severe audit failures have come to light. Many of the highly visible and public instances of fraudulent activities seem to occur within the shadow of the auditors. This has resulted to audits management being criticized for their inability to give quality audit services. It has been found that the perceived reliability of audited financial information has declined. In contrast, the perceived relevance of audited financial information has increased (Hodge, 2003).

In light of the increasing demand on auditors to make the audit more effective and efficient, the use of most prominent computer assisted audit tools and techniques (CAATTs) by auditors can increase audit efficiency and effectiveness therefore improves quality (Braun & Davis,2003).

According to IAASB Variations in stakeholder perspectives of audit quality suggest that no single element should be assumed as having the dominant influence on audit quality. Conceptually, it view audit quality in terms of three fundamental aspects: inputs, outputs, and context factors. There are many inputs to audit quality apart from auditing standards. One important input is the auditor's personal attributes such as auditor skill and experience, ethical values and mind set. Another important input is the audit process. The audit process concerns such matters as the soundness of the audit methodology, the effectiveness of the audit tools used, and the availability of adequate technical support, all geared toward supporting execution of a quality audit.

1.1.3 Effects of Computerized Auditing on Audit Quality

By seeking new uses for computers and communications, auditors improve their ability to review systems and information and manage their activities more effectively. Automated tools allow auditors to increase individual productivity and that of the audit function. By recognizing the importance of emerging environment and requirement to perform audit task effectively, auditors must recognize the key reasons to use audit tools and software. A computer is a data processor that can perform substantial computations, including numerous arithmetic or logic operations without intervention by a human operator during the run (Kimanywenda, 2011).

Correct implementation and efficient use of computers within a business can lead to substantial overall savings in time and money. They can also lead to greater management awareness and can open up opportunities that would otherwise go unnoticed (Kimanywenda, 2011). Computer usage could reduce the time auditors spend performing computational and/or clerical tasks and improve the quality of audit judgments by structuring audit decision processes (Manson, McCartney, & Wallace, 1998). According to (PricewaterhouseCoopers, 2003) IT has significantly impacted the audit profession whereby, firms are increasingly using electronic workpapers to facilitate documentation.

Rezaee & Reinstein, (1998) studied the impact of emerging IT on auditing functions. The study discussed the main issues of SAS No. 80, which offers auditors guidance to accumulate sufficient evidence to audit CIS of their clients.

They argued that IT has made inputting information for transactions and events more simple - and evaluating the related controls and results more critical. Accordingly, accumulating sufficient evidence needed to construct an informed decision means understanding where to look for that evidence, what control procedures to consider, and how to evaluate such procedures.

The statement issued by the Public Oversight Board (2000) highlighted its concerns regarding the ability of auditors to properly assess risks arising from rapidly evolving information processing systems. POB encouraged auditors to expand their knowledge of new business-oriented information systems; as such knowledge would facilitate the development of more effective audit approaches.

The claimed benefits for audit firms to use computerized audit includes, to reduce audit cost incurred and to improve audit quality and productivity. With the audit tools and techniques that enable auditors to extract, analyse and review the logic of data, the demand by clients' stakeholders for a trustworthy and relevant audit measures could be fulfilled. Traditional manual method that loads auditors with longer audit periods to detect fraud could also be reduced. Additionally, timely audit report could be made possible with the support of CAATTs (Bierstaker et al., 2001). With the time saving in audit assessment, auditor could spend more time with client on other consultation services for instance delivering professional assessment on clients' business risks, establishing prevention controls and assessing performance of client's businesses (Bierstaker et al., 2001).

1.1.4 Audit Firms in Kenya

In the recent past, the number of audit firms has immensely grown, but the fact remains that audit profession in Kenya is dominated by four of the largest auditing firms in the country, all of which have international backgrounds. These four firms are the auditors of practically all the publicly traded companies in Kenya. All of the 51 listed firms in Nairobi stock exchange's main market were handled by the big four except for Marshalls, Olympia and Eveready that were audited by PKF Kenya and BDO in 2011. Over the years, the lack of technical capacity, under-capitalization, and a poor understanding of the role marketing plays in building a profitable operation has worked against the local accounting firms. The top four firms in Kenya, however, which operate under franchise models and have heavy representation by Kenyans in the partnership, have been good at exploiting these loopholes, allowing them to dominate the local accounting scene, especially firms listed at the Nairobi Stock Exchange. (Githae, 2004)

According to Achola (2000), 13.3% of audit firms in Kenya conducted computer audits for their clients. These audit firms that conducted computer audits had the following characteristics: were foreign(international)controlled and used international guidelines from their principal audit firms elsewhere or relied on guidelines from certain international organizations such as the Information Systems Control Association, The Institute of Internal Auditors (UK) and the Global Risk Management systems group (UK) . The most commonly pursued computer-auditing objective was protective auditing followed by efficiency and effectiveness auditing.

1.2 Research Problem

While the use of technology in the business world has grown exponentially in the past two decades, the extent to which auditors have adopted computer and tools such as computer-assisted auditing techniques (CAATs) to meet this growth remains an empirical question (Arnold and Sutton 1998; Curtis and Payne 2008; Janvrin et al. 2009). Therefore, it's essential that auditors sharpen their skills in the use of computers. Auditors must keep pace with the changing environment because inevitably there will be occasions when mere working knowledge of computers will be insufficient. It is vital that in order to ensure quality in audits, auditors must become experts in applying audit software.

Corporate scandals like Enron debacle and Andersen collapse confirmed a requirement for high quality audit and considerable attention to different factors that may have effect on audit quality like computers. High quality audit refers to the production of financial information without misstatements, omissions or biases. From an agency theory perspective, Dang (2004) argues that audited financial statements are a monitoring mechanism to provide assurance for users of financial information.

