

**THE EFFECTS OF OPERATIONAL RISK MANAGEMENT PRACTISES ON
FINANCIAL PERFORMANCE IN INSURANCE COMPANIES IN KENYA**

MUIA JACINTA SYOMITI

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DECLARATION

I hereby declare that this research project is my original work and has not previously in part or in entirety been presented to any other university toward the award of degree

Signed: _____ Date:

Jacinta Syomiti Muia

D61/77342/2015

This research project has been submitted for examination with my approval as university supervisor

Signed: _____ Date:

Mr.J.M.Karanja

School of Business

Department of Finance and Accounting,

University of Nairobi

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ABSTRACT

Over the last decade operational risk management has been attracting an increasing attention in many organizations various sectors. The owners are aware of these challenges but lack of comprehensive and integrated approach in tackling operational risks continues to be a big challenge to all of them. Poor operational risk management by many insurance companies has led to accumulation of many claims either from internal clients or external clients hence increased losses and poor financial performance for many corporate organizations. Insurance companies are in the business of managing risks for both their customers and their own. This obliges them to integrate risk management practices into their systems, procedures and culture. By connecting risk management to performance, insurance firms can see viably the benefit of actualizing risk management framework more. No study has been done in Kenyan context to investigate the effects of operational risk management practices on financial performance in insurance companies. The study aimed at bridging this gap by conducting a research on the same. Descriptive research design was adopted on this research. The research adopted a census survey of all the 47 registered insurance companies operating in Kenya. The study adopted descriptive statistics. Data was analyzed using qualitative while the returns were analyzed by use of regression and correlation analysis model. Based on the findings the study concluded most of the insurance companies have risk and compliance department. This because it is understood that financial sector is the most unpredictable sector in the current financial crisis and its exposed to a number of risks. By having a good operational risk management it is expected to significantly influence performance of company's functioning and efficiency by 41%, 22%. Risk analysts, executive management and employees, board of directors influence the financial performance to a greater extent. The research also found out those companies insures different types of risks but not all risks and that the company does not insure catastrophic risks and the company sets aside sufficient technical reserves to pay for claims.

LIST OF ABBREVIATIONS

AKI	Association of Kenya Insurers (AKI)
DEA	Data envelopment analysis
DMU	Decision making units
EH&S	Healthy and Safety
EVT	Extreme Value Theory
IRA	Insurance Regulatory Authority
ORM	Operational Risk Management
ROA	Return on Asset
ROE	Return on Equity

CHAPTER ONE: INTRODUCTION

1.1 Background of study.

Operational risk management for the last decade has attracted increasing attention in many organizations in various different sectors. According to Cruz (2002), the term operational risk was initially utilized after the scandalous chapter 11 of Barings in 1995 (p.1). This liquidation was activated \$1.3 billion occasioned by a rogue trader which alarmed the financial industry these risks can impose a significant effects to financial sector, rather than the known credit and solvency risks. The practice of the industry has been, they emphasize more on revenue generation than costs (Cruz, p.24). Besides all this, the industry is appreciating the importance of operational risk management practices for the last decade.

Insurance companies just like any other corporate organizations are established to maximize the wealth of its shareholders. They accept to manage risks for individuals and for businesses companies. Operational risk management is a very significant element in the administration and corporate administration of insurance companies which have more prominent ramifications quite recently like market and credit risks.. Operational risks have known to create a very big challenge for the insurance sector (Ernst&Young, 2011-2012). The owners are aware of these challenges but due to lack of comprehensive approach to operational risk management continues to pose a big challenge to them. Poor operational risk management in most insurance companies has led to high losses either from internal clients or external clients leading to increased losses and hence poor financial performance in those affected companies (Magezi, 2003). In light of the owner's management team are forced to identify and evaluate their operational risk management practices as one of the important element for strategy and corporate governance towards protecting their interests in the business.

