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Disclosure of key audit matters and market reaction: the case of companies listed on the Nairobi Securities Exchange.

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Disclosure of Key Audit Matters and Market Reaction: The Case of Companies Listed on the Nairobi Securities Exchange

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DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Freda Mwendwa Kithinji

Signature …….

Date ……2 November 2021……

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ABSTRACT

This study was aimed at investigating whether the disclosure of key audit matters in the auditor's report of listed companies in the Nairobi Securities Exchange causes a reaction in the stock market. The purpose of this was to establish the information value and hence the usefulness of key audit matters information for the benefit of investors and the Nairobi Securities Exchange market in general. A descriptive research design and quantitative methods were adopted for this study. Secondary data comprising key audit matters as the independent variable was collected from annual reports of companies listed in the Nairobi Securities Exchange, while cummulative average abnormal returns were derived as the dependent variable from listed company stock prices obtained from the NSE. The research focused on four key audit matters namely impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities, for the first three years after implementation of the KAMs regulation effective December 2016, globally. Cummulative average abnormal returns were used as a measure of the stock market reaction. Control variables including company size, audit firm size, earnings per share, debt ratio and return on assets collected from NSE listed company annual reports, were added to the analysis to evaluate their effect on the independent and dependent variables. Event study methodology was applied with the date of release of the audit report with KAMs being the event date over an event window of 30 days before and after event date. Findings from the regression analysis performed using SPSS revealed a significant relationship between all KAMs studied and cummulative average abnormal returns at 95% confidence interval, hence KAMs elicit a stock market reaction at the NSE. Additionally, the KAMs led to an increase in abnormal returns in the first year they were implemented, followed by a decrease in abnormal returns in the following two years indicating that overtime there was a possible reduction in information relevance of the KAM which requires attention by the audit regulator, ICPAK to explore ways of improving on the KAMs disclosure. When control variables were added to the regression model, return on assets ratio was most impactful compared to the KAM, meaning that investors still consider company financials as important in the presence of KAMs. KAMs are a significant predictor on their own. The limitations of this study included using AGM date as event date proxy; the study was limited to analysing the market reaction to four specified KAM topics and focused on the presence and not extremity of the KAM disclosure which have been recommended as areas for further research. From the findings of this study, the researcher recommends a consideration into adoption of KAMs regulation by government and other regulatory agencies such as the Office of the Auditor General, the Central Bank of Kenya and the Retirement Benefits Authority for their respective auditees and licensees, for the benefit of their stakeholders given the information value from KAMs, for better transparency.

Key words: Audit/auditor's report, investors, key audit matters, stock market, stock market reaction

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DEFINITION OF KEY TERMS

Audit/Auditor's report	A report issued by the auditor that communicates the results of an audit.
Investor	An individual or organisation that puts money into an entity such as a business for a financial return.
Key audit matters	These are matters, in the judgement of the auditor, that were of most significance in the audit of the financial statements. They are communicated to company shareholders through the audit report.
Listed company	A company whose shares are quoted on a stock exchange.
Stock market reaction	A change in the price of equity shares in response to release of news or data.
Stock price	The current price that a share of stock is trading for in a stock market.

ABBREVIATIONS AND ACRONYMS

ACCA	The Association of Chartered Certified Accountants
AGM	Annual general meeting
CAM	Critical audit matter
CBK	Central Bank of Kenya
CMA	Capital Markets Authority
IAASB	The International Auditing and Assurance Standards Board
ICAEW	The Institute of Chartered Accountants in England and Wales
ICPAK	Institute of Certified Public Accountants of Kenya
IRA	Insurance Regulatory Authority
ISA	International Standard on Auditing
KAM	Key audit matter
NSE	Nairobi Securities Exchange
PCAOB	Public Company Accounting Oversight Board
PwC	PricewaterhouseCoopers
RBA	Retirement Benefits Authority
SASRA	Sacco Societies Regulatory Authority

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DEDICATION

For Natalie, Lily and Anton.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The auditor's report is the key outcome that communicates the results of an audit process. Audit reporting is vital as it may direct the stakeholders' decision making activities through the reliance on audited financial information (Cordos, Fulop, & Magdas, 2020). For years, the independent auditor's report had a very basic and simple structure with very brief paragraphs making it very difficult to understand its objective, especially by non-professional investors (Tiron-Tudor, Cordos, & Fulop, 2018). This short form or standard report provided minimal information about the procedures performed by the auditor as part of the audit process as well as any substantive results of their work (Coram, Mock, Turner, & L., 2011). Stakeholders of the audited financial statements considered that the language in the short form auditor's report was too standardized and that there was insufficient explanation to support the audit opinion issued (Cordos, Fulop, & Magdas, 2020). This traditional report was said to adopt a pass or fail format and hence financial statement users generally valued the auditor's opinion paragraph only and were disinterested in reading the entire auditor's report due to its standardization (Gold & Heilmann, 2019); (Turner, Mock, Coram, & L, 2010).

Investors and other users of financial statements had for a long time desired a more informative and relevant auditor's report. They were interested in a report that provided more details of the audit process and the financial statements, making it easier to distinguish between companies that had received audit reports with no qualification mark (Mock, et al., 2013) and (ACCA, 2018). Users were keen on more disclosures on key audit discoveries arising from the key risk areas (Vanstraelen, Schelleman, Meuwissen, & I, 2012). The required knowledge about the audit and financial statements was lacking from the audited financial statements and auditor's report leading to information disadvantage to the users (Mock, et al., 2013). The 2008 global financial crisis raised the urgency about improving the auditor's report. Global regulators and standard setters began focusing on how to improve the informative value of the auditor's report (Gold & Heilmann, 2019).

In 2015, the International Auditing and Assurance Standards Board (IAASB) released a series of new and revised auditing standards to enhance the auditor's report. Among them was an auditing standard that introduced a new section in the auditor's report called Key Audit Matters (KAMs). This auditing standard, 'International Standards on Auditing (ISA) number 701, Communicating Key Audit Matters in the Independent Auditor's Report', became effective for financial audits performed on or after 15 December 2016 (IAASB, 2015). ISA 701 defines key audit matters as those matters that, in the auditor's professional judgement, were of most significance in the audit of the financial statements of the current period. Unlike the previous standardized report, the enhanced auditor's report with the section on KAMs allows customization with client and engagement specific information which helps to meet the information needs of financial statement users (Gold & Heilmann, 2019). While the IAASB released the new standard on KAMs effective for December 2016 year ends, the Public Company Accounting Oversight Board (PCAOB), an American organization that oversees the auditing practices and regulation for publicly listed companies in America, released a similar standard, AS 3101, that requires critical audit matters (CAMs) to be included in the auditor's report effective for 30 June 2019 fiscal year ends for large accelerated filers. All other companies for which the AS 3101 standard applies, have an effective date of 15 December 2020 (PCAOB, 2017). The two standards, ISA 701 and AS 3101, released by the different standard setters were found to have a comparable objective of revealing additional matters in the auditor's report that are likely to be useful to users of the audited financial statements (IAASB, 2017). In the United Kingdom, the Financial Reporting Council (FRC) took steps in 2013 to expand the content of the audit report with similar objectives as IAASB and PCAOB (Gutierrez, Minutti-Meza, Tatum, & Vulcheva, 2018).

With events such as the past global financial crisis and scandals, the audit profession continued being challenged and there was a decreasing confidence in auditor reporting by the public (Fulop, Tiron-Tudor, & Cordos, 2019). One way to address this was tightening of audit rules through revision or issuance of new auditing standards to improve auditor reporting such as the extended audit report with KAMs for listed companies which is said to be the most significant and interesting development in auditing standards (Woudenberg, Dijk, & Kamerling, 2021). Key audit matters describe the most significant audit areas considered by the auditor in the audit of the financial statements of the company and the audit procedures performed in respect of those areas. The audit will also communicate why those areas were considered as the most significant in the audit of the financial statements.

This information helps to reduce the expectation by users of the financial statements, of the auditors' responsibility as they become knowledgeable on the type of procedures performed by the auditor over financial statement areas (Fulop, Tiron-Tudor, & Cordos, 2019). This increase of knowledge and hence reduction of information gap by users is expected to be value relevant to investors, as actors in the stock market, which is the motivation for auditing standard reforms including the introduction of key audit matters by standard setters (IAASB) (Pais, 2020). The potential positive effect on user's perception of the audit report with KAMs is the underlying basis for this study.

Audit reporting which forms part of corporate reporting (Cordos, Fulop, & Magdas, 2020) is the way in which a company connects with its stakeholders. The disclosure of KAMs is useful in enhancing corporate reporting by way of improved governance, audit quality and financial reporting (ACCA, 2018) and (ICAEW, 2017). Auditors who are among a company's stakeholders as defined by Sachs, Ruhli & Isabelle (2009), play a critical role in responding to the expectations of other fellow stakeholders, through the audit report. The new KAM section is intended to provide benefit to investors and other stakeholders by highlighting the most important aspects from within the financial information of the Company. Investors and other stakeholders of a company are therefore also stakeholders of the audited financial statements Tiron, et al. (2018). Elliot, Fanning & Peecher (2020) observed that the extended audit report impacted positively the quality of reporting. Investors were influenced about their investment decisions based on the content of the audit report, especially for companies with similar financial reporting quality. The auditor's report added credibility to the financial statements of the company. This is also confirmed by Christensen, Glover & J (2014) who concluded that non-professional investors are likely to change their investment choices based on information provided in a key audit matter paragraph of an auditor's report. In comparison, investors who receive a basic report without KAMs are less likely to change their investment decisions. Christensen, et al. (2014) conducted an experiment among American business school graduates that represented non-professional investors and established that those who reviewed a KAM paragraph regarding uncertainty of management estimates in the financial statements would probably cease further investments in the company in contrast to investors who reviewed a traditional audit report. Gutierrez, et al. (2018) asserts that to cause a movement in stock prices or a market reaction, the audit report with KAMs essentially conveys incremental information,

Accordingly, extending the audit information disclosure with key audit matters would be valuable as more company specific information is presented (Christensen, Glover, & Wolfe, 2014). This information effect of CAMs has also been noted by Altawalbeh and Alhajaya (2019) who performed a study in Jordan with the goal of examining the investor's response to KAMs. 128 audit reports of public shareholding companies listed on the Amman Stock Exchange for the year 2016 were analysed, with the investors' response being measured by the absolute value of abnormal trading volume. The study found that KAMs' disclosure seem to lead to abnormal trading volume meaning that KAMs influence investor's behaviour and decisions. The study concluded that KAMs provide useful information for investor decision making. The degree of information asymmetry on investment behaviour of investors, has shown that the effect of CAMs is greater where there was a higher degree of information asymmetry (Li X. , 2020).

Another experiment by Kohler, Ratzinger and Theis (2020) performed on professional and non-professional investors in Germany found that KAMs seem to have no communication worth to non-professional investors who are not able to easily process the new evidence exposed by the KAM, while professional investors get informed about the economic situation of the company from the KAMs disclosed.

Experimental and archival data studies done on the effect of KAMs on user's perception such as investors and hence the stock market in general since introduction of the new regulation to disclose KAMs in the audit reports of listed companies are showing varied results (Velte & Issa, 2019). According to Pais (2020) the research is still insufficient to give robust conclusions due to the narrow scopes covered such as one country, one year, one user.

The audit profession in Kenya which adopted the International Standards on Auditing in 1999 is therefore also subject to the new standard, ISA 701, and this has been in effect since 15 December 2016. Audit practitioners who are regulated by the Institute of Certified Public Accountants of Kenya (ICPAK) have been communicating key audit matters in their independent auditor's report of the companies in scope as required by ISA 701. Within limits allowed by the governing auditing standard, 701, other regulatory institutions (Insurance Regulatory Authority (IRA), Capital Markets Authority (CMA), Sacco Societies Regulatory Authority (SASRA)) extended this requirement to their licensees that are not listed companies (ICPAK, 2016).

There is potentially a significant scope impact on users of the audit reports in Kenya and beyond given the extensive application on all 66 listed companies at the NSE (NSE, 2021), as well as other non-listed entities as highlighted. The audit and accounting profession in Kenya has also come under public scrutiny and challenge as to their expected role where a clean audit report on the financial statements is issued, however financial ill-health is reported shortly after, such as for Uchumi Supermarkets Limited which faced financial difficulties, declining performance and corporate scandal within its lifetime that began in the 2000s (Kemboi, 2013); (Mungai, 2017). Even under the financial distressing situation the company found itself in, the financial statements of the company continued to receive a clean audit report under the traditional report format year on year. An examination of information usefulness of the expanded auditors report with KAMs is therefore of interest in a Kenyan context. Scarce studies around the topic of key audit matters have been done in Kenya. Njenga's (2019) study on determinants of key audit matters reported in audit reports of NSE listed companies informs on drivers of key audit matter disclosures including firm size, subsidiaries, auditor type, industry and cross listing status. However, the effect on the KAMs on different stakeholders is yet to be explored.

Key audit matters are determined by the audit practitioner from the population of key audit focus areas communicated to the company management and board of directors in the management letter. The most important of those focus areas considered as such by the auditor, are then selected as key audit matters (Li H. , 2020). The auditor will apply his/her professional judgement in selecting the key audit matters and therefore KAMs will vary from auditor to auditor and from company to company (IAASB, 2015). A study by Li H (2020) which analysed KAMs of China's A- share listed entities for two years from 2016, revealed that the top key audit matter topics were revenue recognition and impairment of assets. The topic on revenue recognition was influenced by a new accounting standard on revenue recognition which because of its first-time application, auditors mentioned it more frequently, while the topic on impairment of assets was popular because it is an area where the company management exercise a lot of judgement in estimating the account balance. An empirical study by Brouwer, Eimers & Langendijk (2016) that examined financial statements and audit reports for the year 2015 for 50 companies listed on the Netherlands Stock Exchange and Amsterdam Stock Exchange found that most frequently mentioned KAMs are tax position (15%), valuation of goodwill (14%, including impairment) and revenue recognition (11%).

Brouwer, et al. (2016) further noted that the majority of KAMs are balance sheet specific and that issues such as reliability of information technology systems which process and store company financial and non-financial data, compliance with laws and regulations as well as internal control issues were rarely reported as KAMs. PricewaterhouseCoopers (PwC) Singapore in a 2017 survey of first year experience of the enhanced auditor report with KAMs observed similar findings on most commonly reported KAM topics. From audit reports reviewed for companies in Singapore, Hongkong and the United Kingdom, asset valuations, impairment of assessments and revenue recognition were the main topics covered by KAMs (PwC, 2017).

The nature and content of the KAMs have been found to be directly related to either the financial statements or to the auditor's work. From the financial statements' perspective, KAMs reported on, include topics from areas of significant management judgement such as accounting estimates. From the perspective of the auditor's work, KAMs are derived from topics in areas where the auditor spent more time and effort and/or areas the auditor exercises professional judgement in their audit activities such as goodwill impairment, valuation of financial instruments and others (Li H. , 2020) and (Brouwer, Eimers, & Langendijk, 2016). Key audit matters will also be influenced by the nature of the industry sector a company is in, with asset driven sectors highlighting asset impairments as a frequently reported KAM (Pries & Scott, 2018). In determining the number of KAMs to be reported, Wuttichindanon & Issarawornrawanich (2020) found that using Big Four audit firms, companies with many subsidiaries and those in the technology, property, construction and finance sectors have higher number of KAMs while highly profitable companies have lower number of KAMs. Similar observations were noted by Njenga (2019) in a Kenyan study, including cross listing status. Audit fees is also a relevant factor as was determined by Oghuvwu & Orakwue (2019). Li H. (2017) found that of the KAMs included in the auditor's reports of A+H share listed companies in China in the first year of implementation, 66% related to asset impairments, 16% were on revenue recognition, 11% on fair value measurements, with tax and other one off KAMs being the least at 5%.

1.2 Statement of the Problem

Financial scandals in the past such as the 2008 financial crisis, the Enron Scandal and WorldCom have negatively influenced the stakeholder confidence about the figures reported in financial and audit reports (Cordos, Fulop, & Magdas, 2020). The traditional audit report format applicable at the time had a basic and simple structure with standardized wording and insufficient explanation on the audit process and outcome (Tiron-Tudor, et al. (2018) and Cordos, et al. (2020)). It lacked informational value to investors which value and reliability has been found in the audit report that includes key audit matters as observed by Altawalbeh & Alhajaya (2019) and Waldron (2015).

The need for an expanded audit report with key audit matters by stakeholders emanated from the past financial crisis (Gold & Heilmann, 2019) and this was further motivated by the need to reduce the audit expectations gap, which is the difference between what financial statement users and the public perceive as the responsibility of the auditor and the actual responsibility of the auditor as defined by the auditing standards and regulation (IAASB, 2011). KAMs explain the audit procedures that were carried out on the most significant areas and therefore users become knowledgeable on the specific audit procedures carried out which reduces perception. Investor confidence which is affected by the information and knowledge gap between the auditor and company management on one hand and the investor on the other hand (Mock, et al., 2013), can be boosted by key audit matters (Gold & Heilmann, 2019). This study was therefore essential in understanding how key audit matters can fill these gaps.

A few investigations have been done to establish whether key audit matters are informative, transparent and increase reliability and credibility of the financial statements measured by the behaviour of investors to this additional information. The empirical research performed on the effect of the disclosure of key audit matters on stock prices and the stock market actors has presented mixed results (Velte & Issa, 2019). Research has shown that KAMs both have an advantage and no advantage to investors. Studies such as Christensen, et al. (2014) and Elliot, et al. (2020) have argued that the expanded audit report that includes the key audit matter section improves investor confidence as more relevant information about the organisation is available for decision making. On the other hand, studies such as Rapley, Robertson and Smith (2018), Gutierrez, Minutti-Meza, Tatum, & Vulcheva (2018) and Bedard, Gonthier-Besacier and Schatt (2014) have concluded that there is no significant effect on stock prices or the stock market at large as a result of the introduction of KAMs.

Since capital markets have inherent differences that are country specific, the results from one country may not be comparable to another (Li X. , 2020). Kenyan contextual research in this area is therefore necessary, which this study purposed to address. Further, the empirical research in this area focuses on key audit matters in general. There is little research on the specificity of key audit matter topics which this study sought to address by investigating whether specific key audit matters of impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities elicit a stock market reaction in companies listed in the Nairobi Securities Exchange.

1.3 Research Objectives

1.3.1 General Objective of the Study

The general objective of this study was to determine the market reaction to the disclosure of key audit matters in the auditor's report of companies listed on the Nairobi Securities Exchange. The study aim was to determine the effectiveness of the inclusion of key audit matters for the benefit of the stock market and investors.

1.3.2 Specific Objectives of the Study

1. To determine the stock market reaction to the disclosure of a key audit matter on impairment of assets
2. To determine the stock market reaction to the disclosure of a key audit matter on valuation of financial instruments
3. To determine the stock market reaction to the disclosure of a key audit matter on revenue recognition
4. To determine the stock market reaction to the disclosure of a key audit matter on tax liabilities

1.4 Research Questions

1. What is the stock market reaction to the disclosure of a key audit matter on impairment of assets?
2. What is the stock market reaction to the disclosure of a key audit matter on valuation of financial instruments?

3. What is the stock market reaction to the disclosure of a key audit matter on revenue recognition?
4. What is the stock market reaction to the disclosure of a key audit matter on tax liabilities?

1.5 Scope of the Study

Key audit matters are applicable to entities listed on a stock or securities exchange. They may also apply where an auditor is required by law or regulation to communicate them, in the independent auditor's report (IAASB, 2015). In Kenya, KAMs are applicable to all companies listed in the Nairobi Securities Exchange and all other entities licensed by the Insurance Regulatory Authority (IRA), Capital Markets Authority (CMA), Sacco Societies Regulatory Authority (SASRA) that are not a part of the population of listed companies (ICPAK, 2016).

This study analysed the effect of KAMs on the stock market for NSE listed companies due to availability of information on KAMs to the general public through their published annual reports and financial statements.

1.6 Significance of the Study

1.6.1 Significance to Academia

This study contributes to the body of knowledge on the effects of key audit matters on the stock market in a developing country. Most of the existing research in this area covers more developed markets. This study also provides a foundation for further research on other enhancements made in the auditor's report as well as recommending areas for future investigation.

1.6.2 Significance to Practitioners

The study provides information to audit practitioners that helps in understanding the varied impact of the key audit matters they disclose in the auditor's report and therefore how they can improve the disclosures in the independent auditor's report for the benefit of investors and other users of the financial statements. This is crucial given the judgment exercised by auditors in identifying and communicating KAMs.

1.6.3 Significance to Policymakers

The study will be of importance to the accounting and auditing regulatory body, the Institute of Certified Public Accountants of Kenya (ICPAK) and other regulatory agencies such as the IRA, CMA, SASRA, that have extended the mandate to disclose KAMs in the audit report of financial statements of their respective licensee entities, in noting how different users perceive the information communicated in the KAMs and thus streamlining of the guidelines around disclosure of key audit matters. The findings will also provide valuable insight on information usefulness of KAMs, for other regulatory agencies such as the Central Bank of Kenya (CBK) and the Retirement Benefits Authority (RBA) that have not extended the KAMs disclosure requirement to their respective licensed entities not listed at the NSE, but which hold fiduciary responsibilities that may be of public interest.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews and discusses the theoretical and empirical literature relating to the usefulness of key audit matters disclosed in the auditor's report. This is followed by an explanation of the research gap which this study addressed. The proposed conceptual framework is then presented in the last section of this chapter.

2.2 Theoretical Literature Review

This study was anchored on the theories discussed below:

2.2.1 Agency Theory

Jensen & Meckling (1976), defined an agency relationship as 'a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some services on their behalf which involves delegating some decision making authority to the agent. The theory builds on the relationship between the principal and the agent. In the context of a Company, the agent (manager) acts on behalf of the principal (shareholder). If both parties to the relationship have divergent self-interests and objectives, it follows that the agent will not always act in the best interests of the principal.