As technology continues to have an impact in society, it will be crucial for auditors to recognize that the traditional annual financial statement audit will be unsatisfactory and insufficient for decision makers. Companies will need a more timely audited financial statement and auditors should be prepared to offer this service, and auditors that cannot deliver customized services to each client will incur lost revenue and lost clients (Chen, 2004).

Several studies have been carried out on area of audit quality using a number of variables. Ulrika (2011) studied two variables that may affect audit quality; Number of audit assignment and age of the auditor. Jackson, Moldrich & Roebuck (2008) also studied audit quality from the perspective of mandatory audit firm rotation. Hoitash, and Barragato (2007) examined if auditors fees has an impact on audit quality and Lennox (1999) used size of the audit firm as variable to audit quality. None of these studies has given the effect of adoption of computerized auditing no audit quality. Although the role of auditing in our country is significant, auditing researchers and practitioners have little guidance available on the effect of adoption of computerized auditing on audit quality among Kenyan audit firms. This study sought to address this knowledge gap by trying to answer these questions: What is the extent of adoption of computerized auditing in Kenya, and what are the effects of adoption of computerized auditing on Audit quality in Kenya?

1.3 Research Objectives

The objectives of this study ware:

- 1) To determine the extent of adoption of computerized auditing in Kenya, and
- 2) To find out the effect of adoption of computerized auditing on audit quality in Kenya.

1.4 Value of the Study

To Managers: The findings of this study will be of benefit to managers of audit firms by revealing the importance of computers in the audit process and the quality of audit. Audit firms have to adopt technology to be competitive and move together with client's business.

To researchers: The study will form the basis for researchers who wish to study issues related to computerize auditing in Kenya. It would supplement on the existing body of literature on the use of computers and related audit techniques in the computer literate environment.

To Policy makers: The study will help policy makers to come up with strategies of improving computer technology and effectiveness of audit firms in Kenya, the study will be able to unearth the importance of information technology in auditing process. It will also give recommendation and policies that could be introduced to increase adoption of computerized auditing in Kenya.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the audit quality and computer auditing literature in regard to this research. It brings out theoretical review which underline the main theories through which the study is based on. This provides a body of which helps the researcher to investigating and determine the effects of adoption of computerized auditing on audit quality.

2.2 Theoretical Review

2.2.1 Agency Theory

According to agency theory, an agency relationship is a contract under which one or more principals engage an agent to perform some service on the principals' behalf and delegate some decision-making authority to the agent (Jensen & Meckling, 1976). Agency theory is therefore based on the principal-agent relationship. A simple agency model suggests that, as a result of information asymmetries and self-interest, principals lack reasons to trust their agents and will seek to resolve these concerns by putting in place mechanisms to align the interests of agents with principals and to reduce the scope for information asymmetries and opportunistic behaviour.

An audit provides an independent check on the work of agents and of the information provided by an agent, which helps to maintain confidence and trust. The origin of auditing goes back to times scarcely less remote than that of accounting...Whenever the advance of civilization brought about the necessity of one man being entrusted to

some extent with the property of another the advisability of some kind of check upon the fidelity of the former would become apparent. The auditor is needed as an independent third party to “establish a degree of correspondence between assertions made by management and user criteria” (Soltani, 2007).

Agency theory predicts that the demand for high-quality audit services increases when needs for monitoring due to agency problems are higher (Watts & Zimmerman, 1983).

2.2.2 Diffusion of Innovation Theory

Adoption of any technology can be explained by theory of diffusion of innovation. Diffusion of Innovation theory was proposed by Rogers (2003), according to him, the decision on technology adoption is made through a process which decision maker (individual or group of top management) involves from the knowledge that they have about a technology, to establishing the attitude behaviour toward the technology. The process then helps the decision maker to decide whether to adopt, implement or reject or the new idea, and finally to approve this decision.

Diffusion of Innovations seeks to explain how innovations are taken up in a population. The innovation adoption behaviour that shows the level of adoption can be classified into five categories: innovators, early adopters, early majority, late majority and laggards. These levels of adoption depend on organization or individual's speed of time taken to adopt the innovation or the degree of willingness to accept it (Lee, 2003).

Diffusion of Innovation Theory has been widely used to predict innovation adoption behaviour at organization level and individual level (Masrom & Hussein, 2008).

2.2.3 Technology Acceptance Model

Davis proposed a model known as Technology Acceptance Model in 1986. The model is originally designed to predict user's acceptance of Information Technology and usage in an organizational context. TAM focuses on the attitude explanations of intention to use a specific technology or service; it has become a widely applied model for user acceptance and usage. There are a number of meta-analyses on the TAM that have demonstrated that it is a valid, robust and powerful model for predicting user acceptance (Bertrand & Bouchard, 2008). Several literature on Technology Acceptance Model (TAM) identified perceive usefulness and perceive ease of use as an important antecedents of an individual intention to use a technology (Davis, 1989).

2.3 Factors Influencing Adoption of Computerized Auditing

2.3.1 Top Level Management and Adoption of Computerized Auditing

Support from management is very important. For any technological tool to be adopted in an audit engagement, the audit manager must believe that its use will provide some advantage. However, auditors are often overconfident in their judgments and believe that they do not need the tool, and will adopt it only if it confirms their judgment (Ashton, 1990).

The innovation process at organization level is more complex than the individual level as organization decision makers (top management) may consist of a number of people that have different perception on the new technology.

The decision on technology adoption is also influenced by the personality of individual or top management decision maker for example, risk-taker and adventure-seeker, and their socio-economic background for example, wealth and education background (Rogers, 1995, 2003; Thong, 1999).

Therefore, when audit managers do not have the required knowledge about a new tool and/or do not perceive its benefits, the tool will only be adopted if there is substantive pressure by peers or supervisors. The intention to use a system increases the appropriate use and perceived normative pressure and auditor's attitude influence appropriate auditor's system usage (Dowling, 2009).