Operational risk management entails, identifying, analyzing and mitigating the different risks any business is exposed to. In 1998, the board of trustees on banking supervision distributed an admonitory business related rule on operational risk management, as one of adequate guide in great risk management practice in the present day financial sector.. According to this study, major types of operational risks included failure of internal controls and corporate governance this led to heavy

financial losses occurred through errors, frauds or failure in the implementation of obligations in a timely manner. Other aspects of operational risks include failure of systems in the information technology or events such as fires and other disasters

1.1.1 Operational Risk Management.

Operational risk refers to any financial loss to a business entity as a result of conducting its business in an unethical ways which may be accessioned by either internal or external factors. Operational risks are mainly experienced through business disruption, control failures, errors, misdeeds or external events. These events may cause monetary and reputational damages and in the end affect the profitability and market share of an organization. Some of the key operational risks faced by the various insurance companies in Kenya includes: Compliance with policies, procedures and practices, frauds and vandalism; failed customer relationships, regulatory risks, poor people managements.

According to Kiochos (1997), any risk management process in any organization will involve four steps: identifying potential risks, evaluating potential risks, selecting appropriate risk management techniques for treating the risk exposures and implementing and administering the risk management program. Kimball (2000) concurs with these sentiments that risk management includes human exercises which involve recognition of risk, risk appraisal, building up the right strategies to oversee it and mitigation of the same risk using managerial resources available. A well risk management process will empower an organization to cut down on its risk exposure and prepare for survival after any unexpected eventuality.

1.1.2 Financial Performance.

Financial performance refer to how well an organization can use its assets from its primary core business set up generate revenues. A sound financial performance is critical piece of maintaining a developing business particularly in the current financial atmosphere. Numerous organizations come up short since poor financial management and planning. Financial performance in any organization can be measured through evaluating its profitability, solvency and liquidity. A firm's profitability indicates the extent to which a firm generates profit as a ratio to the value of its assets. Zenios et al (1999) indicates that profitability analysis in any organization will focus on the relationship between revenues generated by the organization and expenses incurred relative to the size of

investment in the business through the use of profitability ratios. The commonly used measures of profitability by the organizations includes; The Return on Equity (ROE) and the Return on Assets (ROA).

Liquidity indicates the degree to which a firm can meet its fleeting budgetary commitments without upsetting its typical operations as and when they fall due. According to Quach (2005), liquidity is analyzed both structurally and operationally. Operational liquidity refers to the cash flow measures from operations while structural liquidity refers to the composition of the balance sheet items. The disruption of business activities either from internal or external risks will differ greatly across firms depending on the nature of activities the organization is involved into and the sophistication of risk management standards, policies or control mechanisms they have in place. As much as the firms are expected to generate enough revenues to cater for their operations and also support a net margin that is expected to absorb any expected losses as a result of risks, they are also expected to have enough reserves to cover capital reserves to cover the unexpected losses or resort to transfer those losses Zsidison (2003). This ensures that losses do not impact negatively on the firm's financial performance.

1.1.3 Operational Risk Management and Financial Performance.

Shareholders wealth maximization is the major objective of the management. This objective will be achieved at the cost of taking greater risks. Insurance companies face various operational risks such as: Information and Technology risks, business continuity risks, legal risks, compliance risks and fraud risks. ORM systems traces how any firm will distinguish dangers, survey, screen and react them crosswise over quality environment, wellbeing and security (EH&S), vitality, supportability, and other administration programs. While the hazard administration forms for these assigned frameworks have been completely detached, these structures will unite them and give a more planned and appropriate systems for dealing with these risks. Rasid et al (2011), on his study support the argument brought to light by Soin (2005), Williamson (2004) and Collier et al., (2004) that proper risk management practices in an organization influence the organization profitability. Rasid et al(2011) advanced that the analysis of financial statements is purportedly the largest patron towards risk management while budgeting and strategic planning are vital in managing risks which affects the organization's profitability. Williamson (2004) discovered that a

cost to income ratio, equity to total assets ratio, total asset growth ratio and ratio of loan loss reserve to gross loans certainly impacts the possibility of financial agony for the upcoming year.