One major issue with the agency relationship is the information asymmetry between the agent and the principal, with the agent having an information advantage over the principal (Mugo, 2014). In a shareholder-management context for public listed companies where management and ownership is separated, the management has more information than the shareholder (Min & Kee, 2019). The principal may lack trust in the agent and may put in place measures to reinforce the trust (Sijpesteijn, 2011). An audit is one monitoring mechanism that the principal may put in place to provide an independent check on the work of the agent and information provided by the agent (ICAEW, 2005), (Min & Kee, 2019). Auditor communication of key audit matters in the independent auditor's report will assist to reduce the information asymmetry between investors or shareholders (the principal) and auditors, which in turn help to reduce the information asymmetry between investors or shareholders and management (the agent), about the Company's financial performance.

The audit practice regulators and standard setters expected that through key audit matters that provide company specific information to the users of the financial statements, there will be a reduction in information asymmetry (Li X. , 2020) which in turn will enhance transparency and information value (Jermakowicz, Epstein, & Ramamoorti, 2018). Reducing the information asymmetry in the capital markets will improve their efficiency in investment making and allow company stock prices to reflect specific information about a company (Hutton, Marcus, & Tehranian, 2009).

The importance of the agency theory to this study was in illustrating the value that key audit matters bring in reducing the information gap between investors and shareholders as principals, and the managers that act as agents. With more information provided by the KAMs, the investors can make better investment decisions whose impact can be measured by the movement in stock prices.

2.2.2 Audit Expectation Gap Theory

The audit expectation gap relates to the difference between the financial statements users' perception of the auditor's role and responsibility and what the auditor actually does (Liggio, 1974). Components of the expectation gap as analysed by Porter (1993) include (1) the reasonableness gap which is the expectation of absolute assurance of fraud and error free financial statements by the users against the reasonable assurance that an audit actually gives based on auditing standards, and (2) the performance gap which arises from auditing standards and audit performance considered deficient.

There have been interventions in the past by standard setters to attempt to address the audit expectation gap such as revision of the audit report in 2006 to include explanations on management and auditors' responsibilities over the financial statements, however a persistent gap was found to exist with respect to auditors' responsibilities (Gold, Gronewold, & Pott, 2012). Ruhnke & Schmidt (2014) noted that understanding the factors to which the audit expectation gap can be attributed, is necessary to be able to design the correct strategies to address the gap. Public failure, auditor failure and standard setter failure have been identified as factors leading to audit expectation gap for which various recommendations such as user education on the role of auditors which reduce the subjective component of unreasonable expectation; auditor training, strict supervision and severe penalties; and the provision of auditing standards that are well detailed with no inconsistencies have been suggested to tackle the expectation gap. Other suggestions include expanding the role of auditors to include

responsibilities over fraud and error; and, increasing perceived auditor independence (Salehi, 2011), (Devi & Devi, 2014). However, the evidence to confirm the success of these strategies is scarce. Ojo (2006) argues that the subjective perception of auditors' performance makes it difficult to totally deal with the auditor's expectation gap but with the strategies mentioned, it is possible to reduce it.

Expanding the auditor's report is a possible solution to closing the deficient standards or deficient performance gap (Fulop, Tiron-Tudor, & Cordos, Audit education role in decreasing the expectation gap, 2019). An example of this is the introduction of key audit matters in the auditor's report which is expected to assist in the reduction of the expectation gap by the standard setters as the key audit matters provide additional information about the extent of audit procedures performed on key audit areas thereby the users become aware of the levels and limits of the audit (Velte & Issa, 2019), (IAASB, 2011). There are however diverse conclusions. A study by Kitiwong, Ekasingh, & Sarapaivanich (2019) found that key audit matters helped to narrow the deficient standards and deficient performance gap while the reasonableness gap became wider attributed to a dynamic changing business environment with more complex business transactions hence increasing expectations from auditors. Coram and Wang's (2020) research on whether KAMs affect the users' perception of audit responsibility and reliability of the financial statements found that KAMs did not make any difference which is similar to other studies that concluded that KAMs have no communicative value (Rapley, et al. (2018); Gutierrez, et al. (2018); Bedard, et al. (2014)).

Key audit matters have been noted as one potential solution to address the expectation gap. KAMs are a source of information about the audit and therefore a form of education to the users, hence the relevance of this theory to this study.

2.2.3 Inspired Confidence Theory

This theory, developed by Theodore Limperg, focuses on the demand and supply for audit services. It links the public's need for reliable financial information to audit methods than can respond to these needs. The theory emphasizes that the users' needs will evolve overtime and so will audit techniques to match the expectation (Limperg, 1985). According to the theory, management is accountable to stakeholders, as a return for their investment in the company. Accountability is achieved through issuance of financial reports by management. However since the information provided by management may be biased, audit services are required to assure the reliability of the information (Cordos, Fulop, & Magdas, 2020); (Ittonen, 2010).

Oghuvwu & Orakwue (2019) opined that enhancing audit information disclosures through introduction of key audit matters will result in increased financial reporting quality hence meeting the changing needs of users. High quality financial reporting information is vital in stimulating investors into investing (Soyinka, Fagbayimu, Adegoroye, & Ogunmola, 2017). Jermakowicz, et al. (2018) also observed that increased disclosures by way of KAMs may also provide auditors, management, and audit committees with additional incentives to change their behavior in ways that may enhance audit quality, and ultimately financial reporting quality, in the public interest. Fuller (2015) notes that managers will react to detailed audit reporting by increasing the quantitative disclosures in the financial statements which could enhance the user's ability to quantify the risk better. The level of detail included in the KAM influences the extent of disclosures by management in the financial statements, for the benefit of investors.

This theory assists to explain the importance of the auditor's opinion to stakeholders. The key audit matter section of the auditor's report enhances the value add by highlighting areas which the auditor judges as pertinent in understanding the financial statements of the company (Cordos, Fulop, & Magdas, 2020).

2.3 Empirical Literature Review

This section looked at the existing literature from empirical studies performed that attempt to establish the effect of the disclosure of key audit matters to investors and other stakeholders of the financial statements. The effect on investors gave indication of how the stock market or stock prices behave to this information. The empirical review was performed geographically covering global regions outside Africa and in Africa.

2.3.1 The Effect of the Disclosure of Key Audit Matters on the Stock Market

The external auditor is primarily accountable to the shareholder who ratifies his/her appointment at the company's annual general meetings. However, the target group for the audit report is broader and includes investors, who are potential shareholders, bankers, government authorities, lenders and many more. Audit reports have been confirmed to provide useful information to investors due to the fact that auditors have access to information not available to third parties, with which they use to prepare the audit report (Ittonen, 2010).

The auditor has been said to facilitate market transactions through decision making stimulation by providing an opinion on financial statements that should reduce the information asymmetry (Soltani, 2000). Auditing is deemed not valuable if the users of the financial statements do not understand the effect of the audit report (Moradi, Salehi, Rigi, & Moeinizade, 2011). Tahinakis and Samarinas (2016) examined the additional information contained in audit opinions and found that the audit opinion has substantial market influence which demonstrated the reliability of the auditing process. The same was observed by Gutierrez, et al. (2018) who asserts that to cause a movement in stock prices or a market reaction, the audit report with KAMs essentially conveys incremental information, Accordingly, extending the audit information disclosure with key audit matters would be valuable as more company specific information is presented (Christensen, Glover, & Wolfe, 2014).

In their study carried out in America to explore the effect of the presence or absence of critical audit matters (CAM) on investor judgements, Rapley, Robertson and Smith (2018), found that non-professional investors are less likely to invest when the auditor discloses a CAM than when no CAMs are identified. Similar findings were observed by Christensen, et al. (2014), in an experiment also with non-professional investors, who noted that investors who see a CAM paragraph in an audit report will probably change their choice of what to invest in unlike those who see a traditional audit report.

This information effect of CAMs has also been noted by Altawalbeh and Alhajaya (2019) who performed a study in Jordan with the goal of examining the investor's response to KAMs. 128 audit reports of public shareholding companies listed on the Amman Stock Exchange for the year 2016 were analysed, with the investors' response being measured by the absolute value of abnormal trading volume. The study found that KAMs' disclosure seem to lead to abnormal trading volume meaning that KAMs influence investor's behaviour and decisions. The study concluded that KAMs provide useful information for investor decision making. The degree of information asymmetry on investment behaviour of investors, has shown that the effect of CAMs is greater where there was a higher degree of information asymmetry (Li X. , 2020). These results demonstrate how CAMs can be used to resolve the agency conflict put forward by Jensen and Meckling (1976).

The subject covered by the key audit matter has not been seen to influence investor judgements compared to other attributes such as the quantity, form and content of KAMs as was in the study by Li X (2020).

Experiments conducted by Christensen, et al. (2014) and Rapley, et al. (2018) on non-professional investors had similar outcomes yet different KAM topics of fair value estimates and investment income respectively, were the subject of the experiment. This conclusion however may not hold, as Sneller, Bode and Klerkx (2017), who undertook a study to investigate whether key audit matters relating to information technology issues in annual reports in the Netherlands, are a useful source of company specific information that could fill a gap in the availability of information for investors and other stakeholders, found that IT related key audit matters specifically contain valuable information for investors. Li X (2020) studied the value of CAMs on institutional investors in the Shanghai stock market. The study examined the investors response to the format, quantity and content of CAMs; where form represented the tabular format and text narrative both of which were said to affect the reading experience, quantity represented the number of CAMs revealed, and content represented the extent of use of figures and percentages to describe the CAM. The institutional investors response was measured using their shareholding ratio in the A-share listed companies in Shanghai. Regression of the CAM attributes on shareholding ratio revealed that the greater the number of CAMs revealed, the more the institutional investors reduce their shareholding ratio, hence an inverse relationship, similar to the study by Rapley, et al. (2018) that also showed an inverse relationship between the presence of CAMs and investment.

Key audit matters have been said to influence higher quality financial reporting (Gold, Heilmann, Pott, & Rematzki, 2020). Gold, et al. (2020) experimented whether KAMs communicated in the auditor's report affect managers' reporting behaviour. The experiment involved varying the amount of disclosures with KAM absent, KAM with firm specific information and KAM with nonfirm-specific information and testing the participant's reporting behaviour. The study found that managers are more conservative in their financial reporting when KAMs are present compared to not present. Firm specific KAMs were found not to have any material effect. The findings are consistent with a study in the United Kingdom by researchers Reid, Carcello, Li and Neal (2019). KAMs are ultimately beneficial in achieving higher financial reporting quality which act as a check on management consistent with the inspired confidence theory. Rapley, et al. (2018) noted that KAMs negatively affect the investor's view of management's contribution to the quality of financial reporting and hence investment intentions. The reverse was found true of auditors.

Buachoom, Sengwan, Sugaraserani and Pangsirikul (2019) considered the moderating effect of KAMs on the relationship between the auditor's opinion and stock prices of listed companies in the Stock Exchange of Thailand. Using a three-level hierarchical regression model, the researchers established that the auditor's opinion and KAMs have a weak effect on stock prices, when considered separately. However, when the same variables are considered together, they result in a strong influence on stock price of the listed firms. KAMs were found to have strong moderating effect on the auditor's opinion-stock price relationship. The researchers concluded that KAMs increase trust and support decision making by investors, therefore market related participants should pay attention to the KAMs together with the audit opinion when considering stock trading.

While some studies discussed above have shown a useful effect of KAMs in investor decision making or stock markets in general, Velte and Issa (2019) found that mixed empirical results have been observed, hence KAMs were also seen to have little or no effect on shareholders/investors decisions and/or capital markets. Velte and Issa (2019) recommended the need for further research including country context research because of the little experience with KAM regulation by all stakeholders since implementation in 2016.

Jermakowicz, et al. (2018) explained that the likely problem with KAMs is the standardising of the disclosures excessively which cancel their use and advantage to investors. Additionally, certain investors could misunderstand the KAMs to mean that there is a significant matter in the Company, even where a clean report was issued by the auditor. The issue of boilerplate communication was also expressed by Banham (2018), as it would reduce the value of the enhanced disclosures to investors.

A study by Bedard, Gonthier-Besacier and Schatt (2014) on the consequence of justification of assessments (JOA), similar to KAMs, which have been compulsory in France from 2003 revealed that the additional disclosures in the auditor's report have limited effects on the financial market. The study employed a regression model with five independent variables. Firstly, JOA variable, where a numeric of one was assigned if the auditor's report includes justification of assessments and zero otherwise. Other variables were: JOA in the first year of requirement to determine if there was a larger effect in the first year, the number of justification of assessments included in the audit report: JOA mentioned after the first year of requirement and lastly, readability of the justification paragraphs using SCOLARIUS which is a measure of readability developed for French texts.

The dependent variable was the cumulative abnormal returns near the reporting date. The results of the study showed that the justification of assessments had no effect on the market as none of the five variables were statistically significant. There were no clear benefits identified. The researchers mentioned generalisation of the French auditing standards regarding the identification of justification of assessments, compared to IAASB and PCAOB requirements on KAMs/CAMs, as a limiting factor in their study.

Kitiwong, Ekasingh, & Sarapaivanich (2019) analysed the impact of the first implementation of the new audit report with key audit matters in Thailand in 2016. The study found that there were no obvious benefits of KAMs on market reaction. A similar conclusion was arrived at from another study in Thailand by Promsen and Boonyanet (2019) and in China by Li Hao (2017). These findings were however inconsistent with findings from the study by Buachoom, et al. (2019), done in Thailand, which established that KAMs have a strong moderating effect on the relationship between the auditors opinion and stock prices. The different results could be attributed to the different empirical models and variables applied in the studies. Kitiwong, et al. (2019) applied the cummulative abnormal return model and the cumulative abnormal trading volume model. Both Promsen and Boonyanet (2019) and Buachoom, et al. (2019) applied a model based on stock prices, however Buachoom's model was a three level hierarchical regression model of stock prices, the auditors opinion and KAMs.

A study in Sweden by Christofferson & Gronberg (2018) found that KAMs disclosed lacked informativeness and entity specificity and proposed that the audit practitioners should have the entity in mind when disclosing the KAM to avoid standardized, irrelevant and non-informative disclosures. Nonprofessional investors' investment decisions are influenced by the level of detail disclosed about the KAM and the audit procedures that were performed. Increased disclosure detail leads to higher levels of confidence in the financial statements (Kipp, 2017). Hao (2017), suggests that disclosing key audit matters by auditors in China can be improved by adding graphics, giving an opinion on the matters disclosed and disclosing additional content about the audit in each KAM. However, giving an opinion about each key audit matter disclosed is against the essence of ISA 701 (IAASB, 2015). Li and Hay (2018) found that KAMs lead to better quality of audit procedures, however this leads to an increase in audit fees. An increase in company expenses lowers profitability and hence the level of dividends distributed to shareholders.

A study in South Africa by researcher Segal (2017) revealed that KAMs disclosed may arouse concern by investors and other users of financial statements on matters that may not have been questionable before. The study further identified that mentioning the audit procedures performed and judgements made by the auditor in the KAM, indirectly portrays what procedures were not performed. Increased transparency to a certain level may lead to increased curiosity by investors which may reduce trust and confidence in the audit reports. Pries and Scott (2018) found that KAMs issued in smaller public entities in Australia in the first year of implementation did not provide transparency as the ISA 701 requirement to include information regarding why the matter was considered a KAM and outcome of auditor's procedures was not comprehensively done. However, a signaling effect was found as the KAMs have an effect of pointing users' attention to certain areas in the financial statements.

2.4 Research Gap

From the evidence, some studies have been conducted to establish the effect of key audit matters. The results are inconclusive on whether KAMs are more beneficial than not. The literature reviewed in this study has shown that KAMs are both value adding and non-value adding to investors. Additional research is necessary since the experience with KAMs is not at a mature stage due to its recent implementation in 2016 (Velte & Issa, 2019). The studies have also shown that the experience, knowledge and understanding by investors of key audit matters since implementation of ISA 701 was limited due to short history (Bedard, Coram, Esphahbodi, & Mock, 2016).

Further, the empirical evidence considers key audit matters in general, there is limited research that analyses how specific key audit matter topics affect the stock market which this study addressed through the research questions enumerated in section 1.4 of this document.

Table 2.1 below summarizes key findings from previous studies on the impact of KAMs or the expanded audit report in general (independent variable) on investor response and the stock market and therefore helps to demonstrate the research limitations that this study addressed by contributing Kenyan contextual research, to enrich and supplement the current body of knowledge on this subject.

Table 2.1 Summary of key findings from empirical research on the impact of KAMs (independent variable) on investor response and the stock market

Author(s) and year of publication	Country context	Independent variable	Dependent variable	Key findings	Conclusion (Does KAM have a beneficial effect or no benefit?)
Christensen, et al. (2014)	USA	KAM paragraph, in general	Change decision to invest	KAM paragraph promotes change in investment decision	Beneficial
Kohler, et al (2020)	Germany	KAM on goodwill impairment	Investor's confidence in the valuation process	• A KAM with negative tendency leads to increased confidence by professional investors • A KAM with positive tendency leads to lower confidence by professional investors • KAM has no communication advantage for non-professional investors as they are not able to process the evidence conveyed in the KAM	Both beneficial and no benefit
Elliot, et al. (2020)	USA	Expanded audit report	Investors' willingness to pay high prices for company shares where there is higher financial	Investors value higher financial reporting quality firms, where the expanded audit report was identified to increase credibility, and use this in their judgement of	Beneficial

			reporting quality (FRQ). Higher FRQ is judged by the presence of an expanded audit report	whether to pay higher prices for shares	
Bedard, et al. (2014)	France	Presence of KAM, in general	Investor/market reaction	Non-existent effect of KAMs on investor/market reaction	No benefit
Rapley, et al. (2018)	USA	KAM disclosure, in general	Investor judgements	Investors are less likely to invest when the auditor discloses a KAM than when no KAMs are identified	No benefit
Li (2017)	China	KAM, in general	Market reaction	There are no obvious benefits of KAMs in market reaction	No benefit
Altawalbeh & Alhajaya (2019)	Jordan	KAM, in general	Investor decision	KAMs have a substantial effect on investor behaviour. They provide valuable information	Beneficial
Li (2020)	Shanghai	Number of KAMs, tabular form and test narrative of KAMs, industry of company specificity of KAM	Change in institutional investor shareholding ratio	The number and accuracy of KAMs affect the shareholding ratio, the higher the number and accuracy of KAMs, the lower the shareholding ratio. Informational value of KAMs was more significant in companies with high information asymmetry	Beneficial
Gutierrez, et al. (2018)	UK	Expanded audit report	Investor reaction	No evidence of a significant effect on investor reaction. There was no notable change in the decision usefulness	No benefit

				of the expanded audit report.	
Promsen & Boonyanet (2019)	Thailand	Specific KAMs on Revenue recognition; Provision for doubtful debt; Obsolete stock provision; PPE and investment; Goodwill impairment; Improper liabilities provisions	Investor reaction	KAMs have little information value to investors as they are less likely to provide incremental value to stock prices	No benefit
Kitiwong, et. al (2019)	Thailand	KAMs in general	Market reaction	No impact of KAMs on market reaction was found	No benefit

Table 2.1 above shows that there are mixed conclusions from the various studies on the effect of KAMs and most studies performed a generalized KAM analysis. Since capital markets have inherent differences that are country specific, the results from one country may not be comparable to another (Li X. , 2020). Kenyan contextual research in this area is therefore needed which this study addressed. Additionally, this study analysed the effect of specific KAM topics of impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities. Impairment of assets and revenue recognition are the top reported KAMs hence considered as variables in this study (Li H. , 2017), (Brouwer, Eimers, & Langendijk, 2016). Valuation of financial instruments was also considered as a variable given that it relates to a new accounting standard released which because of its first time application was mentioned more frequently by auditors (Li H. , 2020). Tax liabilities was considered as the fourth variable given the significant effect of taxes on financial performance of NSE listed companies in Kenya (Otwani, Namusonge, & Nambuswa, 2017).

2.5 Conceptual Framework

Figure 2.1 below illustrates the relationship between the independent and dependent variables informed by the literature review and diagrammatically presented to answer the research questions in section 1.4. Key audit matters (the independent variable) cause a stock market reaction (the dependent variable) in stocks of companies listed on the Nairobi Securities Exchange.

Figure 2.1 Conceptual Framework

The study variables will be operationalised as shown in Table 2.2 below:

Table 2.2 Operationalisation of study variables

Variables	**Independent/ dependent/control variables**	**Measurement of the variable by different authors**		**How this study will measure the variables**
Key audit matter 1. Impairment of assets (KAM 1) 2. Valuation of financial instruments (KAM 2) 3. Revenue recognition (KAM 3) 4. Tax liabilities (KAM 4)	Independent	Indicator variable of 1 for presence of KAM, 0 otherwise	Bedard, et al. (2014); Kitiwong, et al. (2019); Buachoom, et al. (2019); Altawalbeh & Alhajaya (2019);	Indicator variable of 1, for presence of KAM 1, KAM 2, KAM 3, KAM 4, 0 otherwise

			Gutierrez, et al. (2018);	
Stock market reaction	Dependent	Cummulative absolute/average abnormal returns in the period surrounding the date of release of the annual report and financial statements Stock prices in the period surrounding audit report date Absolute value of abnormal trading volume in the period surrounding the audit report date -	Fame, et al. (1969); Nazir, et al. (2014); Gutierrez, et al. (2018); Kitiwong, et al. (2019); Bedard, et al. (2014) Buachoom, et al. (2019); (Promsen & Boonyanet, 2019) Altawalbeh & Alhajaya (2019); Gutierrez, et al. (2018); Kitiwong, et al. (2019)	Cummulative average abnormal returns in the period surrounding the date of release of the annual report and financial statements
Company size	Control	Natural logarithm of total assets Natural logarithm of market capitalisation	Buachoom, et al. (2019); Gutierrez, et al. (2018) Bedard, et al. (2014)	Natural logarithm of total assets
Audit firm size	Control	Dummy variable of 1 when company is audited by a big 4	Buachoom, et al. (2019); Gutierrez, et al. (2018)	Dummy variable of 1 when company is audited by a big 4 audit firm, 0 otherwise

		audit firm, 0 otherwise		
Earnings per share	Control	Earnings per share	Promsen & Boonyanet (2019).	Earnings per share
Debt ratio or leverage ratio	Control	Total liabilities/total assets (debt ratio) or long term debt/total assets (leverage ratio)	Altawalbeh & Alhajaya (2019); Gutierrez, et al. (2018); Bedard, et al. (2014); Promsen & Boonyanet (2019).	Total liabilities/total assets
Return on assets	Control	Net income before extra ordinary items/total assets	Altawalbeh & Alhajaya (2019); Gutierrez, et al. (2018); Bedard, et al. (2014)	Net income before extra ordinary items/total assets

The model will incorporate control variables to evaluate their effect on the relationship between the independent and dependent variables. The control variables which include financial ratios of return on assets, earnings per share and debt ratio also have an effect on stock prices (Promsen & Boonyanet, 2019). The adopted control variables follow Gutierrez, et al. (2018), Buachoom, et al. (2019), Altawalbeh & Alhajaya (2019), Bedard, et al. (2014).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out the procedures and methods that were applied to the study to achieve the stated objectives. The procedures and methods include the research philosophy and design, target population and sample design, data collection method and how the collected data was analysed. Diagnostic tests and ethical considerations were also addressed in this chapter.