Karahanna, Detmar, & Chervany (1999) suggest "attitude toward adopting (or continuing to use) an IT tool is generated by the individual's salient beliefs about the consequences of adopting (continuing to use) the tool (behavioral beliefs) and evaluation of these consequences." Therefore, if audit managers are not technology adopters, their beliefs and attitudes, as well as their perceptions of the attributes of the tool, might prevent them from considering it as an electronic colleague.

2.3.2 Resources and Adoption of Computerized Auditing

Other factors that affect the usability of any tool are those related to project management, known as the Iron Triangle: cost, quality and time (Oisen, 1971). Sociological variables may be more important in explaining mental acceptance of innovations, whereas economic variables may be more important in explaining their use (Klonglan & Coward, 1970). Curtis & Payne (2008) also explored the influence of an external referent, in their case the attitude of a remote superior, as well as the impact of longer budgetary periods, on intention to adopt voluntary audit technology. They find that longer budgetary periods reduce budgetary pressure on audit engagements, such that auditors are more willing to adopt voluntary audit software, and that a remote superior's attitude toward the technology is a significant influence.

Finally, when these external motivators were absent, risk propensity and perceptions of budgetary pressure both affect the intention to adopt technology. The auditors have a tendency to use new audit technology when the audit firm's managing partner motivates them to use the technology. In addition, auditor's to use an audit technology is affected by audit firm's longer-term financial plan and longer evaluation periods of audit technology.

2.3.3 Training and Adoption of Computerized Auditing

Lanza (2004), as one of them, an audit manager, and founder of AuditSoftware.net has shared his extensive experience in the fields by suggesting several method in ensuring the successful implementation of audit software in the organization.

Lanza noted that, although audit programs in general are simple to open, they can be complex to run. This can be achieved through interactive training, and continuously monitor the learning process. Lanza (2004) has noted that the business sponsor (management) might reluctant to accommodate and approved the training since they perceived the training time might led to un-productivity. The author also disclosed much information on the type of software adopted in the organization, its popularity, reliability and overall satisfaction.

There are many inputs to audit quality apart from auditing standards. One important input is the auditor's personal attributes such as auditor skill and experience, ethical values and mind-set. Other inputs are auditor perception and compulsory audit tendering. Firms need to attract high quality individual with the necessary technical and interpersonal skills to improve audit quality (Duff, 2004).

2.4 Factors Influencing Audit Quality

The relationships between fees paid to auditors and audit quality have been examined extensively. Although there are numerous studies examining the relations between fees paid to auditors and audit quality, the results are mixed. For example, Frankel, Johnson, & Nelson. (2002) finds that auditor independence is compromised when clients pay non-audit fees that are high relative to the total audit fees. On the other hand, Ashbaugh, LaFord, & Mayhew. (2003), Reynolds & Francis. (2004), and Chung & Kallapur (2003) do not find significant negative relationships between fees and audit quality.

Empirical research has also documented that time budget and time deadline pressures adversely impact the quality of audits. Time budget pressures have been found to result in tradeoffs of audit effectiveness for audit efficiency (McDanie, 1990) and to increase the likelihood of engaging in “reduced audit quality acts” such as under reporting of time and prematurely signing off on audit work papers (Reckers, Wheeler, & Wong, 1997).

Francis & Yu (2009) and Choi et al. (2010) present evidence that audit office size and audit quality are positively associated. Palepu (1985) suggests that firms diversify with the intention of revenue maximization. Thus, large audit offices are likely to be more diversified. According to strategic management theory, diversification could have positive or negative impact on the product or service quality, depending on the nature of diversification.

A large body of research underscores the higher levels of audit quality that the top-tier Audit firms can provide to their clients. DeAngelo (1981) argues that audit firms with more clients have greater incentives to supply higher quality audits. The prior literature suggests that firms with higher levels of discretionary accruals are able to manage earnings which lead to lower audit quality.

2.5 Empirical Literature Review

Kimanywenda (2011) discussed on the effect of computer technology on the effectiveness of audit firms in Uganda. He discovered that using computers in auditing lead to the effectiveness of audit firms in terms of; improving the quality of

audit work, accelerating the speed of delivery of audit reports and entry of new clients. The findings from the research revealed that there is a strong relationship between computer technology and the effectiveness of audit firms as all the respondents agreed that the relationship does exist.

Vasarhelyi and Halper (2010) used the modified Delphi method to predict the effect of technological changes in auditing in the next ten years, which will determine how the audit will be done and the level of training needed for auditors. One of the key findings in that study is the need to shift from the current sampling-based audit to a model that includes continuous monitoring of all transactions, error reporting and immediate response. They discuss that the development of such an audit will reduce the time necessary in identifying risks, since external auditors will rely on the work of internal auditors, and allow more time for interpretation of the results.

They also envision the use of XBRL-formatted data to examine similar risks among clients in the same industry, and the use of resources like sensors, biometrics and voice recognition as tools for evaluating evidence. Therefore, the envisioned audit of the future relies on technological tools, and requires access to quality data.

Ismail and Abidin (2009) compare audit firm auditors' perceptions towards the importance of IT in audit and their IT competencies. Surprisingly, there is a lack of alignment between auditors' perceived importance of IT and their actual levels of IT knowledge. Most of the responding auditors highly acknowledged the importance of

IT in auditing, however their knowledge in IT is considerably lower than their perception on the IT importance. The auditors professed their overall IT knowledge as sufficient in less complex IT applications, such as electronic working papers, spread sheets, the Internet, email, word processing, and small business accounting software. However, the auditors are less competence in more advanced technologies. The study suggested that despite the fact that auditors acknowledge the importance of IT in auditing, the current practice of IT/IS audit is less than adequate. However, the study did not examine how audit task complexity and decision making activities affect the computerized audit usage.