Many companies are exposed to many operational risks and if they are not properly managed, it may affect the firm's financial stability and finally lead to shutting down of the company's operations. Companies which have proficient risk management structures do better than their peers because they are well equipped to deal with the occurrences of the related risks. This study hopes to come up with a positive relationship between ORM and financial performance of insurance companies.

1.1.4 Insurance Companies in Kenya.

According to Insurance Regulatory Authority (IRA), there are 49 licensed insurance companies in Kenya to underwrite and retain risks. IRA is an administration organization set up under the Insurance Act (Amendment) 2006, CAP 487 of the Laws of Kenya to direct, oversee and build up the protection of insurance business. It is administered by a Board of Directors who are vested with the trustee duty supervising operations of the Authority and guaranteeing that they are reliable with arrangements of the Insurance Act. The industry has also established self-regulation through the Association of Kenya Insurers (AKI).

Insurance companies just like any other corporate firms face many risks which should be well and properly managed. There are many challenges facing this sector in Kenya ranging from structural weaknesses, fraud by both clients and employees, high claims, delays in claim settlement, delayed premium collection, lack of liquidity leading to collapse of some firms, low economic growth, poor governance, low penetration of insurance services and industry saturation. The duty to manage these operational risks has been left with the managers or managing operational risks to line managers which is catastrophic. It is essential to develop a program which can be monitored and be incorporated into the whole process of evaluating any potential risks.

Over the past decade, at least 9 insurance companies have suffered and collapsed due to the above risks but no proper mitigation practices has been exhibited by the various insurance companies despite the potential of those risks. Due to those risks

and many potential others facing insurance sector, it prompted IRA as the regulating body to issue a directive to each insurance company to come up with a comprehensive risk management policy effective June 2013 which is one of the requirements for licensing.

1.2 Research Problem.

Financial failures often experienced in financial institutions and in governmental agencies have necessitated the need for a proper risk management. Major operational failures have occurred in many organizations due to unidentified risks within the organization. Extremely hefty portion of these unlikely events such as the terrorist attacks on September 11, unapproved exchanging misfortunes at Barings Bank, bringing about its crumple in 1995, and other scandalous trading, have prompted to a developing spotlight on recognizable proof and estimation of operational risk in numerous organizations. Insurance firms generally operate in environments where risk changes often, hence the need for an resourceful risk management process, categorized by risk type so as to address the specific risk factors.

Insurance firms their core business is to accept and underwrite risks for their customers and their own risks. The process requires an incorporation of risk management programs into the organizations' frameworks. Stakeholders dependably weight associations to effectively deal with these risks and to always unmistakably report their execution crosswise over such hazard administration activities. Banks (2004) contends that a few ought to be held as a component of the business operations and acutely be figured out how to make esteem for shareholders, while others can be others can be transferred to other parties, as long as it will be cost effective to do so. As per Stulz (1996), a few risks are regarded to be an open door through which the firm can pick up a similar preferred standpoint, and consequently prompt to better financial performance. Literature review on risk management recommends that a good risk management practices influences the financial performance of a firm. By relating risk management and financial performance, insurance firms can esteem the act of implementing a risk management framework. A study by Aon Risk Solutions and Wharton School in 2011 uncovered a solid and a positive relationship between a firm's risk management framework and its financial performance. Ernst & Young (2012) additionally fortifies this perspective by recommending that organizations with more develop risk

management practices show improvement over their associates financially, and tend to enlist the most elevated development in income.

Various studies have been done on risk management by different organizations in Kenya yet little has been examined on operational risks in insurance companies.. Kinyua (2010) contemplated risk as a segment of corporate technique selected life insurance organizations and found out that insurance companies faced competitor, regulation and de-regulation risk and industry economics and recommended that insurance companies should deploy strategic planning tools to give the firms an all-inclusive perspective of strategic planning. Njoroge (2013) likewise completed an examination on the risk management embraced by AAR Insurance Kenya Limited and discovered that reputational risk is imperative in insurance agencies. The study accentuated the significance of risk management in insurance firms. .