3.2 Research Philosophy

Research philosophy relates to the beliefs and assumptions about the development of new knowledge. It is the basis of how data about a particular subject is collected and evaluated. This study adopted a positivist research philosophy whereby objective social reality or phenomena was studied (Saunders, Lewis, & Thornbill, 2016) i.e. the market reaction to key audit matters, which are both externally observable and independently measurable variables. Quantitative methods were used to analyse the correlational relationship between the variables of interest in this study, consistent with the positivist approach.

3.3 Research Design

Research design is the general outline for accomplishing the research objectives (Hakansson, 2013), Saunders, et al. (2016). The study employed a descriptive research design. A descriptive research design is aimed at obtaining information on current state of phenomena such as accurate profile of events, people or situations (Rahi, 2017). Descriptive research design can use either quantitative or qualitative methods (Hakansson, 2013). However, there is a limitation in that it lacks depth of evaluating data and synthesizing ideas (Saunders, Lewis, & Thornbill, 2016). This study overcame this limitation by adopting a descripto-explanatory approach where correlational relationships between variables was established. Quantitative methods were used to analyse panel data over the period covered by this study.

3.4 Target Population and Census Design

Population is the entire set of items from which a sample would be selected, Saunders, et al (2016). The target population of this study was all the listed companies in the Nairobi Securities Exchange (NSE).

Given the small population size, a census approach was adopted to incorporate all listed companies in each of the years of study covering the period 2016 to 2019 (Kothari, 2004). As at 28 July 2021, the total population of listed companies in the NSE was 66 (NSE, 2021). The study excluded listed companies whose annual reports and stock price data was not available from the data sources. A list of the companies included for each year of study is provided in appendix 4.

3.5 Data Collection Method and Procedures

This entails the process used by the researcher to obtain the research data for study. Data for this study was collected from secondary sources. Secondary data is that which the researcher did not collect themselves for the purpose of the study. The data was initially collected for some other purpose and includes raw data and published summaries (Saunders, Lewis, & Thornbill, 2016), (Kothari, 2004). Secondary data was considered suitable for this study, which is longitudinal in nature, therefore making the study feasible. Gutierrez, et al. (2018), Buachoom, et al. (2019), Altawalbeh & Alhajaya (2019) and Bedard, et al. (2014), also used secondary data in similar studies.

Data for the independent variable (presence of key audit matters) was obtained by content analysis of the audit reports included in the annually published financial statements (also referred to as annual reports interchangeably in this study) of each of the companies listed in the NSE as shown in appendix 4. The audit reports contain the disclosures of key audit matters which are the subject of this study. The annually published financial statements containing the audit reports was accessed from each of the listed company websites, where they are publicly available as per The Capital Markets (Licensing Requirements) (General) Regulations, 2002 (CMA, 2021). The data was therefore considered reliable (Kothari, 2004).

For the dependent variable, daily historical stock prices for each of the listed companies and daily historical NSE All Share Index prices, were obtained from the Nairobi Securities Exchange database. The data was considered reliable given that it was obtained from the primary source (Kothari, 2004). This data was used to compute the cumulative average abnormal returns (CAAR), where the CAAR was the measure of the dependent variable in this study. There are various stock market indices computed by the NSE including NSE All Share Index, NSE 20 Share Index, NSE 25 Share Index, FTSE NSE Kenya 15 Index, FTSE NSE Kenya 25 Index among others (NSE, 2021). A stock market index measures the performance of the stock exchange (Osoro & Jagongo, 2013).

The selection of the NSE All Share Index (NASI) for use in this study was motivated by data accessibility and availability. Unlike other indices which are computed based on a sample of stocks such as the NSE 20 share index, the NASI is computed based on the entire population of listed companies in the NSE. A study by Osoro and Jagongo (2013) to compare the NASI and NSE 20 share index as performance indicators found that there is no significant difference between the two indices. This further supported the use of the NASI in this study. Where stock or NASI prices were missing for a particular day, the previous day prices were used, similar to (Karungu, 2019).

Data for the control variables was obtained from content analysis of the audit report, statement of comprehensive income and statement of financial position which form part of the annual report.

The unit of analysis for this study is each company listed at the Nairobi Securities of Exchange and years 1, 2 and 3 of KAMs implementation from 2016 to 2019. The researcher considered the study period beginning December 2016 which is the first year of application of KAMs up to three years of implementation of KAMs. Since the listed companies have varying financial year ends including December, March and June, the study analysed the data in the following categories which ensured data up to the most recent period at time of study, was included:

Table 3.1 Data categories

Data category	**Financial year ends included**	**Years**
Year 1 of KAMs	December 2016, March 2017, June 2017	2016 - 2017
Year 2 of KAMs	December 2017, March 2018, June 2018	2017 - 2018
Year 3 of KAMs	December 2018, March 2019, June 2019	2018 - 2019

3.5.1 Event, Event Window and Estimation Window

This research adopted an event study approach where the researcher measured the impact of a specified event on the stock market (MacKinlay, 1997). The specified event in this study was the release of the full annual report containing the audit report with KAMs, hereafter referred to as the annual report release date or event date.

The researcher then identified the event window, which is the period over which the company stock prices were examined, (MacKinlay, 1997), for purposes of computing the cumulative average abnormal returns. An event window that is too long will absorb the impact of other events that are not of interest to this study and a window that is too short will constrain effective analysis of the event of interest (Nazir, Younus, Kaleem, & Anwar, 2014). Gutierrez, et al. (2018) used an event window of 3 days surrounding the filing date of annual reports in their study to analyse investors' reaction to the auditor's report. In a related study, Bedard, et al. (2014) measured the cumulative abnormal returns over the filing date of the annual report and the following day. Altawalbeh and Alhajaya (2019) used an event window of 20 days before the event date and 10 days after the event date to study investors' response to the disclosure of KAMs. Buachoom, et al. (2019) used an event window of 5 days after the audit report date while Promsen and Boonyanet (2019) used the audit report date, 7 days before and after the audit report date as the event periods, in similar studies.

This research aims to study stock market reaction over a short window defined to be any period between 1 to 30 days (Ittonen, 2012). Identification of the event date should be as precise as possible as the effects of new information released are assumed to be quickly processed by the stock market. Ideally the correct event date is the date the report of the auditor including KAMs is accessed by the investors, however it is difficult to precisely determine the first day of stock buying and selling on the evidence contained in the audit opinion, therefore different alternatives have been considered with the most used date being the date of filing the annual report (Ittonen, 2012).

Different from other studies (Gutierrez, et al. (2018), Bedard, et al. (2014), Altawalbeh and Alhajaya (2019)), this study used an event window of 30 days before event date and 30 days after the event date which was longer than those used in the mentioned studies. The annual report is released to the shareholders a few days before the annual general meeting (AGM), however as noted by Ittonen (2012) it is difficult to establish the precise date the shareholders access the annual report, therefore this study considered the AGM date as the annual report release date, which was obtained from each of the company's annual report or website. Using 30 days before event date and 30 days after event date allowed for a pre and post analysis of the effect of KAMs on the stock market. 30 days before event date is the period before release of annual report with KAMs, while 30 days after event date is the period after release of annual report with KAMs.

Given that this study followed a market model approach to determine the stock market reaction, an estimation window was required for the purpose of estimating the market model parameters (MacKinlay, 1997), Gutierrez, et. al (2018), (Ikram & Nugroho, 2014). The estimation window may vary from 90 to 210 days prior to event window depending on availability of data (Ikram & Nugroho, 2014). The event window is generally excluded from the estimation window to stop the specified event from influencing the market model parameters to be used in computing the CAAR over the event window (MacKinlay, 1997). In line with this the research employed an estimation window of 90 days prior to event window. Figure 3.1 below shows the timeline used in this event study.

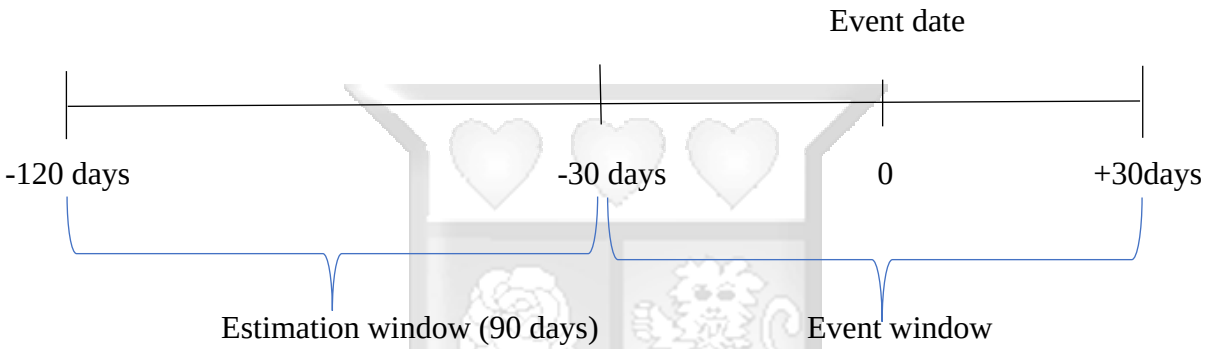

Figure 3.1 Timeline used for event study

For each listed company the research data was obtained by reading the annual reports in the defined event window for the study period and manually documenting in excel spreadsheets. Research data included the AGM dates, the key audit matters of interest which were coded as per operationalization criteria in Table 2.2, the information for the control variables (identity of auditor, total assets, total liabilities, earnings per share, profit or loss after tax). Daily historical stock prices for each company included in the study and daily historical NASI prices were also obtained in excel format for the defined event window and estimation window.

3.6 Data Analysis

The purpose of the study is to determine the market reaction to the disclosure of key audit matters of impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities. In line with Gutierrez, et al. (2018) and Nazir, et al. (2014) cummulative average abnormal returns were used to measure the market reaction using the steps below (Fama, Fisher, Jensen, & Roll, 1969):

1. The daily abnormal returns for each company stock in the event window being studied were calculated using the formular:

Abnormal return of stock *i* at time *t* (AR) = Actual return – Expected return

$$AR_{i,t} = R_{i,t} - E(R)_{i,t}$$

Where:

(i) Daily actual returns were computed for each stock as stock price for today less stock price for previous day, all divided by stock price for the previous day for the defined event window i.e

$$R_{i,t} = (Price\ close_{i,t} - Price\ close_{i,t-1})/Price\ close_{i,t-1}$$

(ii) Expected returns were computed using market model approach by first computing the daily stock returns for each stock and daily NASI returns using the formular in (i) over the estimation window. Using regression analysis done on Microsoft excel the model parameters $\alpha\ and\ \beta$ (alpha and beta) were estimated for each stock, with daily NASI returns as the independent variable and stock returns as the dependent variable in the regression equation, which were then used in the formular below to determine daily expected returns over the event window, -30 to +30 days surrounding the event date i.e.

$$E(R)_{i,t} = \alpha + \beta . E(R)_{m,t}$$

Where $E(R)_{i,t}$ is the expected return for stock i at time t, $E(R)_{m,t}$ is the corresponding market return i.e NASI. The model parameters computed for each of the stocks are shown in appendix 5.

2. Average abnormal return (AAR) for all stocks *N* for each day *t* in the event window were then computed as follows:

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{i,t}$$

Where N is the total number of stocks used in each year of study as per appendix 4.

3. The average abnormal returns over the 60 days (T days) in the event window were then summed by adding AAR for each day to form the cumulative average abnormal return (CAAR):

$$CAAR_T = \sum_{t=1}^{T} AAR_t$$

According to the research objectives, four regression equations were applied on the data for the dependent variable i.e CAAR and independent variable i.e KAMs to establish if there is a statistical relationship (Kothari, 2004). Then control variables were added to investigate their effect on the disclosure of the key audit matters. The Statistical Package for the Social Sciences (SPSS) software was used for the data analysis. The following regression equations were applied:

Research objective 1:

$$CAAR = \beta_0 + \beta_1 KAM1 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon$$

Research objective 2:

$$CAAR = \beta_0 + \beta_1 KAM2 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon$$

Research objective 3:

$$CAAR = \beta_0 + \beta_1 KAM3 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon$$

Research objective 4:

$$CAAR = \beta_0 + \beta_1 KAM4 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon$$

The variables were defined as shown in Table 3.2

Table 3.2 Definition of variables

Variables	**Definition**
Dependent variable	CAAR (cumulative average abnormal returns)
Independent variables	KAM 1 = Key audit matter on impairment of assets
	KAM 2 = Key audit matter on valuation of financial instruments
	KAM 3 = Key audit matter on revenue recognition
	KAM 4 = Key audit matter on tax liabilities
Control variables	Size = Company size
	Auditor = Audit firm size
	Debt = Debt ratio
	EPS = Earnings per share
	ROA = Return on assets
Model parameters	β_0 = constant
	β_1 = coefficient of independent variables

	$\beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ = coefficient of control variables
	ε = Error term

3.6.1 Test of Difference in CAAR Before and After the Event Date

A test of difference was conducted to establish if there is a statistical difference in cumulative average abnormal returns, and hence stock movement, in the period before and after the annual report release date i.e within 30 days before event date and 30 days after event date. Data visualisation was performed using error bars to check whether there is any statistical difference in returns before and after the event date. Shapiro Wilk test was used to test for normality of the data for the dependent variable. This was followed by a paired sample t-test used as a parametric method and Wilcoxon signed-rank test used as a non-parametric method similar to Ikram & Nugroho (2014) in a pre and post event study.

3.7 Diagnostic Tests

Diagnostic tests were performed to evaluate the robustness of the model and hence accuracy of the results (Karungu, 2019). These tests included normality tests and multicollinearity tests.

3.7.1 Normality Tests

The test aims to ensure that the data for the quantitative variables is normally distributed. If the data for the variable is normally distributed, there should be clustering around the variable's mean with a symmetrical pattern and form a bell-shaped frequency distribution (Saunders, et. al 2016). Density plots were used to visualize the distribution of the data after which the Shapiro Wilk test was used to test for normality of the data for the dependent variable (Saunders, et. al 2016). Normality for the regression model was tested through Normal P-P plots.

3.7.2 Multicollinearity Tests

This checks for the absence of correlation between two or more independent variables as it may be difficult to determine the individual effects of each of the variables on the dependent variable (Saunders, et. al 2016), (Kothari, 2004). This study used the variance inflation factor (VIF) to check for multicollinearity whereby a VIF value of 0.1 or below, or 10 or above signals high collinearity (Hair, Black, Babin, Anderson, & Tatham, 2013).

3.8 Ethical Considerations

The research was done ethically by ensuring that approval to conduct the study was obtained from Strathmore Institutional Ethics Review Committee and a research permit was obtained from the National Commission for Science and Technology and Innovation, Kenya. To avoid plagiarism, all sources of information and data used in the study were cited. During data handling, analysis and reporting, objectivity and integrity was maintained to avoid misrepresentation of the statistical accuracy of data (Saunders, et. al 2016). This was achieved by elaborate explanations and documentation of the research methodology and analysis processes.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

The purpose of this chapter is to show how the collected data was analysed to address the objectives of the study. Section 4.2 presents some general information. Section 4.3 explains the source of data used in the study. This is followed by analysis of dependent variable data in sections 4.4, 4.5 and 4.6. Section 4.7 presents the analysis of findings per research objectives, detailing the descriptive statistics and relationships between the variables of the study. The final section is the chapter summary.

4.2 General Information

A general analysis of dependent variable data is presented in sections 4.4, 4.5 and 4.6. The analysis includes presentation of the three year trend curve for the cumulative average abnormal returns, as well as that of the average abnormal returns from which the cumulative returns are derived, whose purpose was to show the relationship of the data to time in the event window of the study for good visualization and interpretation. Diagnostic tests including normality tests and multicollinearity tests were carried out to aid in determining robustness of model and statistical tests in giving accurate results. The visualization of the distribution of data was illustrated using error bar graphs and density plots which helped to inform the statistical tests that were run to establish if there is a statistical difference in cumulative average abnormal returns, and hence stock movement, in the period before and after the annual report release date i.e within 30 days before event date and 30 days after event date.

4.3 Source of data

Secondary data was used in this study. Data for the independent variable (key audit matters) was obtained by reading the audit reports included in the annually published financial statements of each of the companies listed in the NSE as shown in appendix 4. To compute the dependent variable (cummulative average abnormal returns), daily historical stock prices for each of the listed companies and daily historical NSE All Share Index prices, were obtained from the Nairobi Securities Exchange database and formulae as per section 3.6 applied to the data.

Data for the control variables was obtained from reading the audit report, statement of comprehensive income and statement of financial position which form part of the annual report. The data was collected for the years 2016 to 2019, being the years covered by this study, over the event window as applicable to the data as per section 3.5.1.

4.4 The trend of AAR and CAAR

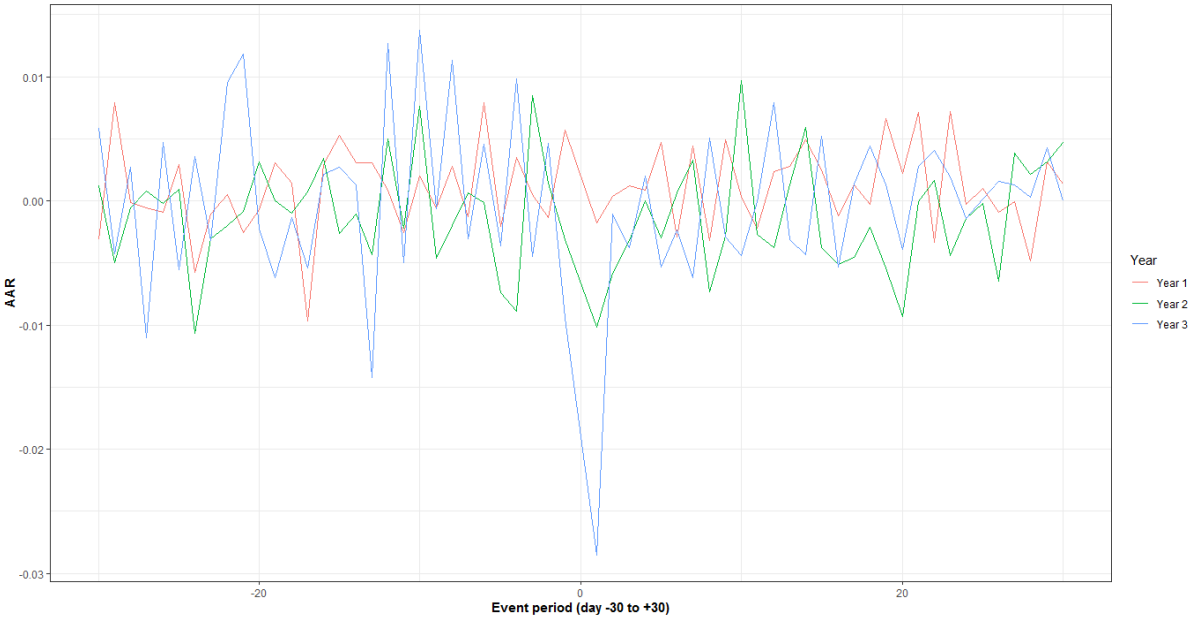

Figure 4.1: The relationship of AAR to time during the event window (day -30 to +30) for Year 1, Year 2, Year 3 of KAMs implementation

According to study findings in Figure 4.1 it can be seen that the abnormal return is moving randomly and there is an immediate jump on the annual report release date (event date or day 0) and the day after. Based on the graph there is a possibility of shareholders to earn abnormal return. The findings in Figure 4.2 show that after the annual report release date there was a rising pattern in CAAR in year 1 while in year 2 there was a declining pattern in CAAR before and after the event date. In year 3 there was a general increase in trend of CAAR before day zero, followed by a decline for 20 days post annual report release date after which the CAAR begins to rise. The findings suggest that KAMs have a higher positive impact in the first year of their implementation as shown by the upward trend in CAAR, compared to the second and third year.