Shaikh (2004) discussed on the impact of ecommerce to the auditing process and methodologies. The author aimed to explore the application of technologies, in which may assist auditors in improving the quality of their auditing process and how to use computer assisted auditing techniques (CAATs) more effectively with the emerging information technologies. The author has disclosed a concept of electronic auditing where some of the audit tasks conducted electronically over the internet with the support of information technologies. The author has identified three emerging information technologies to constitute a software framework to facilitate electronic auditing. These technologies include object-oriented distributed middleware, internet security technologies, and intelligent agents.

Zabihollah, Elam, and Sharbotoghlie. (2001) discussed on the technological advances in which will change the audit process in near future. The focus of the study was on

continuous auditing and its implications to independent auditors; analysing internal control in the ever changing IT world; and examine key auditing aspects.

The audit process has evolved from the traditional manual audit of an accounting system to the methods of auditing with and through computers. The paperless, electronically, on-line, and real-time application had contributed to continuous auditing methodologies. The authors had explored several auditing application, in which would allow real-time preparation, publication, examination, and extraction of financial information.

Achola (2000) discusses the status of computer auditing in Kenya. The research indicated that the most commonly pursued computer-auditing objective was protective auditing followed by efficiency and effectiveness auditing. From the research there was a clear indication that the (ownership) orientation of the firm i.e. whether local or foreign, affected the kind of practice that they were involved in, this is because all those firms conducting traditional computer auditing had foreign ownership. He also indicated that the most commonly used auditing techniques by the 13.3% of the firms that practice computer auditing, are the use of generalized audit software, generalized computer audit enquiry packages, load and go packages and tailored programs. The findings of the research further indicated that lack of trained staff, the apparent lack of awareness of corporate managers of the importance of computer auditing, the high cost of training and acquisition of computer audit software and computer hardware are some of the factors inhibiting the practice of computer auditing in Kenya.

Sharad (2012) examines diversification by the audit office and its impact on audit quality. The paper examined the impact of four different diversification strategies: industry diversification, client diversification, geographic diversification, and service diversification on three proxies of audit quality, mainly, audit fees, discretionary accruals, and propensity to meet-or-beat earnings expectations by a cent.

Audit fee:

$$\begin{aligned}
 LAFEE = & \alpha_0 + \alpha_1 INDUSTRY_DIV + \alpha_2 CLIENT_DIV + \alpha_3 GEOG_DIV + \\
 & \alpha_4 SERVICE_DIV \\
 & + \alpha_5 LMV + \alpha_6 ACQUISITION + \alpha_7 FOREIGNOPS + \alpha_8 BUSSEG + \alpha_9 GEOSEG \\
 & + \alpha_{10} SPECIAL + \alpha_{11} INVENTORY + \alpha_{12} CURR2TA + \alpha_{13} LEVERAGE + \alpha_{14} DACC \\
 & + \alpha_{15} B2M + \alpha_{16} LOSS + \alpha_{17} VOLATILITY + \alpha_{18} CLIENTVISBL + \alpha_{19} CURRATIO \\
 & + \alpha_{20} ROA + \alpha_{21} SGROWTH + \alpha_{22} ANNRETURN + \alpha_{23} BIG-N + \alpha_{24} TENURE \\
 & + \alpha_{25} SWITCH + \alpha_{26} QUALIFIED + \alpha_{27} ICOPINION + \alpha_{28} BUSYSEASON \\
 & + \alpha_{29} AUDITDELAY + \alpha_{30} LNAFEE + \alpha_{31} INDLEADER + \alpha_{32} CITYEXPERT \\
 & + \alpha_{33} LOFFICE + error
 \end{aligned}$$

Discretionary Accruals:

$$\begin{aligned}
 DACC = & \beta_0 + \beta_1 INDUSTRY_DIV + \beta_2 CLIENT_DIV + \beta_3 GEOG_DIV + \\
 & \beta_4 SERVICE_DIV \\
 & + \beta_5 LMV + \beta_6 FINANCED + \beta_7 ACQUISITION + \beta_8 LEVERAGE + \beta_9 LOSS \\
 & + \beta_{10} BETA + \beta_{11} B2M + \beta_{12} VOLATILITY + \beta_{13} ROA + \beta_{14} ANNRETURN \\
 & + \beta_{15} SGROWTH + \beta_{16} EGROWTH + \beta_{17} CFFO + \beta_{18} SDCFFO \\
 & + \beta_{19} SDEARN + \beta_{20} SDSALES + \beta_{21} CLIENTVISBL + \beta_{22} BIG-N + \beta_{23} TENURE \\
 & + \beta_{24} SWITCH + \beta_{25} QUALIFIED + \beta_{26} ICOPINION + \beta_{27} BUSYSEASON \\
 & + \beta_{28} AUDITDELAY + \beta_{29} LNAFEE + \beta_{30} INDLEADER + \beta_{31} CITYEXPERT \\
 & + \beta_{32} LOFFICE + error
 \end{aligned}$$