The study on the relationship between the operational risk management practices embraced by the insurance firms in Kenya and their financial performance is geared towards addressing the challenges of ever rising operational risks within the sector. None of the above studies has specifically dealt with the specific effects of operational risk management practices on financial performance in insurance sector. This study will seek to address the pertinent issue and answer the question, what are the effects of operational risk management practices in insurance companies?

1.3 Research Objective.

The main objective of this study is to determine the relationship between operational risk management practices and financial performance of insurance companies in Kenya

1.4 Value of the Study.

This study will be of incredible significance to the insurance firms, general public, students and the insurance regulator as it will offer critical commitments from both a hypothetical and functional point of view, hypothetically, it will add to the general comprehension of operational risk management and their potential consequences financial performance to the organization.

The study will help out insurance companies in Kenya to enhance their risk management practices and procedures furthermore to embrace clear systems towards enhancing their financial performance, and develop their organizations and

keep up a decent upper hand. The study will help the government in coming up with regulations and guidelines on insurance practices in Kenya through the IRA. Lastly, the study will add value to the existing body of knowledge on risk management to benefit academicians and aid further research on risk management in the insurance sector and the financial sector.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction.

This chapter critically looks at the accessible theoretical literature on operational risk management practices and financial performance, an outline of empirical studies and literature on operational risk management and financial performance and finally the conceptual framework and summary of literature review

2.2 Theoretical Literature Review.

Different scholars have designed several theories to explain operational risk management in the insurance sector. This study analyses some of the operational risk management theories studied by various scholars.

2.2.1 Extreme Value Theory.

According to Paul Embrechts (1999), Extreme value theory (EVA) is a division of measurements which takes a gander at the outrageous deviations from the median of likelihood disseminations. It tries to highlight from a given request test of a given arbitrary variable, the likelihood of occasions that are more outrageous than already watched. The financial industry including banking and insurance is experiencing significant changes.

This theory examines the knowledge of operational risk management as it indicates the sensitivity of the identified risks and the alternative transfer mechanism in place to ensure a seamless process. Extreme value theory has a critical role within risk management in the insurance firms, and also in other financial sector.

2.2.2 Agency Theory.

Agency theory explains the relationship between the principals of the organizations and the operators of the firm. This relationship incorporates partition of possession and control, and administrative inspiration. Agency theory concerns itself mainly in resolving issues that arise in this relationship either due to unaligned goals or because of risk levels of aversion. In corporate risk management issues tend to impact the administration demeanor towards risk taking and hedging.(Smith and Stulz, 1985).Agency theory also looks at the interest variations between the owners, administrators and debt holders. Because of variation in profits, management may result in taking too many risks or it may deliberate avoid engaging in projects which may have positive returns. (Mayers a n d

Smith, 1987). therefore agency theory imply that distinct supporting approaches can have a significant influence on firm value, Stulz (1984) first suggested why it is important for the managers of a firm to take up risk management. He asserts that managers should be working for the shareholders and they are supposed to concern themselves into improving the profitability of the firms and the expected return of the firms value. For shareholders, good risk management will save them on agency costs because they reduce in variation of returns of their firms.

Managerial incentives in the execution of risk management have been considered by various researchers with a negative effect (Faff and Nguyen, 2002; MacCrimmon and Wehrung, 1990; Geczy et al., 1997). In any case, positive confirmation was found however by Tufano (1996) in his examination of the gold mining industry in the US. Financial strategy theories were attempted in examinations of the money related hypothesis, since both speculations give practically identical figures in such manner however the immensity of experimental proof is by all accounts against this hypothesis. Agency theory underpins the procedure of risk management as a response to confound between administrative motivating forces and shareholder interests. Stakeholders and management will always differ towards the interest of the firm and the objective of risk management is also expected to vary. Shareholders may expect high risk – high return investments, but the managers might prefer low risk and high return investments. There agency theory should emphasize on good risk management practices geared towards aligning the interest of the managers and those of the shareholders so as to impact on the financial performance.