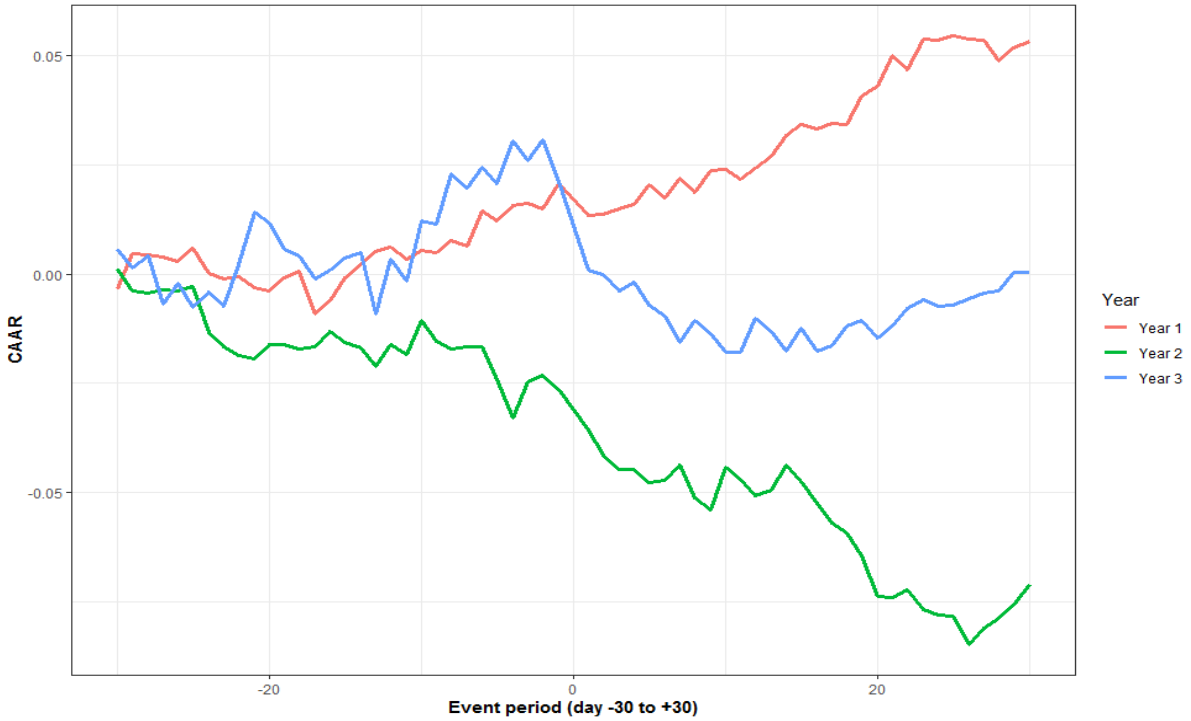

Figure 4.2. The relationship of CAAR to time during the event window (day -30 to +30) for Year 1, Year 2 and Year 3 of KAMs implementation

4.5 Distribution of AAR and CAAR

To establish whether there is difference in returns before and after the event date of release of annual report with KAMs, there is need to establish the distribution of AAR and CAAR to establish the most appropriate test for the difference in returns. We begin by finding out if there could be a significant difference through error bar.

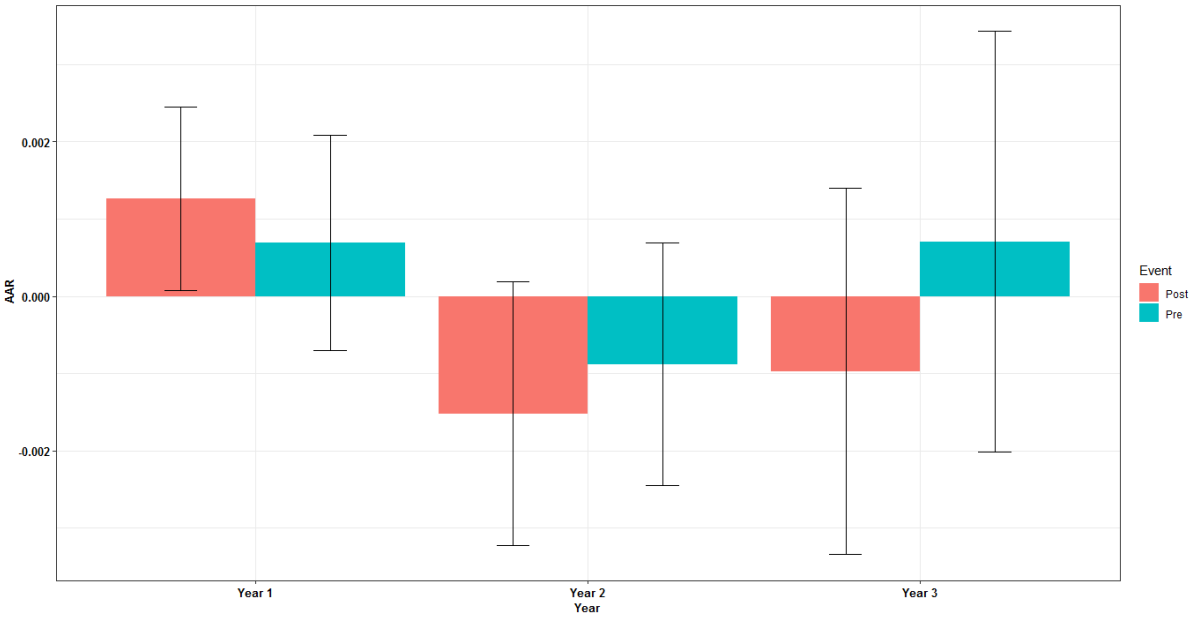

Figure 4.3: Error bar showing the 95% CI of the AAR for Year 1, Year 2 and Year 3 of KAMs implementation

Based on the findings in Figure 4.3, the error bars overlap quite a bit giving a clue that the difference in average abnormal returns between pre and post event date is not statistically significant. However, an appropriate statistical test should be performed to draw a conclusion.

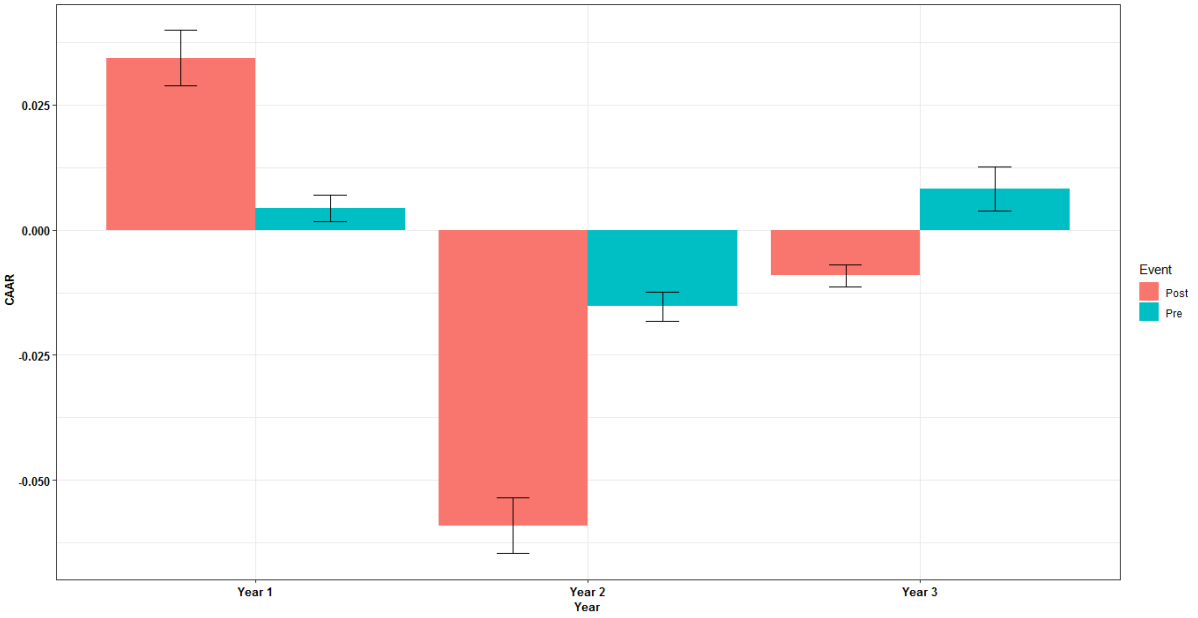

Figure 4.4: Error bar showing the 95% CI of the CAAR for Year 1, Year 2 and Year 3 of KAMs implementation

The study findings in Figure 4.4 indicate that the error bars do not overlap showing that there exists a significant difference between the pre and post cumulative average abnormal returns. However, an appropriate statistical test must be performed to confirm this statement. We then proceed to establish whether the data follows a normal distribution or not. We visualize the distribution of the data through density plots as presented in Figure 4.5 and Figure 4.6. These charts utilize kernel smoothing to plot values. This allows for smoother distributions by smoothing out the noise. The peaks of density plots assist in displaying where values are concentrated over the interval. The results in Figure 4.5 and 4.6 show that the distributions of AAR and CAAR do not seem to follow a normal distribution. To determine an appropriate test of difference in returns before and after the event date, Shapiro Wilk test for normality of the AAR and CAAR dataset is further performed. Results of this are presented in Table 4.1 and Table 4.2.

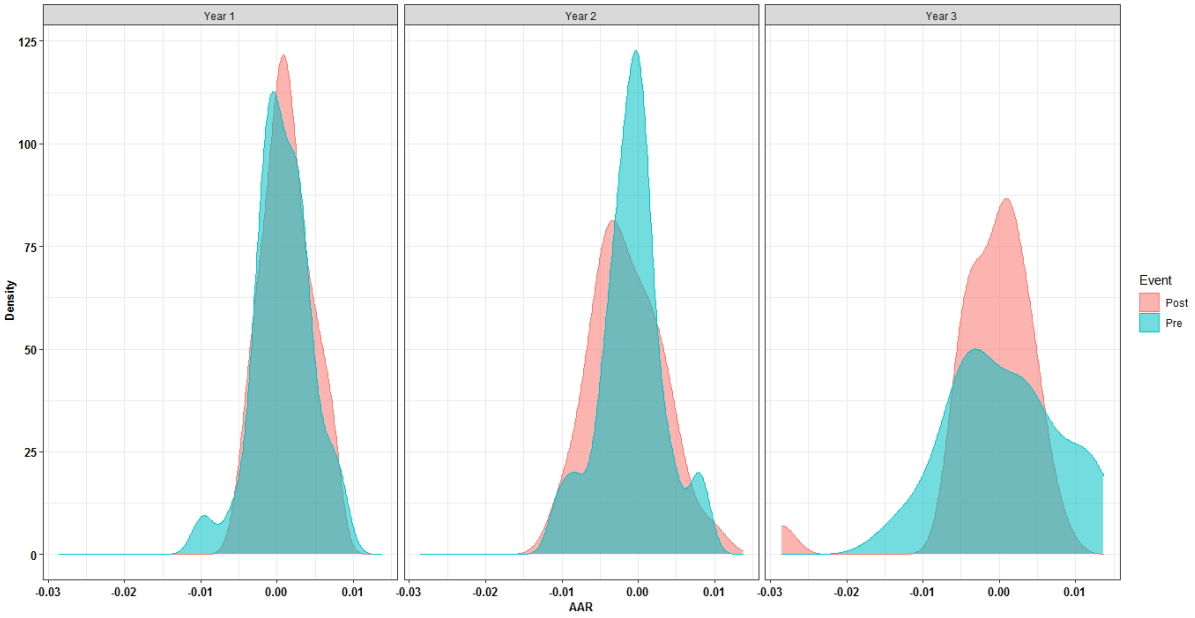

Figure 4.5: The density plot for the AAR

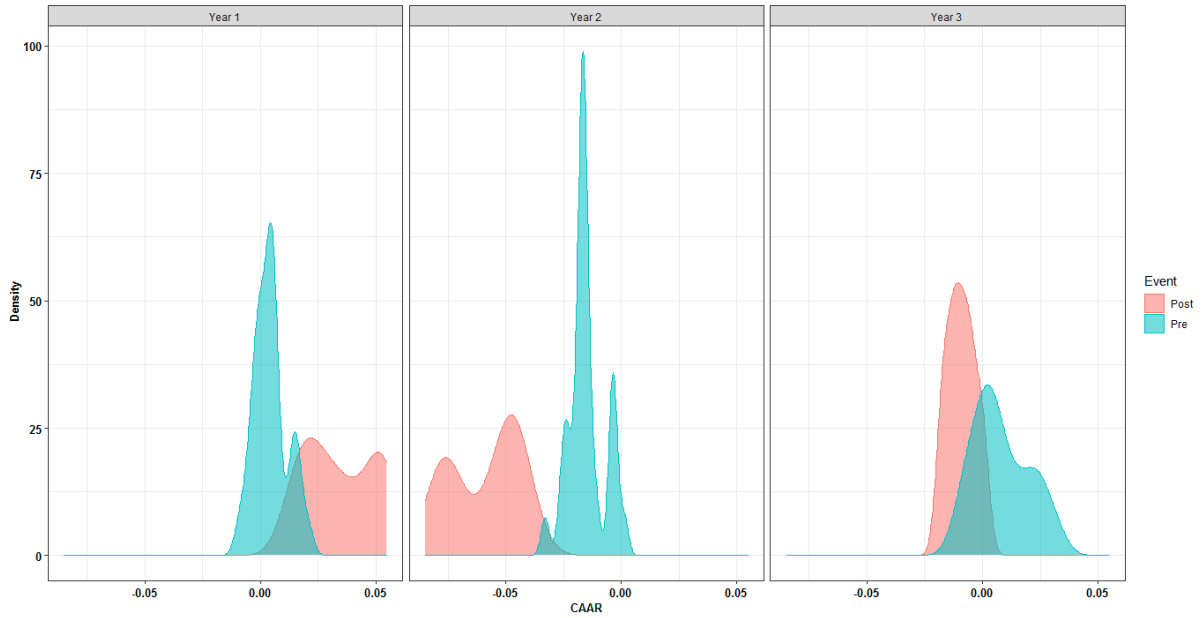

Figure 4.6: The density plot for the CAAR

The results in Table 4.1 shows results from Shapiro Wilk test for normality of the AAR dataset. The test was carried out at alpha level equal to 0.05, that is, at 95% Confidence Interval. Given that the p-value for each event category for pre and post is more than 0.05, then the null hypothesis that the data are normally distributed is not rejected. Thus, there is enough evidence to assume that the data follows a normal distribution except for the post event in Year 3 and overall post event.

Table 4.1: The Shapiro Wilk test on the AAR

Year	Event	W=Shapiro test statistics	P-value
Year 1	Pre	0.9641	0.3923
	Post	0.9768	0.7368
Year 2	Pre	0.9711	0.5705
	Post	0.9869	0.9652
Year 3	Pre	0.9713	0.5759
	Post	0.7400	0.0000
Overall (all the three years)	Pre	0.9846	0.3691
	Post	0.8709	0.0000

Table 4.2 shows results from Shapiro Wilk test for normality of the dataset. The test was carried out at alpha level equal to 0.05, that is, at 95% Confidence Interval. Since the p-value for each event category for pre and post is more than 0.05, except Year 1 post event, Year 2 post event and overall post event, there is enough evidence to assume that the CAAR follows a normal distribution. The results from the analysis of distribution of the returns inform the use of both the parametric paired t-test and the non-parametric paired samples Wilcoxon matched-pairs signed-rank test to test for significance in the following section.

Table 4.2: The Shapiro Wilk test on the CAAR

Year	Event	W=Shapiro test statistics	P-value
Year 1	Pre	0.9605	0.3183
	Post	0.8920	0.0054
Year 2	Pre	0.9311	0.0525
	Post	0.8925	0.0055
Year 3	Pre	0.9367	0.0744
	Post	0.9498	0.1671
Overall (all the three years)	Pre	0.9822	0.2561
	Post	0.9536	0.0028

4.6 Test of difference in AAR and CAAR before and after the event date

Paired sample statistical tests are conducted to establish whether there is significant difference in the cumulative average abnormal returns for the event window 30 days prior and 30 days after the event date; the event date being the release of annual report with KAMs. To achieve this, both, parametric and non-parametric tests are used within the defined event period. In this study both parametric and non-parametric tests are used to normal and non-normal data for the purposes of comparison as well as for stronger conclusion. Non-parametric test serves as a conjunction to parametric test. This is because it supports the conclusion that is made after conducting parametric test. Paired sample t-test is used as parametric method and Wilcoxon signed-rank test is used as non-parametric method. Both of these tests have the null hypothesis

of no difference in returns for the events prior and post event date. The results are presented in Table 4.3.

Table 4.3: Results of paired sample statistical tests on AAR and CAAR during the event window (-30 to +30 days) for Year 1, Year 2 and Year 3 of KAMs Implementation

Year	Return	Paired t-test				Wilcoxon signed-rank test
		Mean diff.	t-value	df	p-value	p-value
Year 1	AAR	0.0006	0.6081	29	0.001	0.792
	CAAR	0.0300	14.55	29	<0.001	<0.001
Year 2	AAR	-0.0006	-0.5568	29	0.582	0.299
	CAAR	-0.0437	-21.15	29	<0.001	<0.001
Year 3	AAR	-0.0017	-0.8708	29	0.391	0.584
	CAAR	-0.0173	-8.640	29	<0.001	<0.001
Overall	AAR	-0.0006	-0.7210	89	0.473	0.503
	CAAR	-0.0103	-3.008	89	0.003	0.007

According to results in Table 4.3 and based on parametric test, there are statistically significant differences in AAR before and after the announcement for year 1 only as the p-value is less than 0.05. Based on the non-parametric test, there are no statistically significant differences in AAR before and after the announcement for the three years as the p-value is greater than 0.05. There are statistically significant differences in CAAR before and after the event date according to both parametric and non-parametric tests, this is because the p-value is less than 0.05 for years 1 to 3 and overall. This implies that investors and hence the stock market could be responding to the disclosure of KAMs in the auditor's report.

4.7 Analysis of Market Reaction to the Disclosure of KAMs

4.7.1 Analysis of Market Reaction to the Disclosure of KAM on Impairment of Assets

The first research objective was to determine the market reaction to the disclosure of a key audit matter on impairment of assets (KAM 1) in the auditor's report of companies listed on the Nairobi Securities Exchange. This was assessed through the following simple linear regression model, $CAAR = \beta_0 + \beta_1 KAM1 + \varepsilon$. Then control variables were added to investigate their effect on the disclosure of the key audit matter using the model,

$CAAR = \beta_0 + \beta_1 KAM1 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon.$ This was done for year one, year two and year three of release of KAMs respectively. Descriptive statistics for the variables are presented first in Table 4.4, followed by results of the regression analysis in Tables 4.5 to 4.10.

Table 4.4 Descriptive Statistics for KAM 1 and control variables

		Sum	Mean	Std dev.	Kurtosis	Skewness	Min	Max
KAM 1								
Year 1		38	0.6909	0.6346	-0.6277	0.3601	0	1
Year 2		37	0.6607	0.6682	-0.6883	0.5170	0	1
Year 3		36	0.667	0.700	-0.778	0.570	0	1
Control variables								
Year 1								
Audit firm size	Big four	45	0.8182	0.389	0.910	-1.696	0	1
	Not big four	10	0.1818	0.3892	0.910	1.696	0	1
Company size		926.5	16.85	2.00	-0.90	-0.16	12.55	20.20
Earnings per share (EPS)		242.1	4.40	11.71	5.25	2.00	-16.4	50.0
Debt ratio		31.45	0.57	0.28	-1.13	-0.30	0.00	1.05
Return on assets (ROA)		1.22	0.02	0.11	3.22	0.25	-0.28	0.35
Year 2								
Audit firm size	Big four	46	0.821	0.3865	1.011	-1.725	0	1
	Not big four	10	0.179	0.3865	1.011	1.725	0	1
Company size		940.7	16.8	2.045	-0.734	-0.120	11.85	20.29
Earnings per share (EPS)		384.9	6.873	15.7604	12.298	3.099	-10.23	86.64
Debt ratio		37.53	0.67	0.4032	2.286	1.049	0.03	2.04
Return on assets (ROA)		3.144	0.056	0.4318	37.527	5.285	-0.96	2.93
Year 3								
Audit firm size	Big four	46	0.84	0.373	1.551	-1.870	0	1
	Not big four	9	0.16	0.373	1.551	1.870	0	1
Company size		935.8	17.02	2.232	-0.621	-0.120	11.98	21.62
Earnings per share (EPS)		312.6	5.68	17.077	7.988	2.093	-37.35	82
Debt ratio		35.2	0.64	0.353	-0.371	0.206	0.001	1.534
Return on assets (ROA)		0.2	0.00	0.195	29.76	-4.495	-1.22	0.443

From the findings in Table 4.4, there were 38 reported KAMs on the topic of impairment of assets (KAM 1) in the first year of implementation of the KAMs regulation, representing 68% of all four KAM topics under study. In the second year, 63%, and 72% in the third year showing that KAM 1 was the most commonly reported KAM of the four KAM topics under study. The average of KAM 1 is 0.7 (rounded to one decimal place) in each of the three years, which is approximately close to 1 indicating that most of the companies had the KAM disclosed by their auditor in the company's audit report on financial statements. The average size of company at the NSE in year 1 measured by natural logarithm was 16.85 (approximately Kshs 20.8 billion in money terms) with a standard deviation of 2.00. More than 80% of the companies were audited by a big four audit firm in each of the three years under study.

In year 1: Return on Assets (ROA) was an average of 0.02, indicating poor use of company assets to generate profits, while the standard deviation of 0.11 indicated small differences in the profitability of the companies. Earnings per share was an average of Kshs 4.40 per share for all companies, with a maximum EPS of Kshs 50 per share and a negative minimum of Kshs 16.4 per share showing a significant variation among companies at a standard deviation of 11.71. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.57 with a standard deviation of 0.28. A measure of 0.57 indicates that Kshs 0.57 of company liability is financed by 1 shilling of company assets.

In year 2: Return on Assets (ROA) was an average of 0.056 showing a better performance than year 1, with a standard deviation of 0.4318. Earnings per share was an average of Kshs 6.873 per share for all companies, also an improvement from year 1, with a maximum EPS of Kshs 86.64 of per share and a negative minimum of Kshs 10.23 per share showing a significant variation among companies at standard deviation of 15.76. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.056 with a standard deviation of 0.4318.

In year 3: Return on Assets (ROA) was an average 0.00, worse than year 1 and 2. Earnings per share was an average of Kshs 5.68 per share for all companies, with a maximum EPS of Kshs 82 per share and a negative minimum of Kshs 37.35. Debt ratio which measured the ratio of total liabilities to total assets for each company was an average of 0.64 with a standard deviation of 0.353.

In Table 4.5, the results of the regression analysis of CAAR and KAM 1 in year 1 are presented.