Propensity to meet-or-beat earnings expectations by a cent:

$$\begin{aligned}
 Probability (MBEX = 1) = \\
 F\{ & \gamma_0 + \gamma_1 INDUSTRY_DIV + \gamma_2 CLIENT_DIV + \gamma_3 GEOG_DIV + \gamma_4 SERVICE_DIV \\
 & + \gamma_5 LMV + \gamma_6 FINANCED + \gamma_7 ACQUISITION + \gamma_8 LEVERAGE + \gamma_9 LOSS \\
 & + \gamma_{10} BETA + \gamma_{11} B2M + \gamma_{12} VOLATILITY + \gamma_{13} ROA + \gamma_{14} ANNRETURN \\
 & + \gamma_{15} SGROWTH + \gamma_{16} EGROWTH + \gamma_{17} CFFO + \gamma_{18} SDCFFO + \gamma_{19} SDEARN \\
 & + \gamma_{20} SDSALES + \gamma_{21} CLIENTVISBL + \gamma_{22} BIG-N + \gamma_{23} TENURE + \gamma_{24} SWITCH \\
 & + \gamma_{25} QUALIFIED + \gamma_{26} ICOPINION + \gamma_{27} BUSYSEASON + \gamma_{28} AUDITDELAY \\
 & + \gamma_{29} LNAFEE + \gamma_{30} INDLEADER + \gamma_{31} CITYEXPERT + \gamma_{32} LOFFICE + \gamma_{33} STDEST \\
 & + \gamma_{34} LNUMEST + error\}
 \end{aligned}$$

Using over 19,000 observations for over 3,000 unique clients for the period 2000-2009, the analyses showed that, after controlling for office and client attributes, industry diversification, client diversification, and geographic diversification have

adverse effects on audit quality, possibly because such diverse audit engagements strain the resources of the audit office. On the other hand, service diversification has beneficial effect on audit quality, possibly due to knowledge spill-over effect from providing multiple services to the same client, such as, tax compliance and planning, auditing employee benefit plans, acquisition related consultancy services, internal control reviews, and attest services.

Francis, Reichet, & Wang (2005), did a study on the pricing of national and city-specific reputations for industry Expertise in the U.S audit market. For their study, they used an audit fee model.

$$LAF = b_0 + b_1LTA + b_2LSEG + b_4QUICK + b_5DE + b_6ROI + b_7FOREIGN + b_8OPINION + b_9YE + b_{10}LOSS + b_{11}JOINT-LEADER + b_{12}NATIONAL-ONLY + b_{13}CITY-ONLY + \text{fixed effects} + e$$

The purpose of their study was to use the new U.S fee disclosures to investigate audit pricing in the U.S audit market, and in particular to determine if Big 5 accounting firms have reputations for industry expertise that are priced in the audit market. They found that Big 5 were priced as if industry expertise exist and it was valued by clients. The audit fee premia documented in their study provide evidence of differentiation among Big 5 auditors based on the joint effects of national industry leadership and city-specific industry leadership. They concluded that since higher audit fees for joint national-city industry leaders imply audit quality differences.

2.6 Summary of the Literature Review

From the above empirical literature, it can be concluded that using computers in auditing leads to the effectiveness of audit firms in terms of; improving the quality of audit work, accelerating the speed of delivery of audit reports and allow more time for interpretation of the results. From the literature review, factors affecting adoption may be attributed to, lack of support from senior management, resources and training.

There is no definite method of measuring quality, some researchers have used audit fee as a proxy for quality, while others have used audit reports to measure audit quality. Several studies have also been done on factors affecting audit quality, but none has been done on computerized auditing. There is still no clear cut definition of audit quality and a lot still remains to be done in the area of audit quality.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the design and methodology of the research study. It explains; target population, the sampling design used, the sampling methods and sample size. The chapter further shows the data collection procedures, data analysis, interpretation and presentation.

3.2 Research Design

The study adopted a descriptive survey research design because it provide quick inexpensive, efficient, and accurate means of assessing information about the population. The Study involved gathering data from various audit firms describing the current situation within the country. Churchill (1991) notes that descriptive study can be used when the purpose is to describe the characteristics of certain items, estimate proportions of people who behave in certain ways and make specific predictions exploratory in nature.

3.3 Population

The population of interest was comprised of audit firms in Nairobi. According to the Institute of Certified Public Accountants of Kenya records, there were 972 registered audit firms in the country, as at the beginning of 2013 of which 712 were located in Nairobi.

3.4 Sample

The study applied a stratified random sampling design. The target population was divided into two strata, namely Local audit firms, and International audit firms. From the population, 20% of the distribution of the audit firms in each strata was randomly be selected, because it not only represents the overall population but also subgroup of the population thus enough cases from each group to make meaningful subgroup inferences, then the respondents were selected randomly to avoid bias.

Table 3.1: Audit Firms Distribution in Nairobi and Sample Size

Strata	Firms distribution	Sample size-20%
Local Audit firms	693	138
International Audit Firms	19	4
TOTAL	712	142

3.5 Data Collection

The researcher used primary data, which was collected using a questionnaire containing both structured and unstructured questions. This was administered to the respondents using the “drop and pick later” method. Questionnaires were given to audit team leaders because they are more knowledgeable of the day to day audit work. In addition management staff of the target population was interviewed face to face to validate the information. According to Cooper and Schindler (2008), the questionnaire is conveniently used because it is cheaper and quicker to administer, it is above researcher’s effect and variability, and is highly convenient for the respondents as they will fill them during free times or when workloads are manageable.

3.6 Data Analysis

The researcher used the statistical package for social sciences (SPSS) for analysis. This study used Regression model to analyze data. To compare the effects of adoption of computerized auditing on audit quality, data was collected with an event window of six years: Three years before adoption and three years after adoption.

The research used one type of measure for audit quality, Pricing based. According to this stream of research (Craswell et al. 1995; Ferguson and Stokes 2003; Francis et al. 2005; Choi et al. 2008; Choi et al. 2010) shows that audit quality is positively priced by the market. The measure of audit quality was LAFEE, defined as the natural logarithm of audit fee during the current fiscal year.

The following Regression Model was used to determine the effects of adoption of computerized auditing on audit quality in Kenya.

$$LAFEE = a + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \epsilon$$

Where *LAFEE* is audit fee a proxy for audit quality, *x1* is the length of time an audit is carried out; *x2* is the sample size used for audit evidence and *x3* is the amount incurred to carry out an audit.

3.7 Reliability Test

The Cronbach's Alpha Test of Reliability was used to test the reliability of the constructs describing the variables of the study and the result was an alpha score of 0.787, internal reliability of the scale items. The attained alpha score imply acceptable level of reliability of the measures

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research methodology. The study findings are presented on to establish the effects of adoption of computerised auditing on audit quality. This data was obtained from questionnaires that were filled in by the respondents. 142 questionnaires in total were administered, but the researcher managed to obtain 105 completed questionnaires, representing a 73.94% response rate.

4.2 Organizational Profile

This section provides a profile of the organizations involved in the study. Majority of the respondents were local firms, adding up to 103, of the total 105 respondents received. From the findings, majority of the firms involved in the study had been in operation for 6 to 10 years; some had been in operation for 11 to 15 years and very few had been in operation for over 21 years. 63 of the firms involved in the survey had 6 to 10 technical employees, 16 had less than 6 technical employees and only 2 had more than 15.

4.3 Adoption of Computerised Auditing

From the data analysis, only 26 out of 105 of audit firms had adopted computerised auditing. The preferred audit software was Pro audit since 14 of the 26 who had adopted computerized auditing used it. The unpopular software was General audit software since only 2 of the 26 use it.

4.4 Factors Affecting Adoption of Computerized Auditing

Respondent were further required to indicate the factors affecting the adoption of computerized auditing. The factors ranged from Top management support, resources, training and any other they thought affecting adoption of computerized auditing. They were also to include challenges they face in adopting computerised auditing.

4.4.1 Top Management Support

90% of the respondent indicated that top management offered support as expected. This is consistent with management literature which offers ample evidence for the key role of top management support in the success of almost all programs and process within an organization.

Table 4. 1 Top management support

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	95	90.5	90.5	90.5
No	10	9.5	9.5	100.0
Total	105	100.0	100.0	

Source: Research data 2013

4.4.2 Lack of Resources

Lack of enough resources was a barrier to adoption of computerized auditing as revealed by the study. This was show by number of computers owned by the audit firm as shown in table 4.10. International audit firms had the largest number of computers hence they had adopted computerised auditing.

Table 4.2 Number of Computers Owned

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0-5	16	15.2	15.2	15.2
6-10	41	39.0	39.0	54.3
11-15	24	22.9	22.9	77.1
Above 15	24	22.9	22.9	100.0
Total	105	100.0	100.0	

Source: Research data 2013

4.4.3 Computer Training

57.1 % of the respondent in this study had attained diplomas in computer training, followed by those who had attained university level training at 39%. This indicates the audit firms in Kenya comprise of qualified personnel. The findings are shown in the table 4.3

Table 4.3 Level of Computer Training

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Certificate	4	3.8	3.8	3.8
Diploma	60	57.1	57.1	61.0
University degree	41	39.0	39.0	100.0
Total	105	100.0	100.0	

Source: Research data 2013

4.5 Regression Analysis between Audit quality and independent variables

4.5.1 Regression before Adoption of Computerized Auditing

The main objective of the study was to determine the effect of adoption of computerized auditing on audit quality in Kenya. A regression analysis between audit quality (y) and the independent variables was performed. The research findings indicated that there was a positive relationship (R=0.885) before adoption between the variables. The study also revealed that 75.3% before adoption of the audit quality can be explained by the identified variables. This has been shown in the table below.

Table 4.4 Test for the Model before Adoption

Model Summary

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	.885 ^a	.783	.753	.231	.783	26.417	3	22	.000

a. Predictors: (Constant), How much did it cost you to carry out a single audit before adoption, How long did it take you to produce audit work before adoption?, What sample size did you use for auditing before adoption

b. Dependent Variable: How much did you charge for a single audit work before adoption

A regression analysis was done to determine the coefficients of the equation that was to determine the effect of computerized auditing on audit quality.

$$LAFEE = a + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \epsilon$$

Table 4.5 Coefficients before adoption

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.070	.571		5.372	.000
How long does it take you to produce audit work?	.119	.118	.102	1.012	.322
What sample size do you use for auditing	-.049	.060	-.084	-.814	.424
How much does it cost you to carry out a single audit	.616	.071	.892	8.726	.000

Source: Research data 2013

From the above table, the regression model is expressed as

$$LAFEE = a + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \epsilon$$

$$LAFEE = 3.070 + 0.119x_1 - 0.049x_2 + 0.616x_3$$

Evidence in table 4.6 showed that there was a significant positive relationship between Time it takes to produce audit work and cost of audit and Audit quality. This implies that there is a very strong correlation between the cost of audit and audit quality.

4.5.2 Regression after Adoption of Computerized Auditing

The researcher compared two equations. One was before adoption and another after adoption. The research findings indicated that there was a positive relationship (R=0.915) after adoption between the variables. The study also revealed that 81.5% after adoption of the audit quality can be explained by the identified variables of time, sample size and cost.

This has been shown in the table below.

Table 4.6 Test for the Model after Adoption

Model Summary									
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	.915 ^a	.837	.815	.273	.837	37.651	3	22	.000

a. Predictors: (Constant), How much does it cost you to carry out a single audit after adoption, What sample size do you use for auditing after adoption, How long does it take you to produce audit work after adoption?

b. Dependent Variable: How much do you charge for a single audit work after adoption

Table 4.7 Coefficients after Adoption.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.447	.455		7.569	.000
How long does it take you to produce audit work?	-.060	.205	-.036	-.292	.773
What sample size do you use for auditing	.012	.076	.018	.164	.871
How much does it cost you to carry out a single audit	.738	.080	.930	9.273	.000

Source: Research data 2013

From the above table 4.14, the regression model is expressed as

$$LAFEE = a + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \epsilon$$

$$LAFEE = 3.447 - 0.060x_1 + 0.012x_2 + 0.738x_3$$

Evidence in table 4.7 showed that there was a significant positive relationship between Time it takes to produce audit work and cost of audit and Audit quality. This implies that there is a very strong correlation between the cost of audit and audit quality.