Table 4.5 Model Summary for CAAR and KAM 1 in year 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.797[a]	0.635	0.629	0.012
a. Predictors: (Constant), KAM 1				

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.004	0.002		2.061	0.044
	KAM 1	0.030	0.003	0.797	10.05	0.000
a. Dependent Variable: CAAR						

The resulting equation is as depicted:

$$CAAR = 0.004 + 0.030\,KAM\,1.$$

The model summary depicting the general relative impact of the independent variable on the dependent variable presented an R square value 0.635 therefore indicating that 63.5% of the variability of the dependent variable was accounted for by the generated model as per results in Table 4.5. The value of adjusted R square of 0.629 represents the total variation in CAAR (dependent variable) as explained by KAM 1 (independent variable) if population data were to be used. On the other hand, the value of R=0.797 explains the correlation between CAAR and KAM 1. The value of R shows that there is a strong positive correlation between CAAR and KAM 1 in year 1. The significance values (p value) associated with the predictors were both lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 1) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 1(i.e., KAM 1 is 0) the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(0) = 0.004.$$

This means that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 1. If there is KAM 1 (i.e., KAM 1 is 1), the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(1) = 0.034.$$

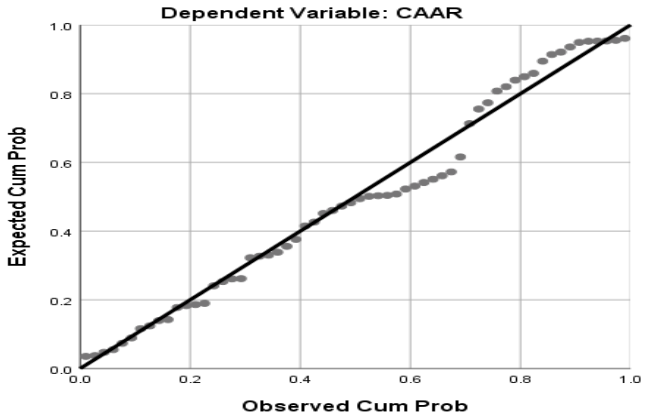

Figure 4.7: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 1

From the findings in Figure 4.7, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.6 the results showing the relationship between CAAR and KAM 1 in the presence of control variables in year 1 are presented.

Table 4.6: Assessing the relationship between CAAR, KAM 1 and control variables in Year 1

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.013	1	0.013	100.997	.000[b]
	Residual	0.008	58	0.000		
	Total	0.021	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						

Coefficients[a]					
Model	Unstandardized Coefficients	Standardized	t	Sig.	Collinearity Statistics

				Coefficients				
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.004	0.002		2.061	0.044		
	Return on assets	1.347	0.134	0.797	10.050	0.000	1.0	1.0
a. Dependent Variable: CAAR								

As per the findings in Table 4.6, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The impact of each of the control variables, company size, audit firm size, earnings per share, return on assets and debt ratio, and KAM 1 on the dependent variable (CAAR) was assessed and the findings presented in Table 4.6. The results in Table 4.6 provide information regarding the model summary, the regression coefficient, and the ANOVA. The model presents an R-square value, Adjusted R-square value, and R value are like the results in Table 4.4 when KAM 1 was used without the controls variables. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 100.997 with a significance value lower than 0.05 hence indicating that the hypothesis of lack of difference between the null and generated model was to be rejected. The generated model was therefore deemed sufficient for inferring relationships between the variables. The unstandardized beta coefficients emanating from the analysis were used to assess the relative impact of the independent variable and the control variables. It is important to note from the findings that KAM 1, company size, audit firm size, debt ratio, and earnings per share were excluded from the final regression model results. This implies that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Thus, the resulting model is given by

$$CAAR = 0.004 + 1.347ROA$$

From the above model, a unit increase in Return on assets has a 1.347 impact on the increasing CAAR. This finding was significant at the 95% confidence level.

In Table 4.7, the results of the regression analysis of CAAR and KAM 1 in year 2 are presented.

Table 4.7 Model Summary for CAAR and KAM 1 in year 2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.882[a]	0.778	0.774	0.0119
a. Predictors: (Constant), KAM 1				

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.015	0.002		-7.057	0.000
	KAM 1	-0.044	0.003	-0.882	-14.251	0.000
a. Dependent Variable: CAAR						

The findings in Table 4.7 shows the general relative impact of the independent variable on the dependent variable presented an R square value 0.778 therefore indicating that 77.8% of the variability of the dependent variable was accounted for by the generated model. The value of adjusted R square of 0.774 represent the total variation in CAAR (dependent variable) as explained by KAM 1 (independent variable) if population data were to be used. The correlation coefficient given by 0.882 shows existence of a strong positive correlation between KAM 1 and the dependent variable CAAR. The resulting equation is as depicted:

$$CAAR = -0.015 - 0.044\,KAM\,1.$$

The significance value (p value) associated with the KAM 1 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 1) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 1(i.e., KAM 1 is 0) the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(0) = -0.015.$$

This implies that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 1. If there is KAM 1 (i.e., KAM 1 is 1), the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(1) = -0.059.$$

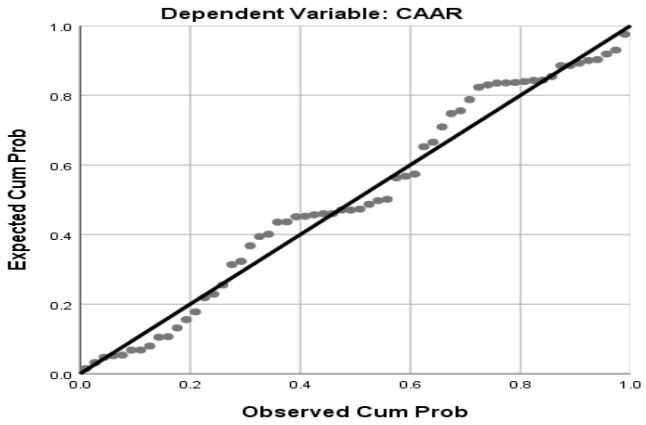

Figure 4.8: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 2.

From the findings in Figure 4.8, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.8 the results showing the relationship between CAAR and KAM 1 in the presence of other control variables in year 2 are presented.

Table 4.8: Assessing the relationship between CAAR, KAM 1 and control variables in Year 2.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.029	1	.029	203.089	.000[b]
	Residual	.008	58	.000		
	Total	.037	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						

Coefficients[a]					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics

		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.015	.002		-7.057	.000		
	Return on assets	-0.779	.055	-.882	-14.251	.000	1.0	1.0
a. Dependent Variable: CAAR								

The findings in Table 4.8, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. In the expanded regression model with control variables, KAM1, company size, audit firm size, debt ratio and earnings per share were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. The model generated is given by

$$CAAR = -0.015 - 0.779\,ROA$$

From the above model, a unit increase in Return on assets leads to 0.779 unit decrease in CAAR. This finding was significant at the 95% confidence level. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 203.089 with a significance value (p value) lower than 0.05 hence indicating that the generated model was sufficient for inferring relationships between the variables.

In Table 4.9, the results of the regression analysis of CAAR and KAM 1 in year 3 are presented.

Table 4.9 Model Summary for CAAR and KAM 1 in year 3

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.685[a]	0.470	0.461	0.0093
a. Predictors: (Constant), KAM 1				

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.008	0.002		4.769	0.000

	KAM 1	-0.017	0.002	-0.685	-7.167	0.000
a. Dependent Variable: CAAR						

The relationship between KAM 1 and CAAR in year 3 of release of KAMs, was assessed through a simple regression model and the results are presented in Table 4.9. From the findings in Table 4.9, the value of R of 0.685 represents the simple correlation between CAAR (dependent variable) and KAM 1 (independent variable). It indicates that there exists a high degree of positive correlation between CAAR (dependent variable) and KAM 1 (independent variable). The value of R square = 0.47 indicates how much of the total variation in the CAAR (dependent variable) are explained by KAM 1 (independent variable). In this case, 47% of the variation in the CAAR (dependent variable) are accounted for by KAM 1 (independent variables). The value of adjusted R square of 0.461 represents the total variation in CAAR (dependent variable) as explained by KAM 1 (independent variable) if population data were to be used. The resulting equation is as depicted:

$$CAAR = 0.008 - 0.017\ KAM\ 1.$$

The significance value (p value) associated with KAM 1 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 1) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 1(i.e., KAM 1 is 0) the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\ (0) = 0.008.$$

If there is KAM 1 (i.e., KAM 1 is 1), the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\ (1) = -0.009.$$

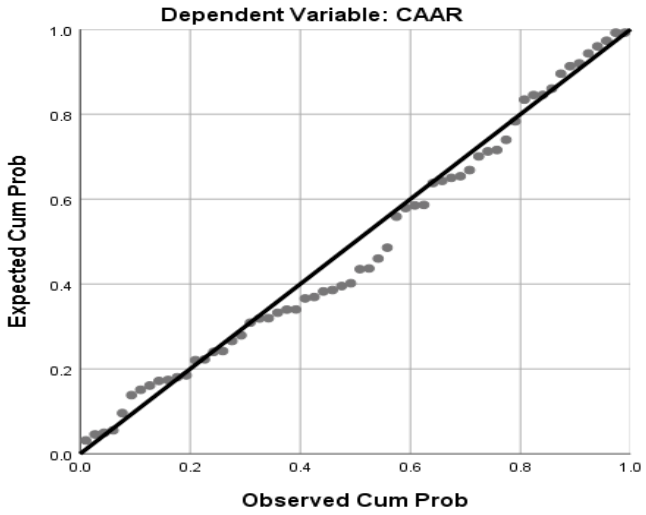

Figure 4.9: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 3

From the findings in Figure 4.9, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.10 the results showing the relationship between CAAR and KAM 1 in the presence of other control variables in year 3 are presented.

Table 4.10: Assessing the relationship between CAAR, KAM 1 and control variables in Year 3.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.004	1	0.004	51.37	0.000[b]
	Residual	0.005	58	0.000		
	Total	0.010	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						
Coefficients[a]						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.008	0.0002		4.769	0.00		
	Return on assets	-5.899	0.823	-.685	-7.167	0.00	1.0	1.0
a. Dependent Variable: CAAR								

From the findings in Table 4.10, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The coefficients of the regression model provide the necessary information to predict CAAR from return on assets (ROA). Moreover, the results also provide information showing that return on assets contribute statistically significantly to the model. The coefficients of the model are obtained from the unstandardized coefficient column (B) and given as:

$$CAAR = 0.008 - 5.899ROA$$

Return on assets contributes statistically significantly to the model given the p-values 0.000 less than 0.05 (5% significance level). It is important to note that KAM 1, company size, audit firm size, earnings per share and debt ratio were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Furthermore, study findings indicate that the regression model predicts the dependent variable (CAAR) significantly well given that p-value (sig)=0.000<0.05 (5% significance level). This indicates that the regression model is a good fit for the data, that is, it significantly predicts the outcome variable (CAAR).

In summary, the regression equations depicting the relationship between the key audit matter on impairment of assets and cumulative average abnormal returns is as follows:

$CAAR = 0.004 + 0.030\ KAM\ 1$ in year 1

$CAAR = -0.015 - 0.044\ KAM\ 1$ in year 2

$CAAR = 0.008 - 0.017\ KAM\ 1$, in year 3

In the first year, the presence of KAM 1 has an increasing effect on CAAR as shown by the beta co-efficient of +0.03. In the second and third year, the presence of KAM 1 has a decreasing

effect on CAAR by -0.044 and -0.017 units respectively. When a key audit matter on impairment of assets was disclosed in the auditor's report of a listed company in the first year of implementation of KAMs regulation for NSE companies, there was an increase in the abnormal returns. This indicates that investors earned an increased abnormal return by 0.03 units attributed to the presence of KAM 1, signalling an increase in stock prices. In the second and third year, the presence of KAM 1 led to a reduction in abnormal return earned by investors by 0.044 and 0.017 units respectively. The stock market reacted negatively to KAM 1 in the second and third year different from the first year where a positive information effect was registered.

When control variables are incorporated in the expanded regression model, the regression equations were as follows:

$CAAR = 0.004 + 1.347ROA$ in year 1

$CAAR = -0.015 - 0.779\ ROA$ in year 2

$CAAR = 0.008 - 5.899ROA$ in year 3

In all 3 years, KAM 1 and all other control variables are excluded from the regression model results as they do not bring any "additional significant information" to the model. These results show that investors still consider return on assets as an important performance indicator, more important than earnings per share, debt ratio, company and audit firm size, even in the presence of KAM 1. The key audit matter on impairment of assets on its own leads to changes in CAAR and hence causes a reaction in the stock market.

4.7.2 Analysis of Market Reaction to the Disclosure of KAM on Valuation of Financial Instruments

The second research objective was to determine the market reaction to the disclosure of key audit matter on valuation of financial instruments (KAM 2) in the auditor's report of companies listed on the Nairobi Securities Exchange. This was assessed through the following simple linear regression model, $CAAR = \beta_0 + \beta_1 KAM2 + \varepsilon$. Then control variables were added to investigate their effect on the disclosure of the key audit matter using the model, $CAAR = \beta_0 + \beta_1 KAM2 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon$. This was done for year one, year two and three of release of KAMs respectively. Descriptive statistics for the variables are presented first in Table 4.11, followed by results of the regression analysis in Tables 4.12 to 4.17.

Table 4.11 Descriptive Statistics for KAM 2 and control variables

		Sum	Mean	Std dev.	Kurtosis	Skewness	Min	Max
KAM 2								
Year 1		3	0.0909	0.2901	6.811	2.926	0	1
Year 2		9	0.1607	0.3706	1.664	1.899	0	1
Year 3		5	0.091	0.290	6.81	2.93	0	1
Control variables								
Year 1								
Audit firm size	Big four	45	0.8182	0.389	0.910	-1.696	0	1
	Not big four	10	0.1818	0.3892	0.910	1.696	0	1
Company size		926.5	16.85	2.00	-0.90	-0.16	12.55	20.20
Earnings per share (EPS)		242.1	4.40	11.71	5.25	2.00	-16.4	50.0
Debt ratio		31.45	0.57	0.28	-1.13	-0.30	0.00	1.05
Return on assets (ROA)		1.22	0.02	0.11	3.22	0.25	-0.28	0.35
Year 2								
Audit firm size	Big four	46	0.821	0.3865	1.011	-1.725	0	1
	Not big four	10	0.179	0.3865	1.011	1.725	0	1
Company size		940.7	16.8	2.045	-0.734	-0.120	11.85	20.29
Earnings per share (EPS)		384.9	6.873	15.7604	12.298	3.099	-10.23	86.64
Debt ratio		37.53	0.67	0.4032	2.286	1.049	0.03	2.04
Return on assets (ROA)		3.144	0.056	0.4318	37.527	5.285	-0.96	2.93
Year 3								
Audit firm size	Big four	46	0.84	0.373	1.551	-1.870	0	1
	Not big four	9	0.16	0.373	1.551	1.870	0	1
Company size		935.8	17.02	2.232	-0.621	-0.120	11.98	21.62
Earnings per share (EPS)		312.6	5.68	17.077	7.988	2.093	-37.35	82
Debt ratio		35.2	0.64	0.353	-0.371	0.206	0.001	1.534
Return on assets (ROA)		0.2	0.00	0.195	29.76	-4.495	-1.22	0.443

From the findings in Table 4.11, there were 3 reported KAMs on the topic of valuation of financial instruments (KAM 2) in the first year of implementation of the KAMs regulation, representing 3% of all four KAMs under study. In the second year, 15%, and 10% in the third year. The average of KAM 2 is 0.0909, 0.1607 and 0.091 in year 1, 2 and 3 respectively, which is approximately close to 0 indicating that most of the companies did not have this KAM reported by their auditor in the company's audit report on financial statements. The average

size of company at the NSE in year 1 measured by natural logarithm was 16.85 (approximately Kshs 20.8 billion in money terms) with a standard deviation of 2.00. More than 80% of the companies were audited by a big four audit firm in each of the three years under study.

In year 1: Return on Assets (ROA) was an average of 0.02, indicating poor use of company assets to generate profits, while the standard deviation of 0.11 indicated small differences in the profitability of the companies. Earnings per share was an average of Kshs 4.40 per share for all companies, with a maximum EPS of Kshs 50 of per share and a negative minimum of Kshs 16.4 per share showing a significant variation among companies at a standard deviation of 11.71. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.57 with a standard deviation of 0.28. A measure of 0.57 indicates that Kshs 0.57 of company liability is financed by 1 shilling of company assets.

In year 2: Return on Assets (ROA) was an average of 0.056 showing a better performance than year 1, with a standard deviation of 0.4318. Earnings per share was an average of Kshs 6.873 per share for all companies, also an improvement from year 1, with a maximum EPS of Kshs 86.64 of per share and a negative minimum of Kshs 10.23 per share showing a significant variation among companies at standard deviation of 15.76. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.056 with a standard deviation of 0.4318.

In year 3: Return on Assets (ROA) was an average 0.00, worse than year 1 and 2. Earnings per share was an average of Kshs 5.68 per share for all companies, with a maximum EPS of Kshs 82 per share and a negative minimum of Kshs 37.35. Debt ratio which measured the ratio of total liabilities to total assets for each company was an average of 0.64 with a standard deviation of 0.353.

In Table 4.12, the results of the regression analysis of CAAR and KAM 2 in year 1 are presented.

Table 4.12 Model Summary for CAAR and KAM 2 in year 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.797[a]	0.635	0.629	0.012
a. Predictors: (Constant), KAM 2				

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	0.004	0.002		2.061	0.044
	KAM 2	0.030	0.003	0.797	10.05	0.000
a. Dependent Variable: CAAR						

The resulting equation is as depicted:

$$CAAR = 0.004 + 0.030\, KAM\ 2.$$

The model summary depicting the general relative impact of the independent variable on the dependent variable presented an R square value 0.635 therefore indicating that 63.5% of the variability of the dependent variable was accounted for by the generated model as per results in Table 4.12. The value of adjusted R square of 0.629 represents the total variation in CAAR (dependent variable) as explained by KAM 2 (independent variable) if population data were to be used. On the other hand, the value of R=0.797 explains the correlation between CAAR and KAM 2. The value of R shows that there is a strong positive correlation between CAAR and KAM 2 in year 1. The significance values (p value) associated with the predictors were both lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 2) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 2(i.e., KAM 2 is 0) the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(0) = 0.004.$$

This means that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 2. If there is KAM 2 (i.e., KAM 2 is 1), the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(1) = 0.034.$$

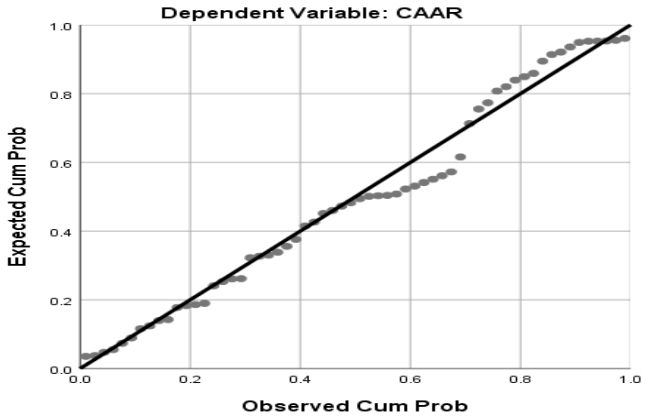

Figure 4.10: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 1

From the findings in Figure 4.10, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.13 the results showing the relationship between CAAR and KAM 2 in the presence of other control variables in year 1 are presented.

Table 4.13: Assessing the relationship between CAAR, KAM 2 and control variables in Year 1

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.013	1	0.013	100.997	.000[b]
	Residual	0.008	58	0.000		
	Total	0.021	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						

Coefficients[a]					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics

		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.004	0.002		2.061	0.044		
	Return on assets	1.347	0.134	0.797	10.050	0.000	1.0	1.0
a. Dependent Variable: CAAR								

As per the findings in Table 4.13, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The impact of each of the control variables, company size, audit firm size, earnings per share, return on assets and debt ratio, and KAM 2 on the dependent variable (CAAR) was assessed and the findings presented in Table 4.13. The results in Table 4.13 provide information regarding the model summary, the regression coefficient, and the ANOVA. The model presents an R-square value, Adjusted R-square value, and R value are like the results in Table 4.12 when KAM 2 was used without the controls variables. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 100.997 with a significance value lower than 0.05 hence indicating that the hypothesis of lack of difference between the null and generated model was to be rejected. The generated model was therefore deemed sufficient for inferring relationships between the variables. The unstandardized beta coefficients emanating from the analysis were used to assess the relative impact of the independent variable and the control variables. It is important to note from the findings that KAM 2, company size, audit firm size, debt ratio, and earnings per share were excluded from the final regression model results. This implies that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Thus, the resulting model is given by

$$CAAR = 0.004 + 1.347ROA$$

From the above model, a unit increase in Return on assets has a 1.347 impact on the increasing CAAR. This finding was significant at the 95% confidence level.

In Table 4.14, the results of the regression analysis of CAAR and KAM 2 in year 2 are presented.

Table 4.14 Model Summary for CAAR and KAM 2 in year 2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.882[a]	0.778	0.774	0.0119
a. Predictors: (Constant), KAM 2				

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.015	0.002		-7.057	0.000
	KAM 2	-0.044	0.003	-0.882	-14.251	0.000
a. Dependent Variable: CAAR						

The findings in Table 4.14 shows the general relative impact of the independent variable on the dependent variable presented an R square value 0.778 therefore indicating that 77.8% of the variability of the dependent variable was accounted for by the generated model. The value of adjusted R square of 0.774 represent the total variation in CAAR (dependent variable) as explained by KAM 2 (independent variable) if population data were to be used. The correlation coefficient given by 0.882 shows existence of a strong positive correlation between KAM 2 and the dependent variable CAAR. The resulting equation is as depicted:

$$CAAR = -0.015 - 0.044\,KAM\,2.$$

The significance value (p value) associated with the KAM 2 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 2) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 2 (i.e., KAM 2 is 0) the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(0) = -0.015.$$

This implies that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 2. If there is KAM 2 (i.e., KAM 2 is 1), the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(1) = -0.059.$$

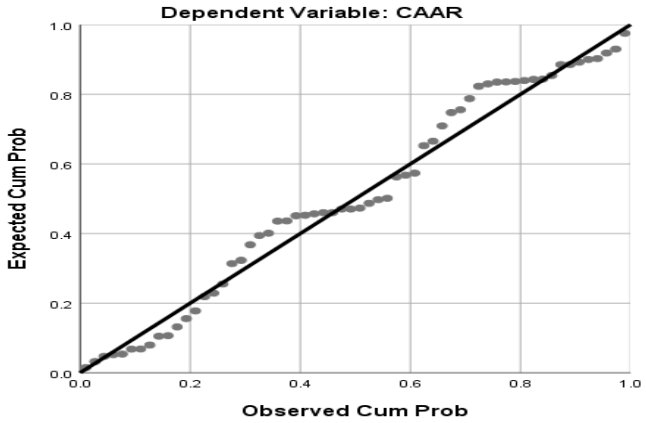

Figure 4.11: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 2.