4.5.3 Effect of Adoption of Computerized Auditing on Audit Quality

Equation One (Before Adoption)

$$LAFEE = 3.070 + 0.119x_1 - 0.049x_2 + 0.616x_3$$

Equation two (After Adoption)

$$LAFEE = 3.447 - 0.060x_1 + 0.012x_2 + 0.738x_3$$

The results of the regression equation one show that for 1- point increase in the independent variables, audit quality is predicted to increase by 3.070, and for equation two by 3.447 given that all the other factors are held constant. This clearly shows that adoption of computerized auditing significantly affects audit quality.

4.6 Discussions and Interpretation of the Findings

From the findings 26 of the 105 firms in the survey had adopted computerised auditing. This shows that the number has significantly improve from previous study, but a lot need to be done since technology is taking over and the world is becoming a global village. From the findings, majority of the respondents cited lack of technical support as a difficulty they experienced, hand in hand with Constant breakdown. Lack of sufficient training ranked second followed by maintenance cost and some respondents had a problem with theft of computers from their organization.

Majority of the respondents agreed that resources were one of the major challenges they faced in adopting computerised auditing followed by training.

The findings revealed that audit quality measured by time taken to audit, sample size, and cost are significantly correlated with the correlation coefficient $R = 0.885$ before adoption and $R=0.915$ after adoption. The analysis also reports the model of audit quality with the coefficient of determination $R^2 = 0.783$ at a significant level of $p = 0.000$ before adoption and $R^2 = 0.815$ at a significant level of $p=0.000$ after adoption. The coefficient of determination indicated that 78.3% of the variation in audit quality for the 105 firms in the study can be explained by the variables time, sample size and cost before adoption, while 21.7% could be due to other factors. Adoption of computerized auditing changed the coefficient of determination to 81.5 %, making other factors that may vary audit quality just 18.5%. Generally, all independent variables, significantly contributed in variance of audit quality at a significant level of 0.0000. However, the relative importance of association of each independent variable was different. This was evaluated and interpreted by the standardized coefficient of correlation (beta).

From the findings, there was a positive relationship between audit quality and time taken to carry out an audit with $\beta = 0.119$ at a significance level of 0.322 before adoption. This changed after adoption with $\beta = -0.060$ with a significance level of 0.773 .There was an inverse relationship between audit quality and sample size used for audit with $\beta = -0.049$ at a significance level of 0.0424 before adoption. This also changed after adoption to a positive relationship with $\beta = 0.012$ at a significance level of 0.871. There was a significant positive relationship between audit quality and the cost of carrying out an audit with $\beta = -0.616$ at a significance level of 0.000.

Adoption of computerized auditing provided a positive relationship between audit quality and cost incurred to carry out an audit with $\beta = 0.738$ at a significance level of 0.0000.

4.7 Summary

This chapter presented the findings of the results. The findings showed that there is a positive relationship between computerised auditing and audit quality. There was also a positive relationship between cost of audit and audit fees. No significant relationship exists between audit fees and sample size used during audit. The findings of this chapter were useful in making summary and conclusion in chapter five.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The objectives of the study were to determine the extent of adoption of computerized auditing in Kenya, and to determine the effect of adoption of computerized auditing on audit quality in Kenya. This chapter offers a summary of the main findings and conclusion that were drawn from the findings. Limitation and recommendations' are also covered in this chapter.

5.2 Summary

The main objective of this study was to determine the effect of adoption of computerized auditing on audit quality in Kenya. The study was undertaken to answer the following questions: What is the extent of adoption of computerized auditing in Kenya, and what are the effects of adoption of computerized auditing on Audit quality in Kenya? A response rate of 73.94% was achieved.

Based on the findings, it was revealed that very few audit firms had adopted computerized auditing in Kenya, forming a percentage of 24.8 %. From the study, all international audit firms had adopted computerised auditing, while majority of the local firms involved in the survey had not adopted computerized auditing. These findings are consistent with the findings of Achola (2000), which was involved in finding out the status of computer auditing in Kenya.

The findings revealed that those audit firms that conducted computer audits had the following characteristics: were foreign(international)controlled and used international guidelines from their principal audit firms elsewhere or relied on guidelines from certain international organizations such as the Information Systems Control Association (ISACA), The Institute of Internal Auditors (UK) and the Global Risk Management systems group (UK) .

The findings revealed that among the challenges experienced in adoption of computerized auditing is proper computer training, cost of acquisition and maintenance, and lack of technical support.

The research also sought to find out the effect of adoption of computerized auditing on audit quality. Cconsistent with researchers'' expectation, it was found that there is a positive relationship between Adoption of computerized auditing and Audit quality as indicated in regression analysis. The study this clearly shows that adoption of computerized auditing significantly affects audit quality by improving the quality of audit.

5.3 Conclusions

From the findings of the study, it can be concluded that a significant number of audit firms have adopted computerized auditing as compared to Years ago when Achola (2000) carried out his study. The percentage has moved from 13.3 % to 24.8%. For those who have adopted computerized auditing have benefited from increasing the

quality of audit work, speed rate and expand their market share through acquiring new clients and generally improve the performance of auditors have been achieved.

For those audit firms that still use manual system expressed their willingness to adopt the use of computerized auditing but highlighted the shortage of resources to fund the project as the major constraint to them.

The findings also revealed that there is a significant effect on audit quality explained by adoption of computerized auditing. Effective use of computerized auditing is critical to the success of audit activity, but is only one step toward understanding the changes technology is bringing about in business and the auditing profession. Emerging technologies will continuously change the shape of and approach to business controls, and audit approaches and techniques must change accordingly.

5.4 Limitations of the Study

The researcher encountered various limitations which included: lack of support from participants which lead to low response rate, thus making it difficult to derive a conclusion. Even though the sample was taken to be representative this may not be the case because of the low number of responses received make the study fail to be comprehensive enough. Perhaps a large sample would have given different results if not same.

The study used a window period of 6 years (3 years before adoption and 3 after adoption). Perhaps using a wider window period would have yielded different results.

The study used scientific method for analysis. This study failed to extract qualitative information that would have explained the hidden issues that affect audit quality.

The study did not also put into consideration other factors that could have affected the audit fees. Perhaps a dummy to capture inflation over the event window would have added the explanatory power to the model.

5.5 Recommendation

5.5.1 Policy Recommendation

For managers and owners of small and medium audit firms, the need to adopt computerized auditing that will ensure they enhance audit quality is imperative. Top management should set aside resources that will enable their audit firms adopt computerised auditing.

From the study it's very important that audit firms should have competent technical support staff on site to handle any related matters that can arise within the computer system. This will ensure that breakdowns are handled expeditiously and that the system is maintained to the required standard to enable it function all the time it is planned to.

It is also important that the users of the computer system should be given regular training courses so that they are up dated on the changes in the computer world. This will enable them not to be left behind and that they will continue to improve their skills in as far as the usage of computers is concerned.

The government and other policy makers should put in place back-up regulations to ensure safety of information in case of failures and breakdowns. Security should also be adequate to avoid loss of essential material and confidential data.

5.5.2 Recommendations for Further Research

The researcher recommends that a similar study can also be undertaken on other regions using different sample size. Similar study can be replicated using a wider event window, of 10 and above years.

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APPENDIX 1: SAMPLE QUESTIONNAIRE

PART ONE: GENERAL BACKGROUND

1. What is the name of the audit firm? _____
2. Which category does the audit firm belong?
 - a) International audit firm ()
 - b) Local audit firm ()
3. Number of years in operation
 - 0 – 5 [] 6 – 10 [] 11 – 15 [] 16 – 20 [] Over 21
4. What is your organization's size in terms of Kenya Shillings turnover per annum?
 - 1.5 million to 3.0 million [] 3.5 million to 5.0million []
 - 5.5 million to 7.0million [] 7.5 million to 10 million []
 - 10 million to 15 million [] Over 15 million []
5. How many technical employees does the organization have?
 - 0 – 5 [] 6 – 10 [] 11 – 15 [] Over 15 []

PART TWO

SECTION A: COMPUTERIZED AUDITING

6. Do you use computerized auditing in audit process?

Yes ()

No ()
7. What type of audit software do you use? _____
8. If your firm uses computers in the audit process, does it fully replace manual system

Yes ()

No ()

9. Do audit teams use the available technology tools?

Yes ()

No ()

If (yes) specify

which.....

10. For how long have you used computers in the audit process?

a) 0 – 5 years () b) 6 years - 10 years ()

c) 11 years – 15 years () d) above 15 years ()

**SECTION B: FACTORS AFFECTING ADOPTION OF COMPUTERIZED
AUDITING.**

11. Is senior management helpful in the use of computerized auditing?

Yes ()

No ()

12. How many computers do you have in the audit firm?

13. What is the highest level of computer training in your firm?

a) Basic level () b) Secondary level ()

c) Certificate () d) Diploma ()

e) University Degree ()

14. What are the difficulties found in using the computer tools in auditing?

a) Lack of Technical support

- b) Maintenance Cost
- c) Lack of sufficient Training
- d) Constant Breakdown
- e) Any Other.....

15. What are the challenges experienced in adopting computerized auditing by audit firms in Kenya?

- a) Training
- b) Cost of acquisition and maintenance
- c) Support from management
- d) Lack of technical support
- e) Any other.....

16. What polices should be put in place to enhance adoption of computerized auditing?

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SECTION C: AUDIT QUALITY

Annual turnover in Kenya shillings

- Small clients =1.5 million to 3.0 million
- Medium size client = 4.0 million to 10.0 million
- Large client = Over 10.0 million

17. How long does it take you to produce audit work?

weeks	Before adoption of computerized auditing			After adoption of computerized auditing		
	Small	Medium	Large	Small	Medium	Large
1 - 2						
3 - 4						
5 - 6						
7 - 8						
9 - 10						
Above 10						

18. What sample size did you use for auditing?

Percentage	Before adoption of computerized auditing			After adoption of computerized auditing		
	Small	Medium	Large	Small	Medium	Large
1 – 10%						
11 – 20%						
21 – 30%						
31 – 40%						
41 – 50%						
51 – 60%						
61 – 70%						

71 - 80%						
81 - 90%						
Above 90%						

19. How much does it cost you to carry out a single audit (in kshs)

Cost (Kshs)	Before adoption of computerized auditing			After adoption of computerized auditing		
	Small	Medium	Large	Small	Medium	Large
1 - 10,000						
10,001 - 20,000						
20,001 - 30,000						
30,001 - 40,000						
40,001 - 50,000						
50,001 - 60,000						
60,001 - 70,000						
70,001 - 80,000						
80,001 - 90,000						
90,001-100,000						
Above 100,000						

20. How much do you charge for a single audit work

Fees (Kshs)	Before adoption of computerized auditing			After adoption of computerized auditing		
	Small	Medium	Large	Small	Medium	Large
1 – 10,000						
10,001 – 20,000						
20,001 – 30,000						
30,001 – 40,000						
40,001 – 50,000						
50,001 – 60,000						
60,001 – 70,000						
70,001 – 80,000						
80,001 – 90,000						
90,001-100,000						
Above 100,000						

Thank you.