From the findings in Figure 4.11, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.15 the results showing the relationship between CAAR and KAM 2 in the presence of other control variables in year 2 are presented.

Table 4.15: Assessing the relationship between CAAR, KAM 2 and control variables in Year 2.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.029	1	.029	203.089	.000[b]
	Residual	.008	58	.000		
	Total	.037	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						
Coefficients[a]						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.015	.002		-7.057	.000		
	Return on assets	-0.779	.055	-.882	-14.251	.000	1.0	1.0
a. Dependent Variable: CAAR								

The findings in Table 4.15, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. In the expanded regression model with control variables, KAM 2, company size, audit firm size, debt ratio and earnings per share were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. The model generated is given by

$$CAAR = -0.015 - 0.779\,ROA$$

From the above model, a unit increase in Return on assets leads to 0.779 unit decrease in CAAR. This finding was significant at the 95% confidence level. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 203.089 with a significance value (p value) lower than 0.05 hence indicating that the generated model was sufficient for inferring relationships between the variables.

In Table 4.16, the results of the regression analysis of CAAR and KAM 2 in year 3 are presented.

Table 4.16 Model Summary for CAAR and KAM 2 in year 3

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.685[a]	0.470	0.461	0.0093
a. Predictors: (Constant), KAM 2				

Coefficients[a]				
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	0.008	0.002		4.769	0.000
	KAM 2	-0.017	0.002	-0.685	-7.167	0.000
a. Dependent Variable: CAAR						

The relationship between KAM 2 and CAAR in year 3 of release of KAMs, was assessed through a simple regression model and the results are presented in Table 4.9. From the findings in Table 4.16, the value of R of 0.685 represents the simple correlation between CAAR (dependent variable) and KAM 2 (independent variable). It indicates that there exists a high degree of positive correlation between CAAR (dependent variable) and KAM 2 (independent variable). The value of R square = 0.47 indicates how much of the total variation in the CAAR (dependent variable) are explained by KAM 2 (independent variable). In this case, 47% of the variation in the CAAR (dependent variable) are accounted for by KAM 2 (independent variables). The value of adjusted R square of 0.461 represents the total variation in CAAR (dependent variable) as explained by KAM 2 (independent variable) if population data were to be used. The resulting equation is as depicted:

$$CAAR = 0.008 - 0.017\, KAM\ 2.$$

The significance value (p value) associated with KAM 2 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 1) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 2(i.e., KAM 2 is 0) the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\,(0) = 0.008.$$

If there is KAM 2 (i.e., KAM 2 is 1), the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\,(1) = -0.009.$$

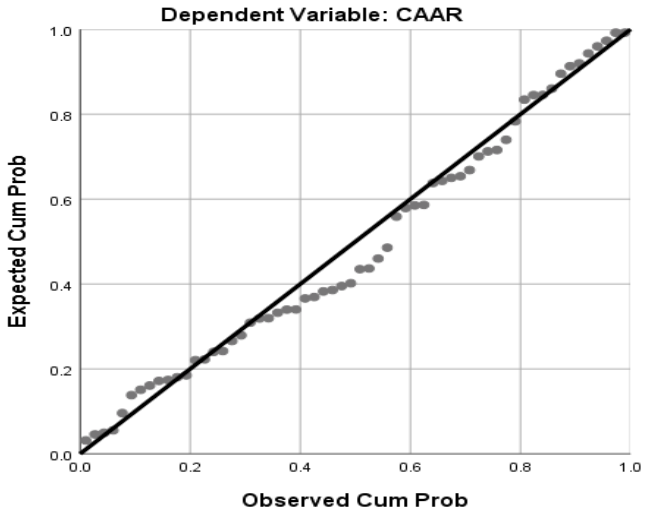

Figure 4.12: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 3

From the findings in Figure 4.12, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.17 the results showing the relationship between CAAR and KAM 2 in the presence of other control variables in year 3 are presented.

Table 4.17: Assessing the relationship between CAAR, KAM 2 and control variables in Year 3.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.004	1	0.004	51.37	0.000[b]
	Residual	0.005	58	0.000		
	Total	0.010	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						
Coefficients[a]						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.008	0.0002		4.769	0.00		
	Return on assets	-5.899	0.823	-.685	-7.167	0.00	1.0	1.0
a. Dependent Variable: CAAR								

From the findings in Table 4.17, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The coefficients of the regression model provide the necessary information to predict CAAR from return on assets (ROA). Moreover, the results also provide information showing that return on assets contribute statistically significantly to the model. The coefficients of the model are obtained from the unstandardized coefficient column (B) and given as:

$$CAAR = 0.008 - 5.899ROA$$

Return on assets contributes statistically significantly to the model given the p-values 0.000 less than 0.05 (5% significance level). It is important to note that KAM 2, company size, audit firm size, earnings per share and debt ratio were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Furthermore, study findings indicate that the regression model predicts the dependent variable (CAAR) significantly well given that p-value (sig)=0.000<0.05 (5% significance level). This indicates that the regression model is a good fit for the data, that is, it significantly predicts the outcome variable (CAAR).

In summary, the regression equations depicting the relationship between the key audit matter on valuation of financial instruments and cumulative average abnormal returns is as follows:

$CAAR = 0.004 + 0.030\ KAM2$ in year 1

$CAAR = -0.015 - 0.044\ KAM2$ in year 2

$CAAR = 0.008 - 0.017\ KAM2$, in year 3

In the first year, the presence of KAM 2 has an increasing effect on CAAR as shown by the beta co-efficient of +0.03. In the second and third year, the presence of KAM 2 has a decreasing

effect on CAAR by -0.044 and -0.017 units respectively. When a key audit matter on valuation of financial instruments was disclosed in the auditor's report of a listed company in the first year of implementation of KAMs regulation for NSE companies, there was an increase in the abnormal returns. This indicates that investors earned an increased abnormal return by 0.03 units attributed to the presence of KAM 2, signalling an increase in stock prices. In the second and third year, the presence of KAM 2 led to a reduction in abnormal return earned by investors by 0.044 and 0.017 units respectively. The stock market reacted negatively to KAM 2 in the second and third year different from the first year where a positive information effect was registered.

When control variables are incorporated in the expanded regression model, the regression equations were as follows:

$CAAR = 0.004 + 1.347ROA$ in year 1

$CAAR = -0.015 - 0.779\ ROA$ in year 2

$CAAR = 0.008 - 5.899ROA$ in year 3

In all 3 years, KAM 2 and all other control variables are excluded from the regression model results as they do not bring any "additional significant information" to the model. These results show that investors still consider return on assets as an important performance indicator, more important than earnings per share, debt ratio, company and audit firm size, even in the presence of KAM 2. The key audit matter on valuation of financial instruments on its own leads to changes in CAAR and hence causes a reaction in the stock market.

4.7.3 Analysis of Market Reaction to the Disclosure of KAMs on Revenue Recognition

The third research objective was to determine the market reaction to the disclosure of key audit matter on revenue recognition (KAM 3) in the auditor's report of companies listed on the Nairobi Securities Exchange. This was assessed through the following simple linear regression model, $CAAR = \beta_0 + \beta_1 KAM3 + \varepsilon$. Then control variables were added to investigate their effect on the disclosure of the key audit matter using the model, $CAAR = \beta_0 + \beta_1 KAM3 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon$. This was done for year one, year two and three of release of KAMs respectively. Descriptive statistics for the variables

are presented first in Table 4.18, followed by results of the regression analysis in Tables 4.19 to 4.24.

Table 4.18 Descriptive Statistics for KAM 3 and control variables

		Sum	Mean	Std dev.	Kurtosis	Skewness	Min	Max
KAM 3								
Year 1		6	0.1091	0.3146	4.824	2.579	0	1
Year 2		7	0.125	0.3337	3.558	2.331	0	1
Year 3		6	0.1091	0.315	4.82	2.58	0	1
Control variables								
Year 1								
Audit firm size	Big four	45	0.8182	0.389	0.910	-1.696	0	1
	Not big four	10	0.1818	0.3892	0.910	1.696	0	1
Company size		926.5	16.85	2.00	-0.90	-0.16	12.55	20.20
Earnings per share (EPS)		242.1	4.40	11.71	5.25	2.00	-16.4	50.0
Debt ratio		31.45	0.57	0.28	-1.13	-0.30	0.00	1.05
Return on assets (ROA)		1.22	0.02	0.11	3.22	0.25	-0.28	0.35
Year 2								
Audit firm size	Big four	46	0.821	0.3865	1.011	-1.725	0	1
	Not big four	10	0.179	0.3865	1.011	1.725	0	1
Company size		940.7	16.8	2.045	-0.734	-0.120	11.85	20.29
Earnings per share (EPS)		384.9	6.873	15.7604	12.298	3.099	-10.23	86.64
Debt ratio		37.53	0.67	0.4032	2.286	1.049	0.03	2.04
Return on assets (ROA)		3.144	0.056	0.4318	37.527	5.285	-0.96	2.93
Year 3								
Audit firm size	Big four	46	0.84	0.373	1.551	-1.870	0	1
	Not big four	9	0.16	0.373	1.551	1.870	0	1
Company size		935.8	17.02	2.232	-0.621	-0.120	11.98	21.62
Earnings per share (EPS)		312.6	5.68	17.077	7.988	2.093	-37.35	82
Debt ratio		35.2	0.64	0.353	-0.371	0.206	0.001	1.534
Return on assets (ROA)		0.2	0.00	0.195	29.76	-4.495	-1.22	0.443

From the findings in Table 4.18, there were 6 reported KAMs on the topic of revenue recognition in the first year of implementation of the KAMs regulation, , representing 11% of all four KAM topics under study. In the second year and third year, 12%. The average of KAM 3 is 0.0909, 0.1607 and 0.091 in year 1, 2 and 3 respectively, which is approximately close to

0 indicating that most of the companies did not have this KAM reported by their auditor in the company's audit report on financial statements. The average size of company at the NSE in year 1 measured by natural logarithm was 16.85 (approximately Kshs 20.8 billion in money terms) with a standard deviation of 2.00. More than 80% of the companies were audited by a big four audit firm in each of the three years under study.

In year 1: Return on Assets (ROA) was an average of 0.02, indicating poor use of company assets to generate profits, while the standard deviation of 0.11 indicated small differences in the profitability of the companies. Earnings per share was an average of Kshs 4.40 per share for all companies, with a maximum EPS of Kshs 50 of per share and a negative minimum of Kshs 16.4 per share showing a significant variation among companies at a standard deviation of 11.71. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.57 with a standard deviation of 0.28. A measure of 0.57 indicates that Kshs 0.57 of company liability is financed by 1 shilling of company assets.

In year 2: Return on Assets (ROA) was an average of 0.056 showing a better performance than year 1, with a standard deviation of 0.4318. Earnings per share was an average of Kshs 6.873 per share for all companies, also an improvement from year 1, with a maximum EPS of Kshs 86.64 of per share and a negative minimum of Kshs 10.23 per share showing a significant variation among companies at standard deviation of 15.76. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.056 with a standard deviation of 0.4318.

In year 3: Return on Assets (ROA) was an average 0.00, worse than year 1 and 2. Earnings per share was an average of Kshs 5.68 per share for all companies, with a maximum EPS of Kshs 82 per share and a negative minimum of Kshs 37.35. Debt ratio which measured the ratio of total liabilities to total assets for each company was an average of 0.64 with a standard deviation of 0.353.

In Table 4.19, the results of the regression analysis of CAAR and KAM 3 in year 1 are presented.

Table 4.19 Model Summary for CAAR and KAM 3 in year 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.797[a]	0.635	0.629	0.012
a. Predictors: (Constant), KAM 3				

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.004	0.002		2.061	0.044
	KAM 3	0.030	0.003	0.797	10.05	0.000
a. Dependent Variable: CAAR						

The resulting equation is as depicted:

$$CAAR = 0.004 + 0.030\,KAM\,3.$$

The model summary depicting the general relative impact of the independent variable on the dependent variable presented an R square value 0.635 therefore indicating that 63.5% of the variability of the dependent variable was accounted for by the generated model as per results in Table 4.19. The value of adjusted R square of 0.629 represents the total variation in CAAR (dependent variable) as explained by KAM 3 (independent variable) if population data were to be used. On the other hand, the value of R=0.797 explains the correlation between CAAR and KAM 3. The value of R shows that there is a strong positive correlation between CAAR and KAM 3 in year 1. The significance values (p value) associated with the predictors were both lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 3) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 3 (i.e., KAM 3 is 0) the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(0) = 0.004.$$

This means that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 3. If there is KAM 3 (i.e., KAM 3 is 1), the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(1) = 0.034.$$

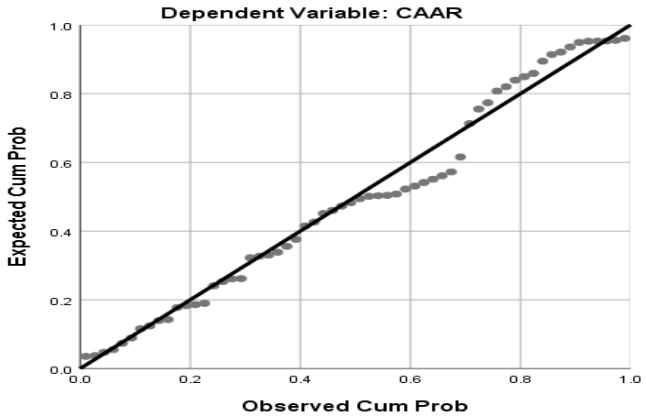

Figure 4.13: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 1

From the findings in Figure 4.13, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.20 the results showing the relationship between CAAR and KAM 3 in the presence of other control variables in year 1 are presented.

Table 4.20: Assessing the relationship between CAAR, KAM 3 and control variables in Year 1

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.013	1	0.013	100.997	.000[b]
	Residual	0.008	58	0.000		
	Total	0.021	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						

Coefficients[a]					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics

		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.004	0.002		2.061	0.044		
	Return on assets	1.347	0.134	0.797	10.050	0.000	1.0	1.0
a. Dependent Variable: CAAR								

As per the findings in Table 4.20, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The impact of each of the control variables, company size, audit firm size, earnings per share, return on assets and debt ratio, and KAM 3 on the dependent variable (CAAR) was assessed and the findings presented in Table 4.20. The results in Table 4.20 provide information regarding the model summary, the regression coefficient, and the ANOVA. The model presents an R-square value, Adjusted R-square value, and R value are like the results in Table 4.19 when KAM 3 was used without the controls variables. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 100.997 with a significance value lower than 0.05 hence indicating that the hypothesis of lack of difference between the null and generated model was to be rejected. The generated model was therefore deemed sufficient for inferring relationships between the variables. The unstandardized beta coefficients emanating from the analysis were used to assess the relative impact of the independent variable and the control variables. It is important to note from the findings that KAM 3, company size, audit firm size, debt ratio, and earnings per share were excluded from the final regression model results. This implies that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Thus, the resulting model is given by

$$CAAR = 0.004 + 1.347ROA$$

From the above model, a unit increase in Return on assets has a 1.347 impact on the increasing CAAR. This finding was significant at the 95% confidence level.

In Table 4.21, the results of the regression analysis of CAAR and KAM 3 in year 2 are presented.

Table 4.21 Model Summary for CAAR and KAM 3 in year 2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.882[a]	0.778	0.774	0.0119
a. Predictors: (Constant), KAM 3				

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.015	0.002		-7.057	0.000
	KAM 2	-0.044	0.003	-0.882	-14.251	0.000
a. Dependent Variable: CAAR						

The findings in Table 4.21 shows the general relative impact of the independent variable on the dependent variable presented an R square value 0.778 therefore indicating that 77.8% of the variability of the dependent variable was accounted for by the generated model. The value of adjusted R square of 0.774 represent the total variation in CAAR (dependent variable) as explained by KAM 3 (independent variable) if population data were to be used. The correlation coefficient given by 0.882 shows existence of a strong positive correlation between KAM 3 and the dependent variable CAAR. The resulting equation is as depicted:

$$CAAR = -0.015 - 0.044\, KAM\ 3.$$

The significance value (p value) associated with the KAM 3 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 3) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 3 (i.e., KAM 3 is 0) the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(0) = -0.015.$$

This implies that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 3. If there is KAM 3 (i.e., KAM 3 is 1), the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(1) = -0.059.$$

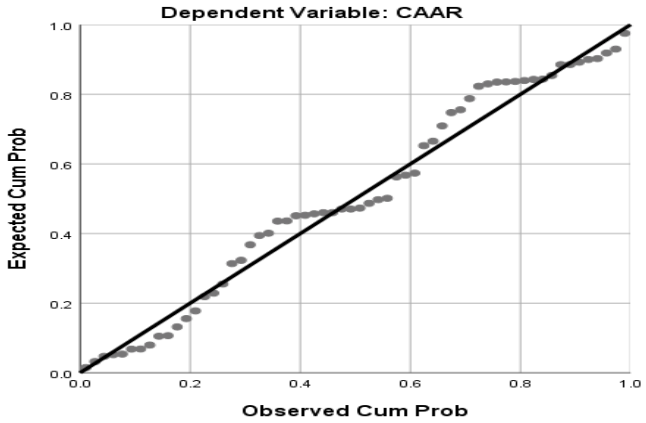

Figure 4.14: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 2.

From the findings in Figure 4.14, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.22 the results showing the relationship between CAAR and KAM 3 in the presence of other control variables in year 2 are presented.

Table 4.22: Assessing the relationship between CAAR, KAM 3 and control variables in Year 2.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.029	1	.029	203.089	.000[b]
	Residual	.008	58	.000		
	Total	.037	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.015	.002		-7.057	.000		
	Return on assets	-0.779	.055	-.882	-14.251	.000	1.0	1.0
a. Dependent Variable: CAAR								

The findings in Table 4.22, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. In the expanded regression model with control variables, KAM 3, company size, audit firm size, debt ratio and earnings per share were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. The model generated is given by

$$CAAR = -0.015 - 0.779\,ROA$$

From the above model, a unit increase in Return on assets leads to 0.779 unit decrease in CAAR. This finding was significant at the 95% confidence level. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 203.089 with a significance value (p value) lower than 0.05 hence indicating that the generated model was sufficient for inferring relationships between the variables.

In Table 4.23, the results of the regression analysis of CAAR and KAM 3 in year 3 are presented.

Table 4.23 Model Summary for CAAR and KAM 3 in year 3

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.685[a]	0.470	0.461	0.0093
a. Predictors: (Constant), KAM 3				
Coefficients[a]				

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.008	0.002		4.769	0.000
	KAM 3	-0.017	0.002	-0.685	-7.167	0.000
a. Dependent Variable: CAAR						

The relationship between KAM 3 and CAAR in year 3 of release of KAMs, was assessed through a simple regression model and the results are presented in Table 4.9. From the findings in Table 4.23, the value of R of 0.685 represents the simple correlation between CAAR (dependent variable) and KAM 3 (independent variable). It indicates that there exists a high degree of positive correlation between CAAR (dependent variable) and KAM 3 (independent variable). The value of R square = 0.47 indicates how much of the total variation in the CAAR (dependent variable) are explained by KAM 3 (independent variable). In this case, 47% of the variation in the CAAR (dependent variable) are accounted for by KAM 3 (independent variables). The value of adjusted R square of 0.461 represents the total variation in CAAR (dependent variable) as explained by KAM 3 (independent variable) if population data were to be used. The resulting equation is as depicted:

$$CAAR = 0.008 - 0.017\ KAM\ 3.$$

The significance value (p value) associated with KAM 3 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 3) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 3 (i.e., KAM 3 is 0) the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\ (0) = 0.008.$$

If there is KAM 3 (i.e., KAM 3 is 1), the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\ (1) = -0.009.$$

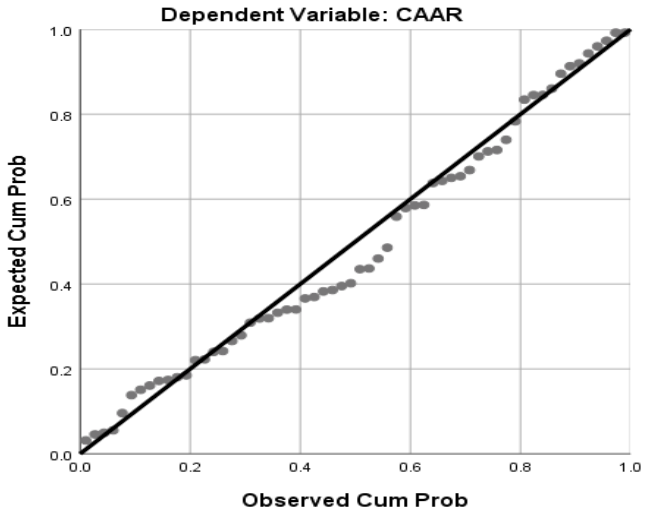

Figure 4.15: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 3

From the findings in Figure 4.15, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.24 the results showing the relationship between CAAR and KAM 3 in the presence of other control variables in year 3 are presented.

Table 4.24: Assessing the relationship between CAAR, KAM 3 and control variables in Year 3.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.004	1	0.004	51.37	0.000[b]
	Residual	0.005	58	0.000		
	Total	0.010	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						
Coefficients[a]						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.008	0.0002		4.769	0.00		
	Return on assets	-5.899	0.823	-.685	-7.167	0.00	1.0	1.0
a. Dependent Variable: CAAR								

From the findings in Table 4.24, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The coefficients of the regression model provide the necessary information to predict CAAR from return on assets (ROA). Moreover, the results also provide information showing that return on assets contribute statistically significantly to the model. The coefficients of the model are obtained from the unstandardized coefficient column (B) and given as:

$$CAAR = 0.008 - 5.899ROA$$

Return on assets contributes statistically significantly to the model given the p-values 0.000 less than 0.05 (5% significance level). It is important to note that KAM 3, company size, audit firm size, earnings per share and debt ratio were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Furthermore, study findings indicate that the regression model predicts the dependent variable (CAAR) significantly well given that p-value (sig)=0.000<0.05 (5% significance level). This indicates that the regression model is a good fit for the data, that is, it significantly predicts the outcome variable (CAAR).

In summary, the regression equations depicting the relationship between the key audit matter on revenue recognition and cumulative average abnormal returns is as follows:

$CAAR = 0.004 + 0.030\ KAM3$ in year 1

$CAAR = -0.015 - 0.044\ KAM3$ in year 2

$CAAR = 0.008 - 0.017\ KAM3$, in year 3

In the first year, the presence of KAM 3 has an increasing effect on CAAR as shown by the beta co-efficient of +0.03. In the second and third year, the presence of KAM 3 has a decreasing

effect on CAAR by -0.044 and -0.017 units respectively. When a key audit matter on revenue recognition was disclosed in the auditor's report of a listed company in the first year of implementation of KAMs regulation for NSE companies, there was an increase in the abnormal returns. This indicates that investors earned an increased abnormal return by 0.03 units attributed to the presence of KAM 3, signalling an increase in stock prices. In the second and third year, the presence of KAM 3 led to a reduction in abnormal return earned by investors by 0.044 and 0.017 units respectively. The stock market reacted negatively to KAM 3 in the second and third year different from the first year where a positive information effect was registered.

When control variables are incorporated in the expanded regression model, the regression equations were as follows:

$CAAR = 0.004 + 1.347ROA$ in year 1

$CAAR = -0.015 - 0.779\ ROA$ in year 2

$CAAR = 0.008 - 5.899ROA$ in year 3

In all 3 years, KAM 3 and all other control variables are excluded from the regression model results as they do not bring any "additional significant information" to the model. These results show that investors still consider return on assets as an important performance indicator, more important than earnings per share, debt ratio, company and audit firm size, even in the presence of KAM 3. The key audit matter on revenue recognition on its own leads to changes in CAAR and hence causes a reaction in the stock market.

4.7.4 Analysis of Market Reaction to the Disclosure of KAM on Tax Liabilities

The fourth research objective was to determine the market reaction to the disclosure of key audit matter on tax liabilities (KAM 4) in the auditor's report of companies listed on the Nairobi Securities Exchange. This was assessed through the following simple linear regression model, $CAAR = \beta_0 + \beta_1 KAM4 + \varepsilon$. Then control variables were added to investigate their effect on the disclosure of the key audit matter using the model, $CAAR = \beta_0 + \beta_1 KAM4 + \beta_2 SIZE + \beta_3 AUDITOR + \beta_4 DEBT + \beta_5 EPS + \beta_6 ROA + \varepsilon$. This was done for year one, year two and three of release of KAMs respectively. Descriptive statistics for the variables are presented first in Table 4.25, followed by results of the regression analysis in Tables 4.26 to 4.31.

Table 4.25 Descriptive Statistics for KAM 4 and control variables

		Sum	Mean	Std dev.	Kurtosis	Skewness	Min	Max
KAM 4								
Year 1		9	0.1636	0.3734	1.551	1.870	0	1
Year 2		6	0.107	0.3121	4.993	2.611	0	1
Year 3		3	0.0545	0.229	14.81	4.034	0	1
Control variables								
Year 1								
Audit firm size	Big four	45	0.8182	0.389	0.910	-1.696	0	1
	Not big four	10	0.1818	0.3892	0.910	1.696	0	1
Company size		926.5	16.85	2.00	-0.90	-0.16	12.55	20.20
Earnings per share (EPS)		242.1	4.40	11.71	5.25	2.00	-16.4	50.0
Debt ratio		31.45	0.57	0.28	-1.13	-0.30	0.00	1.05
Return on assets (ROA)		1.22	0.02	0.11	3.22	0.25	-0.28	0.35
Year 2								
Audit firm size	Big four	46	0.821	0.3865	1.011	-1.725	0	1
	Not big four	10	0.179	0.3865	1.011	1.725	0	1
Company size		940.7	16.8	2.045	-0.734	-0.120	11.85	20.29
Earnings per share (EPS)		384.9	6.873	15.7604	12.298	3.099	-10.23	86.64
Debt ratio		37.53	0.67	0.4032	2.286	1.049	0.03	2.04
Return on assets (ROA)		3.144	0.056	0.4318	37.527	5.285	-0.96	2.93
Year 3								
Audit firm size	Big four	46	0.84	0.373	1.551	-1.870	0	1
	Not big four	9	0.16	0.373	1.551	1.870	0	1
Company size		935.8	17.02	2.232	-0.621	-0.120	11.98	21.62
Earnings per share (EPS)		312.6	5.68	17.077	7.988	2.093	-37.35	82
Debt ratio		35.2	0.64	0.353	-0.371	0.206	0.001	1.534
Return on assets (ROA)		0.2	0.00	0.195	29.76	-4.495	-1.22	0.443

From the findings in Table 4.25, there were 9 reported KAMs on the topic of tax liabilities in the first year of implementation of the KAMs regulation, representing 16% of all four KAM topics under study. In the second year, 10%, and 6% in the third year. The average of KAM 4 is 0.1636, 0.107 and 0.0545 in year 1, 2 and 3 respectively, which is approximately close to 0 indicating that most of the companies did not have this KAM reported by their auditor in the company's audit report on financial statements. The average size of company at the NSE in

year 1 measured by natural logarithm was 16.85 (approximately Kshs 20.8 billion in money terms) with a standard deviation of 2.00. More than 80% of the companies were audited by a big four audit firm in each of the three years under study.

In year 1: Return on Assets (ROA) was an average of 0.02, indicating poor use of company assets to generate profits, while the standard deviation of 0.11 indicated small differences in the profitability of the companies. Earnings per share was an average of Kshs 4.40 per share for all companies, with a maximum EPS of Kshs 50 of per share and a negative minimum of Kshs 16.4 per share showing a significant variation among companies at a standard deviation of 11.71. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.57 with a standard deviation of 0.28. A measure of 0.57 indicates that Kshs 0.57 of company liability is financed by 1 shilling of company assets.

In year 2: Return on Assets (ROA) was an average of 0.056 showing a better performance than year 1, with a standard deviation of 0.4318. Earnings per share was an average of Kshs 6.873 per share for all companies, also an improvement from year 1, with a maximum EPS of Kshs 86.64 of per share and a negative minimum of Kshs 10.23 per share showing a significant variation among companies at standard deviation of 15.76. Debt ratio which measures the ratio of total liabilities to total assets for each company was an average of 0.056 with a standard deviation of 0.4318.

In year 3: Return on Assets (ROA) was an average 0.00, worse than year 1 and 2. Earnings per share was an average of Kshs 5.68 per share for all companies, with a maximum EPS of Kshs 82 per share and a negative minimum of Kshs 37.35. Debt ratio which measured the ratio of total liabilities to total assets for each company was an average of 0.64 with a standard deviation of 0.353.

In Table 4.26, the results of the regression analysis of CAAR and KAM 4 in year 1 are presented.

Table 4.26 Model Summary for CAAR and KAM 4 in year 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.797[a]	0.635	0.629	0.012
a. Predictors: (Constant), KAM 4				

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	0.004	0.002		2.061	0.044
	KAM 4	0.030	0.003	0.797	10.05	0.000
a. Dependent Variable: CAAR						

The resulting equation is as depicted:

$$CAAR = 0.004 + 0.030\, KAM4.$$

The model summary depicting the general relative impact of the independent variable on the dependent variable presented an R square value 0.635 therefore indicating that 63.5% of the variability of the dependent variable was accounted for by the generated model as per results in Table 4.26. The value of adjusted R square of 0.629 represents the total variation in CAAR (dependent variable) as explained by KAM 4 (independent variable) if population data were to be used. On the other hand, the value of R=0.797 explains the correlation between CAAR and KAM 4. The value of R shows that there is a strong positive correlation between CAAR and KAM 4 in year 1. The significance values (p value) associated with the predictors were both lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 4) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 4 (i.e., KAM 4 is 0) the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(0) = 0.004.$$

This means that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 4. If there is KAM 4 (i.e., KAM 4 is 1), the regression equation would simplify to:

$$CAAR = 0.004 + 0.030\,(1) = 0.034.$$

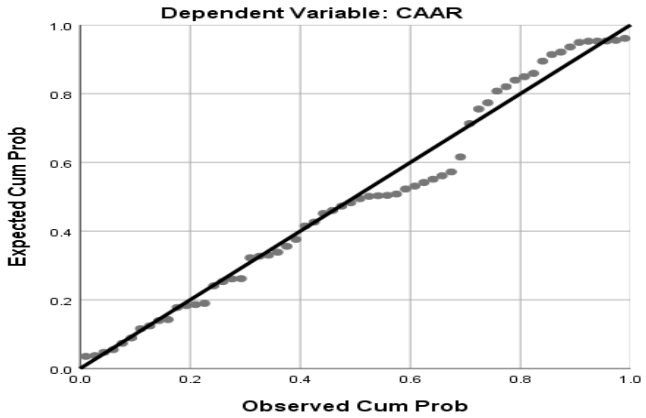

Figure 4.16: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 1

From the findings in Figure 4.16, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.27 the results showing the relationship between CAAR and KAM 4 in the presence of other control variables in year 1 are presented.

Table 4.27: Assessing the relationship between CAAR, KAM 4 and control variables in Year 1

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.013	1	0.013	100.997	.000[b]
	Residual	0.008	58	0.000		
	Total	0.021	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						

Coefficients[a]					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics

		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.004	0.002		2.061	0.044		
	Return on assets	1.347	0.134	0.797	10.050	0.000	1.0	1.0
a. Dependent Variable: CAAR								

As per the findings in Table 4.27, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The impact of each of the control variables, company size, audit firm size, earnings per share, return on assets and debt ratio, and KAM 4 on the dependent variable (CAAR) was assessed and the findings presented in Table 4.27. The results in Table 4.27 provide information regarding the model summary, the regression coefficient, and the ANOVA. The model presents an R-square value, Adjusted R-square value, and R value are like the results in Table 4.26 when KAM 4 was used without the controls variables. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 100.997 with a significance value lower than 0.05 hence indicating that the hypothesis of lack of difference between the null and generated model was to be rejected. The generated model was therefore deemed sufficient for inferring relationships between the variables. The unstandardized beta coefficients emanating from the analysis were used to assess the relative impact of the independent variable and the control variables. It is important to note from the findings that KAM 4, company size, audit firm size, debt ratio, and earnings per share were excluded from the final regression model results. This implies that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Thus, the resulting model is given by

$$CAAR = 0.004 + 1.347ROA$$

From the above model, a unit increase in Return on assets has a 1.347 impact on the increasing CAAR. This finding was significant at the 95% confidence level.

In Table 4.28, the results of the regression analysis of CAAR and KAM 4 in year 2 are presented.

Table 4.28 Model Summary for CAAR and KAM 4 in year 2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.882[a]	0.778	0.774	0.0119
a. Predictors: (Constant), KAM 4				

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.015	0.002		-7.057	0.000
	KAM 4	-0.044	0.003	-0.882	-14.251	0.000
a. Dependent Variable: CAAR						

The findings in Table 4.28 shows the general relative impact of the independent variable on the dependent variable presented an R square value 0.778 therefore indicating that 77.8% of the variability of the dependent variable was accounted for by the generated model. The value of adjusted R square of 0.774 represent the total variation in CAAR (dependent variable) as explained by KAM 4 (independent variable) if population data were to be used. The correlation coefficient given by 0.882 shows existence of a strong positive correlation between KAM 4 and the dependent variable CAAR. The resulting equation is as depicted:

$$CAAR = -0.015 - 0.044\,KAM4.$$

The significance value (p value) associated with the KAM 4 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 4) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 4 (i.e., KAM 4 is 0) the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(0) = -0.015.$$

This implies that the intercept obtained from the regression coefficient is the mean predicted CAAR score for no KAM 4. If there is KAM 4 (i.e., KAM 4 is 1), the regression equation would simplify to:

$$CAAR = -0.015 - 0.044\,(1) = -0.059.$$

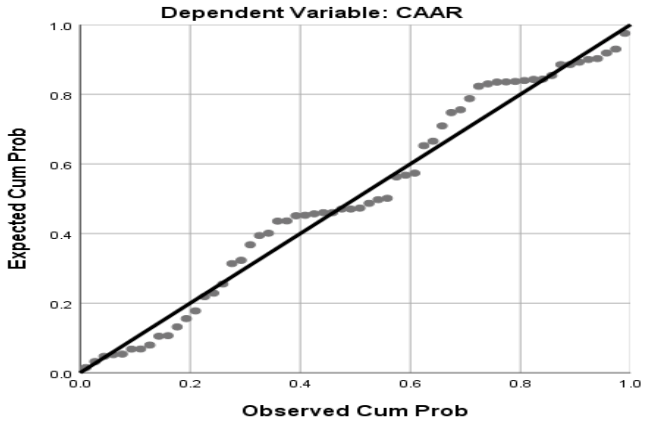

Figure 4.17: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 2.

From the findings in Figure 4.17, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.29 the results showing the relationship between CAAR and KAM 4 in the presence of other control variables in year 2 are presented.

Table 4.29: Assessing the relationship between CAAR, KAM 4 and control variables in Year 2.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.029	1	.029	203.089	.000[b]
	Residual	.008	58	.000		
	Total	.037	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						
Coefficients[a]						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0.015	.002		-7.057	.000		
	Return on assets	-0.779	.055	-.882	-14.251	.000	1.0	1.0
a. Dependent Variable: CAAR								

The findings in Table 4.29, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. In the expanded regression model with control variables, KAM 4, company size, audit firm size, debt ratio and earnings per share were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. The model generated is given by

$$CAAR = -0.015 - 0.779\,ROA$$

From the above model, a unit increase in Return on assets leads to 0.779 unit decrease in CAAR. This finding was significant at the 95% confidence level. A test of the validity of the model over a null model with respect to inferring the relationship between the independent and dependent variables was conducted through ANOVA. Findings indicated an F value of 203.089 with a significance value (p value) lower than 0.05 hence indicating that the generated model was sufficient for inferring relationships between the variables.

In Table 4.30, the results of the regression analysis of CAAR and KAM 4 in year 3 are presented.

Table 4.30 Model Summary for CAAR and KAM 4 in year 3

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.685[a]	0.470	0.461	0.0093
a. Predictors: (Constant), KAM 4				

Coefficients[a]				
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	0.008	0.002		4.769	0.000
	KAM 4	-0.017	0.002	-0.685	-7.167	0.000
a. Dependent Variable: CAAR						

The relationship between KAM 4 and CAAR in year 3 of release of KAMs, was assessed through a simple regression model and the results are presented in Table 4.30. From the findings in Table 4.30, the value of R of 0.685 represents the simple correlation between CAAR (dependent variable) and KAM 4 (independent variable). It indicates that there exists a high degree of positive correlation between CAAR (dependent variable) and KAM 4 (independent variable). The value of R square = 0.47 indicates how much of the total variation in the CAAR (dependent variable) are explained by KAM 4 (independent variable). In this case, 47% of the variation in the CAAR (dependent variable) are accounted for by KAM 4 (independent variables). The value of adjusted R square of 0.461 represents the total variation in CAAR (dependent variable) as explained by KAM 4 (independent variable) if population data were to be used. The resulting equation is as depicted:

$$CAAR = 0.008 - 0.017\, KAM4.$$

The significance value (p value) associated with KAM 3 was lower than 0.05 hence indicating that the coefficients were valid at 95% confidence level. Since the independent variable (KAM 3) is a binary variable (0,1), the model is interpreted by obtaining the CAAR values that corresponds to 0 and 1. If there is no KAM 4 (i.e., KAM 4 is 0) the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\,(0) = 0.008.$$

If there is KAM 4 (i.e., KAM 4 is 1), the regression equation would simplify to:

$$CAAR = 0.008 - 0.017\,(1) = -0.009.$$

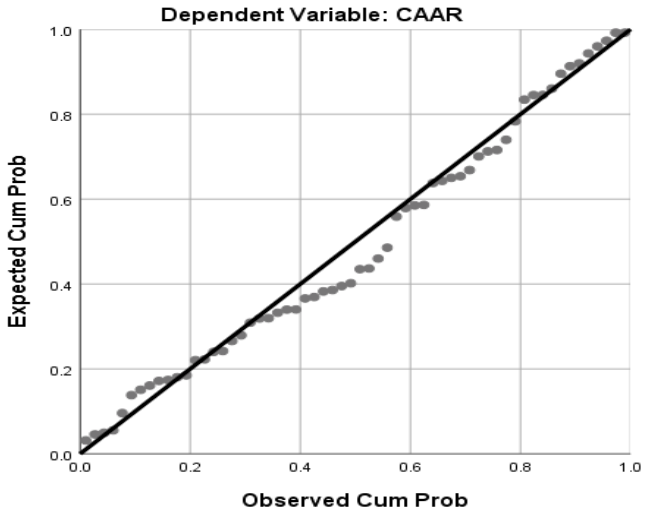

Figure 4.18: The normality test between CAAR and the predictor variables through Normal P-P plot of regression standardized residual in year 3

From the findings in Figure 4.18, it can be seen that the residual points shown by the little circles tend to be close to the line though with little deviations. Although the points are not aligned perfectly along the diagonal line, they are close enough to indicate that the residuals are approximately normally distributed. As linear regression analysis is fairly robust against deviations from normality, we can accept this result as meaning that no transformations or otherwise need to take place thus the assumption of normality has not been violated.

In Table 4.31 the results showing the relationship between CAAR and KAM 4 in the presence of other control variables in year 3 are presented.

Table 4.31: Assessing the relationship between CAAR, KAM 4 and control variables in Year 3.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.004	1	0.004	51.37	0.000[b]
	Residual	0.005	58	0.000		
	Total	0.010	59			
a. Dependent Variable: CAAR						
b. Predictors: (Constant), Return on assets						
Coefficients[a]						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.008	0.0002		4.769	0.00		
	Return on assets	-5.899	0.823	-.685	-7.167	0.00	1.0	1.0
a. Dependent Variable: CAAR								

From the findings in Table 4.31, we first check for absence of multicollinearity using VIF values. Since the value of VIF is 1.0 which is below 10, it indicates that the assumption of multicollinearity is met. The coefficients of the regression model provide the necessary information to predict CAAR from return on assets (ROA). Moreover, the results also provide information showing that return on assets contribute statistically significantly to the model. The coefficients of the model are obtained from the unstandardized coefficient column (B) and given as:

$$CAAR = 0.008 - 5.899ROA$$

Return on assets contributes statistically significantly to the model given the p-values 0.000 less than 0.05 (5% significance level). It is important to note that KAM 3, company size, audit firm size, earnings per share and debt ratio were excluded from the final regression results. This indicates that these variables in the expanded regression model variables do not bring any "additional significant information" to the model. Furthermore, study findings indicate that the regression model predicts the dependent variable (CAAR) significantly well given that p-value (sig)=0.000<0.05 (5% significance level). This indicates that the regression model is a good fit for the data, that is, it significantly predicts the outcome variable (CAAR).

In summary, the regression equations depicting the relationship between the key audit matter on tax liabilities and cumulative average abnormal returns is as follows:

$CAAR = 0.004 + 0.030\ KAM4$ in year 1

$CAAR = -0.015 - 0.044\ KAM4$ in year 2

$CAAR = 0.008 - 0.017\ KAM4$, in year 3

In the first year, the presence of KAM 4 has an increasing effect on CAAR as shown by the beta co-efficient of +0.03 with 63.5% variability in CAAR being explained by KAM 4. In the

second and third year, the presence of KAM 4 has a decreasing effect on CAAR by -0.044 and -0.017 units respectively. The variability in CAAR as explained by KAM 4 in the second and third year was 78% and 47% respectively, with an average of 62.83% CAAR variability computed for all three years When a key audit matter on tax liabilities was disclosed in the auditor's report of a listed company in the first year of implementation of KAMs regulation for NSE companies, there was an increase in the abnormal returns. This indicates that investors earned an increased abnormal return by 0.03 units attributed to the presence of KAM 4, signalling an increase in stock prices. In the second and third year, the presence of KAM 4 led to a reduction in abnormal return earned by investors by 0.044 and 0.017 units respectively. The stock market reacted negatively to KAM 4 in the second and third year different from the first year where a positive information effect was noted.

When control variables are incorporated in the expanded regression model, the regression equations were as follows:

$CAAR = 0.004 + 1.347ROA$ in year 1

$CAAR = -0.015 - 0.779\ ROA$ in year 2

$CAAR = 0.008 - 5.899ROA$ in year 3

In all 3 years, KAM 4 and all other control variables are excluded from the regression model results as they do not bring any "additional significant information" to the model. These results show that investors still consider return on assets as an important performance indicator, more important than earnings per share, debt ratio, company and audit firm size, even in the presence of KAM 4. The key audit matter on tax liabilities on its own leads to changes in CAAR and hence causes a reaction in the stock market.

4.8 Chapter Summary

In this chapter, the relationship between cummulative average abnormal returns and key audit matter on impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities was assessed for the first three years after implementation of key audit matters regulation in Kenya. The results showed that the most commonly reported KAM in each of the three years was the topic on impairment of assets. The study findings indicate that there is a significant relationship between the specified KAMs and cummulative average abnormal returns at 95% confidence interval, with beta co-efficients of 0.03, -0.044 and -0.017 in year 1, year 2 and year 3 respectively.

The variability of CAAR explained by the specified KAMs was an average of 63.83% for all three years. The cummulative average abnormal returns was used as a measure of the stock market response to disclosure of key audit matters. In the first year of implementation of the KAMs, the presence of each KAM 1,2,3 and 4 led to an increase in CAAR indicating higher abnormal returns earned by an investor in the stock market. However in the second and third year, the disclosure of the KAMs resulted in a decrease in CAAR indicating reduced abnormal returns earned by investors. When control variables of company size, audit firm size, return on assets, earnings per share and debt ratio were added to the regression model, it was found that return on assets contributed statistically significance to the expanded regression model in all three years while each of KAM 1,2,3 and 4, company size, audit firm size, earnings per share and debt ratio did not bring any "additional significant information".

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter details a summary of the study findings and discusses their interpretation and implications. Limitations of the study as well as recommendations are also discussed.

5.2 Market Reaction to the disclosure of Key Audit Matters

5.2.1 Summary of Findings

The introduction of key audit matters in auditor's reports was to address the issue of insufficient explanation and information on the financial statements audit process and outcome for the benefit of users' consumption (Gold & Heilmann, 2019). The researcher aimed to establish whether disclosing key audit matters in the auditor's report of companies listed on the Nairobi Securities Exchange causes a stock market reaction indicating that investors consume and respond to the key audit matters information. The study focused on four KAM topics of impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities, for the first three years after implementation of the KAMs regulation effective December 2016. The study results showed that impairment of assets is the most commonly reported KAM in the auditors' report, in all three years, with an average of 37 KAMs reported per year for the entire population of listed companies. Valuation of financial instruments, revenue recognition and tax liabilities are not frequently reported on, with an average of 0.1 of such KAMs reported annually for all NSE listed companies. Findings from the simple linear regression model show that each of the four KAMs are a significant predictor of cummulative average abnormal returns, at 95% confidence interval, with beta co-efficients of 0.03, -0.044 and -0.017 in year 1, year 2 and year 3 respectively. In year 1, the KAMs have an increasing effect on CAAR as shown by the positive coefficient of beta of 0.03, while in year 2 and 3, a decreasing effect was noted given the negative beta coefficients of -0.044 and -0.017 respectively. The cummulative average abnormal returns was a measure of the stock market reaction, hence the KAMs elicit a stock market reaction at the NSE, with the first year having a positive reaction and year 2 and 3, a negative reaction. Further, 63.5% variability in CAAR was explained by the KAMs in year one. In the second and third year, the presence of the KAMs explained 78% and 47% variability in CAAR respectively, with an average of 62.83% CAAR variability computed for all three years.

When control variables of company size, audit firm size, return on assets, earnings per share and debt ratio were added to the regression model, it was found that return on assets contributed statistically significance to the expanded regression model in all three years while each of the four KAMs, company size, audit firm size, earnings per share and debt ratio did not bring any "additional significant information". The return on assets (ROA) ratio was most impactful compared to the KAMs in all three years, with beta co-efficients of 1.347, -0.779 and -5.899 in year 1, year 2 and year 3 respectively.

5.2.2 Discussion of Findings

According to the findings in section 5.2.1, key audit matters information on impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities, included in the auditor's report of NSE listed companies brings additional information to the stock market leading to a change in abnormal market returns. The findings imply that investors receive beneficial information from KAMs that assist in decision making evidenced by the movement in stock market returns. The KAMs describe the financial statement areas that received the most significant auditor attention including the reason for this, and the audit procedures that the auditor performed in respect of these areas. Investors are therefore enlightened about the audit procedures that were carried out on the most significant areas which reduces the knowledge gap and any perceptions held. This is of importance as investors in the NSE market can make informed decisions after considering company specific issues highlighted by the auditor that affect the company financials that the investor would not have been privy to. KAMs can be seen as increasing investor confidence as per Gold and Heilmann (2019). The beneficial effect brought about by KAMs was also found in other studies by Christensen, et al. (2014), Altawalbeh & Alhajaya (2019) and Li (2020). Additionally, similar to other studies (Altawalbeh & Alhajaya, 2019), (Li H. , 2017), (Promsen & Boonyanet, 2019), impairment of assets was the most frequently reported KAM topic. The findings however do not agree with those of Bedard, et al. (2014), (Li H. , 2017) and Promsen & Boonyanet (2019) that concluded that KAMs do not bring any information gain to investors. Country specific inherent differences in capital markets could explain this as per Li X (2020).

This knowledge that KAMs have information value can be explored in other contexts within the scope of the governing auditing standard 701. Government agencies such as the Office of the Auditor General of Kenya may consider formulating policies that mandate disclosure of key audit matters to their auditee organisations and projects for the benefit of stakeholders such

donor organisations and taxpayers for more transparency. Other regulatory agencies such as the Central Bank of Kenya and the Retirement Benefits Authority may consider extending the requirement for auditors of their licensed entities that are outside the scope of ISA 701, to disclose KAMs for more transparent reporting to benefit the stakeholders, given the fiducial responsibilities held by the licensed banks and pension schemes.

Building on other studies, this study found that in the first year of reporting on the key audit matters, the stock market reacted in a positive way as shown by the positive beta co-efficient of 0.03 of the KAM in year one. This means that investors received the information contained in the KAMs positively in year 1. However, with passage of time, a decrease in CAAR was noted when KAMs were present, hence investors earned less abnormal returns as shown by the negative beta coefficients of -0.044 and -0.017 in year 2 and year 3 respectively. The variability of CAAR explained by KAMs fluctuated from 63.5% in year 1 to 47% in year three which could imply that as time goes by, the KAM becomes familiar and the investor gets used to the KAM information and does not draw much value compared to the first year when KAMs were introduced. From this, KAMs could lose their meaning and importance overtime, hence the study recommends that the audit regulator, ICPAK, address this issue by coming up with policies and training of audit practitioners in Kenya on how to improve the content, format and structure of key audit matters disclosed to ensure they remain relevant and informative as was envisaged the governing auditing standard. Bedard, et. al (2016) did a study covering eight years from the first year of application of KAMs in France in 2003, however there was no statistical significant relationship between the KAMs and the stock market in the first and subsequent years.

When control variables of company size, audit firm size, return on assets, earnings per share, debt ratio were added to the regression model, it was found that the stock market responds to return on assets in a more significant way compared to the key audit matters. A KAM study by Promsen and Boonyanet (2019) found that earnings per share had a strong relationship with stock prices, concluding that investors still value company fundamentals even with introduction of KAMs. While the two are not competing variables, it is of importance to note and recommended for audit practitioners and the audit regulator, ICPAK, to explore how the content of KAMs can be improved to better compliment the financial disclosures in the financial statements for which they report on.

Impairment of assets was noted to be the most commonly reported KAM, materially compared to valuation of financial instruments, revenue recognition and tax liabilities. Key audit matters on valuation of financial instruments relates to an area of accounting estimates in the financial statements. This is one such area similar to asset impairment considered as an area where management exercises significant judgement in arriving at the financial statement account balance, and also auditor exercises significant judgement in the audit of these areas that are assessed as higher risk (Njenga S. T., 2019), hence the auditor may direct significant attention in the performance of their work. Key audit matters on revenue recognition relates to an area in the income statement of the financial statements. From the study findings it was noted that these KAMs were few, similar to the topic on valuation of financial instruments, implying that the auditor did not focus on these areas in the financial statements which could be driven by varied factors such as industry type, firm size and subsidiaries as noted by Njenga (2019). A study by Altawalbeh and Alhajaya (2019) showed that of all reported KAMs for companies listed in the Jordanian Stock Exchange 16% was attributed to revenue recognition, second to provisions/impairments. KAMs on tax liabilities were few, similar to the topics of valuation of financial instruments and revenue recognition, implying that the auditor did not focus on these areas in the financial statements. The auditing standard gives general guidance that the auditor should consider when determining which key audit matters to disclose, that is, areas where the auditor exercised significant judgement while auditing, with no specified guidelines on issues such as nature, content, number etc (Njenga S. T., 2019).

5.3 Limitations of the Study

This study investigated the NSE market response to key audit matters using event study methodology whereby the date of the company Annual General Meeting was used as an event date proxy for when investors and shareholders access the annual report with KAMs. In reality the actual date when investors and shareholders first access the KAMs information could be different and therefore the results of this study are impacted by this.

The study was limited to four key audit matter topics of impairment of assets, valuation of financial instruments, revenue recognition and tax liabilities whereas in practice there are other key audit matter topics disclosed in the auditor's report. Additionally, the study focused on an analysis of the presence of the four KAMs without measuring the extremity of the KAM to stock market reaction.

The study was also limited by data availability to use other measures or proxies of stock market response such as volume of stock trades as well as the measure for NSE market returns such as NSE 20 or NSE 25 Indices.

5.4 Recommendations for Further Research

To enrich future studies, the researcher recommends the use of questionnaires and interviews with investors and shareholders to better understand how they process and consume the key audit matters information for decision making, and how and whether they consider the KAMs information overtime. Secondly, the study recommends use of different measures of stock market reaction such as volume of stock trades as well as other NSE stock indices in the market model approach for comparability purposes. Thirdly, the study recommends extending the scope of KAM studies to other areas such as the extremity of the disclosed KAM to the stock market reaction as well as investigation of the market reaction to other KAM topics.

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APPENDICES

APPENDIX 1: INTRODUCTION LETTER

Ole Sangale Rd, Madaraka Estate,
P.O Box 59857 00200, Nairobi, Kenya,
Cell: +254 703 414/6/7, Twitter: @SBSKenya
Email: info@sbs.ac.ke or visit **www.sbs.strathmore.edu**

Strathmore UNIVERSITY
BUSINESS SCHOOL

14th April 2021

Director General,
National Commission for Science Technology and Innovation,
P. O. Box 30623, 00100
Nairobi.

Dear Sir,

RE: FACILITATION OF RESEARCH –FREDA KITHINJI

This is to introduce Freda Kithinji who is a Master of Business Administration (MBA) Student at Strathmore University Business School, admission number MBA/13835/18. As part of our MBA Program, Freda is expected to do applied research and undertake a project. This is in partial fulfilment of the requirements of the MBA course.

Freda is undertaking a research paper on **"The Effect of the Disclosure of Key Audit Matters on Stock Market Reaction for Companies Listed on the Nairobi Securities Exchange."** The information obtained shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research.

We appreciate your support and shall be willing to provide any further information if required.

Yours sincerely,

Caroline Tiara.
Manager, Graduate Programs

APPENDIX 2: ETHICAL CLEARANCE

Strathmore UNIVERSITY

23rd March 2021

Ms Kithinji, Freda
kithinji.freda@strathmore.edu

Dear Ms Kithinji,

RE: The Effect of The Disclosure of Key Audit Matters on Stock Market Reaction for Companies Listed on the Nairobi Securities Exchange

This is to inform you that SU-IERC has reviewed and **approved** your above SU-master's research proposal. Your application reference number is **SU-IERC0961/20**. The approval period is **23rd March 2021 to 22nd March 2022.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-IERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-IERC within 48 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-IERC within 48 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to SU-IERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and also obtain other clearances needed

STRATHMORE UNIVERSITY INSTITUTIONAL ETHICS REVIEW COMMITTEE (SU-IERC)
23 Mar 2021
Email:ethicsreview@strathmore.edu
P.O BOX 59857-00200
NAIROBI-KENYA

Yours sincerely,

for: Dr Virginia Gichuru,
Secretary; SU-IERC

Cc: Prof Fred Were, Chairperson; SU-IERC

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu

APPENDIX 3: RESEARCH LICENSE

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **540029**

Date of Issue: **22/April/2021**

RESEARCH LICENSE

This is to Certify that Ms.. Freda Kithinji of Strathmore University, has been licensed to conduct research in Nairobi on the topic: The Effect of the Disclosure of Key Audit Matters on Stock Market Reaction for Companies Listed on the Nairobi Securities Exchange for the period ending : 22/April/2022.

License No: **NACOSTI/P/21/10119**

540029

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

APPENDIX 4: LISTED COMPANIES INCLUDED IN EACH YEAR OF STUDY

Listed company in the Nairobi securities exchange	Year 1 (2016/2017)	Year 2 (2017/2018)	Year 3 (2018/2019)
1. Eaagads Limited	Excluded	Excluded	Excluded
2. Limuru Tea Company Limited	Included	Included	Included
3. Williamson Tea Kenya Limited	Included	Included	Included
4. Kapchorua Tea Company Limited	Included	Included	Included
5. Rea Vipingo Plantations Limited	Included	Included	Included
6. Kakuzi Limited	Included	Included	Included
7. Sasini Limited	Included	Included	Included
8. Car and General (K) Limited	Included	Included	Included
9. Absa Bank Kenya PLC	Included	Included	Included
10. Stanbic Holdings PLC	Included	Included	Included
11. HF Group Limited	Included	Included	Included
12. NIC Group/ NCBA Group PLC	Included	Included	Included
13. The Co-operative Bank of Kenya Limited	Included	Included	Included
14. I&M Holdings Limited	Included	Included	Included
15. KCB Group Limited	Included	Included	Included
16. Standard Chartered Bank Limited	Included	Included	Included
17. BK Group PLC	Excluded	Excluded	Included
18. Diamond Trust Bank Kenya Limited	Included	Included	Included
19. Equity Group Holdings Limited	Included	Included	Included
20. Express Limited	Included	Included	Included
21. Sameer Africa PLC	Included	Included	Included
22. Standard Group Limited	Excluded	Included	Included
23. Uchumi Supermarket Limited	Excluded	Included	Excluded
24. Nairobi Business Ventures Limited	Excluded	Excluded	Excluded
25. Kenya Airways Limited	Included	Included	Included
26. TPS Eastern Africa Limited	Included	Included	Included
27. Longhorn Publishers PLC	Included	Included	Included
28. Nation Media Group PLC	Included	Included	Included
29. WPP Scangroup Limited	Included	Included	Included
30. Deacons (East Africa) PLC	Included	Included	Excluded
31. ARM Limited	Included	Excluded	Excluded
32. Crown Paints Kenya PLC	Included	Included	Included
33. Bamburi Cement Limited	Included	Included	Included
34. E.A Cables PLC	Included	Included	Included
35. E.A Portland Cement Limited	Included	Included	Included
36. Total Kenya Limited	Included	Included	Included
37. Umeme Limited	Excluded	Excluded	Included
38. Kengen PLC	Included	Included	Included
39. Kenya Power & Lighting Company Limited	Included	Included	Included
40. Jubilee Holdings Limited	Included	Included	Included
41. Sanlam Kenya PLC	Included	Included	Included
42. Kenya Re-Insurance Corporation	Included	Included	Included
43. CIC Insurance Group	Included	Included	Included

44. Liberty Kenya Holdings Limited	Included	Included	Included
45. Britam Holdings Limited	Included	Included	Included
46. Olympia Capital Holdings Limited	Included	Included	Included
47. Trans-Century Limited	Included	Included	Included
48. Centum Investments PLC	Included	Included	Included
49. Home Afrika Limited	Included	Included	Included
50. Nairobi Securities Exchange Limited	Included	Included	Included
51. B.O.C Kenya Limited	Included	Included	Included
52. British American Tobacco Kenya Limited	Included	Included	Included
53. Mumias Sugar Company Limited	Included	Included	Excluded
54. Kenya Orchards PLC	Excluded	Excluded	Excluded
55. Carbacid Investments PLC	Included	Included	Included
56. Unga Group PLC	Included	Included	Included
57. Flame Tree Group Holdings Limited	Included	Included	Included
58. East Africa Breweries Limited	Included	Included	Included
59. Eveready East Africa Limited	Included	Included	Included
60. Safaricom PLC	Included	Included	Included
61. Stanlib Fahari I-REIT	Included	Included	Included
62. New Gold Issuer (RP) Limited	Excluded	Excluded	Excluded
63. National Bank Kenya Limited	Included	Included	Included
64. Kurwitu Ventures Limited	Excluded	Excluded	Excluded
Total number included	**55**	**56**	**55**
Total number excluded	**9**	**8**	**9**

APPENDIX 5: MODEL PARAMETERS FOR CALCULATING EXPECTED RETURNS

	Year 1 (2016/2017)		Year 2 (2017/2018)		Year 3 (2018/2019)	
Company	**Alpha**	**Beta**	**Alpha**	**Beta**	**Alpha**	**Beta**
Athi River Mining	-0.00100271	-0.15330968	-0.00104020	0.25895237	-0.00042536	0.88856269
E.A Cables Limited	-0.00065118	-0.06380053	0.00220774	-0.94307427	-0.00157446	-0.04724515
Absa Bank Kenya PLC	0.00131218	0.82696582	0.00233340	0.65750927	0.00103976	0.21149496
B.O.C Kenya Limited	0.00118145	-0.45781831	-0.00169989	0.20328024	-0.00019603	-0.70064815
Bamburi Cement Limited	0.00051385	0.45525814	-0.00022440	-0.06622953	-0.00132025	0.29430073
Britam Holdings Limited	0.00068970	0.34754720	0.00098516	0.28379710	-0.00043871	-0.13456756
British American Tobacco Kenya PLC	0.00148429	0.77317288	-0.00096261	0.79840374	-0.00174073	0.48430907
Car and General (K) Limited	0.00437501	-0.11280640	0.00421442	-0.02308810	-0.00046881	0.13233376
Carbacid Investments Limited	-0.00065829	0.41603003	0.00108923	0.44132374	0.00056780	0.18388734
Centum Investments PLC	0.00227673	0.24995766	-0.00277495	0.11831503	-0.00025465	0.07435013
CIC Insurance Group	-0.00142637	0.28493810	-0.00121044	-0.02335156	0.00009037	-0.08505478
Crown Paints Kenya PLC	0.00231672	0.24831844	-0.00022658	0.55113940	-0.00113028	0.62278132
Deacons (East Africa) PLC	-0.00317091	0.42158679	-0.00494415	-0.20599306	0.00036582	-0.29623169
Diamond Trust Bank Kenya Limited	-0.00052782	0.34387113	0.00095758	0.13507743	-0.00120486	-0.19397705
E.A Portland Cement Limited	-0.00229407	0.19010244	-0.00370852	-0.26874829	0.00265542	0.31277155
East Africa Breweries Limited	0.00069785	0.48367065	-0.00086870	0.42204656	0.00014626	0.58618522
Equity Group Holdings Limited	0.00193894	0.03541649	0.00191778	0.74102633	0.00037786	0.73976461
Eveready East Africa Limited	0.00036144	0.12720043	0.00025448	0.70046452	0.00069779	0.08901661
Express Limited	0.00049288	-0.32863427	0.00219536	0.50865579	0.00067054	0.97113747
Flame Tree Group Holdings Limited	0.00069526	0.14191912	-0.00120803	0.73204918	0.00122005	-0.01268768
HF Group Limited	-0.00073071	1.17014156	-0.00064942	-0.25203934	0.00093299	-0.34626930
Home Afrika Limited	-0.00398707	1.28085483	-0.00324037	0.78651818	0.00169452	0.14462827
I&M Holdings Limited	0.00030247	0.02464141	0.00017068	-0.12643778	0.00373820	-0.36778687
Jubilee Holdings Limited	0.00043321	-0.11276879	0.00134560	0.27813219	0.00033142	0.09910178
Kakuzi Limited	0.00116552	0.77898970	0.00052529	0.10130185	-0.00023590	-0.09665616

Kapchorua Tea Company Limited	0.00268090	-0.69079657	0.00470864	0.59932505	-0.00203195	-0.60474036
KCB Group Limited	0.00200237	0.92667142	0.00025876	0.69738202	0.00067490	0.56136056
Kengen PLC	0.00052886	1.29744612	0.00073090	0.13499761	0.00111013	-0.02265419
Kenya Airways Limited	-0.00257548	0.16121652	-0.00361085	0.23821884	-0.00504031	0.65347719
Kenya Power & Lighting Company Limited	0.00204479	1.55665687	-0.00596728	-0.21347916	0.00030838	-0.23428530
Kenya Re-Insurance Corporation	-0.00192733	0.27630079	-0.00043367	0.16570890	-0.00237717	-0.08065651
Liberty Kenya Holdings Limited (CfC Ins Hldngs)	-0.00237231	0.55064035	0.00076677	-0.00169595	-0.00300902	0.47695307
Limuru Tea Company Limited	0.00064584	-0.53131719	-0.00002203	0.02438480	0.00003703	0.04289066
Longhorn Publishers Limited	0.00113001	0.63637033	0.00215532	-0.07682047	0.00036180	0.17433170
Mumias Sugar Company Limited	0.00038769	0.55454202	-0.00212262	0.47084386	-0.00031232	0.10933681
Nairobi Securities Exchange Limited	-0.00005185	-0.13345508	-0.00190344	0.91806000	-0.00151212	0.62804929
Nation Media Group Limited	0.00144927	0.82839343	-0.00067809	0.00698992	-0.00343141	0.59746411
National Bank Kenya Limited	-0.00200625	0.46137706	-0.00096620	-0.32688360	0.00469337	0.55532081
NIC Group PLC/NCBA Group PLC	-0.00010390	0.67899114	0.00048785	0.61446298	0.00219048	0.36285205
Olympia Capital Holdings Limited	-0.00148262	0.78692628	-0.00024142	-0.10803358	0	0
Rea Vipingo Plantations Limited	0	0	0	0	0.00104413	1.57802595
Safaricom PLC	-0.00075598	1.79006028	0.00098704	1.86806154	0.00183186	-0.32687666
Sameer Africa PLC	0.00050265	1.02947610	-0.00105505	0.71563544	-0.00102085	-0.27496142
Sanlam Kenya PLC (Pan Africa Ins.)	-0.00255109	0.19564087	0.00050407	0.26864315	0.00211758	0.11698910
Sasini Limited	0.00056496	0.16036827	-0.00030523	0.28449806	0.00025554	0.60852998
Stanbic Holdings PLC	-0.00072219	-0.04443046	0.00095132	0.31267146	0.00072642	0.29729910
Standard Chartered Bank Limited	0.00129740	0.00692260	0.00070887	0.29623911	0.00011321	0.07527393
Stanlib Fahari I-REIT	-0.00193242	0.01389086	-0.00038173	0.75425226	0.00032399	0.32109338
The Co-operative Bank of Kenya Limited	0.00034346	0.71552522	0.00183721	0.28945327	-0.00025104	0.40946778
Total Kenya Limited	0.00227584	-0.16856091	0.00413170	0.14796686	-0.00181318	0.54699298
TPS Eastern Africa Limited	0.00209437	-0.25615044	0.00016581	0.49950256	0.00350835	-0.43016231
Trans-Century Limited	0.00147854	-0.43087509	-0.00202854	0.24254221	-0.00016916	0.38830647
Unga Group PLC	-0.00012795	0.08713993	0.00026262	-0.31592307	-0.00020392	-0.10337754
Williamson Tea Kenya Limited	0.00117576	-0.01620293	0.00241688	0.55970810	-0.00139009	0.07184557

WPP Scangroup Limited	0.00076383	0.58999327	-0.00031853	-0.47730431	-0.00164223	0.44369092
Uchumi Supermarket Limited	0	0	0.00016059	-0.23791051	0	0