2.2.3 Stakeholder Theory.

Stakeholder theory created by Freeman (1984) as an administrative guide from that point forward it has developed into an instrumental hypothesis which has come to be depended on for administrative utilize. Stakeholder theory urges that the interest of shareholders is the main determinant of corporate policy and procedures in any organization. The main contribution of stakeholder's theory to risk management is the contracts involved in employment ranging from sales to financing.(Cornell and Shapiro, 1987). In any business operating environment, consumers will have a trust in the organization which can keep offering them administrations later on henceforth extensively add to the organization's development and esteem However,

the estimation of these inalienable cases is regarded to be exceptionally touchy towards expenses of money related misery and liquidation. Since great corporate hazard administration rehearses prompts to abatement in these normal costs, the organization esteem is likewise anticipated that would rise. Klimczak (2005) Therefore stakeholder theory provides a new insight into possible justification for risk management practices in any organization; however it has not been tested directly. Along these lines stakeholders gives knowledge into conceivable legitimization for risk management in any organization; in any case it has not been tried specifically. It likewise highlights that littler firms are more inclined to financial issues which ought to drive them to receive a more strong risk management practices

Stakeholder's theory underlines the requirement for the risk management in insurance companies and its significance in enhancing the value of the organization, but it doesn't show to some degree the impact it has on financial performance of any firm apart from proposing its effect on the organization's development.

2.3 Determinants of Financial Performance in Insurance companies.

2.3.1. Liquidity.

Black, Wright and Bachman (1998) defined liquidity as the ability of a firm to meet its fleeting budgetary commitments without upsetting its typical operations as and when they fall due. Liquidity ratios are recommended to analyses the viability of any organization. The higher the company's liquidity ratios, the more liquid it is deemed to be. Firms with high debt and low liquidity are considered riskier to invest into and they are more likely to fail. Liquidity risks in any insurance company could be categorized into two different types: Instance where the firm is unable to self-fund it due to decline in acquiring new businesses, or whereby it incurs huge losses in the course of its operations because at some point it is forced to dispose of its assets at a throw away prices than normal and therefore not able to keep up its income (capital liquidity risk), In this market will render it impossible for it to exchange and subsequently drive the organization to take part in exchanges at costs that are notably more disadvantageous than typical (market liquidity risk) (Black, Wright and Bachman, 1998)

According to Barney (1997) the main trial of a backup plan's capacity to meet its short money related commitments is the analysis. Basic analysis tests whether

any firm has enough transient resources (barring stock) to cover its quick short liabilities. Poor liquidity causes venture misfortunes and subsequently poor financial performance.

2.3.2 Profitability.

Profitability in any organization is a very key determinant to any potential investor to decide on whether to invest in that company or not. In an insurance company there are two segments of profit; Premium underwritten and investment income. (Santomero&Babbel, 1997). Underwriting income is the income generated from the issuance of insurance policies to the clients. Growth trends in insurance companies can be determined by averaging the premium's development rates of a few past years. An organization whose premium income is developing at an ease back rate is thought to be excessively risky. One thing to recall is that higher premium accumulations don't equate to higher profits.

Santomero and Babbel (1997) contend that the second segment of profit that should be incorporated in the profitability is investment income. A more noteworthy extent of an insurance company income comes from investments. To assess the investment income, we take a look at the organization's asset's allocation technique generally said in notes of financial statements Companies should consider investing in low risk bonds, equities or money markets. Investment in real estate should also be considered.

2.3.3 Competition.

Insurance industry generally is encountering patterns of commonness mergers and acquisitions among the insurance carriers and agencies. (Schich and Kikuchi, 2004). Because of strong investment returns and high profits being reported, they have allowed numerous bearers to accumulate a significant "war mid-sections" potential for obtaining. Large insurance companies are getting larger to an extend of buying out the small agencies. "In addition they are extending their networks to become more aggressive with an end goal to enhance their haggling position with carriers whose requests for beneficial premium development have relentlessly expanded. All of these have a These majorly affect consumers. Over years economists have attempted to approach the issue of rivalry in businesses in an assortment of ways. Studies done earlier endeavored to relate the focused direct and performance of firms from the market structure of the business. This approach is primarily

connected with Bain (1956) cited in Hoch Hauser (2004) .The competitive conduct of the firms is determined by the number of its branches and concentration of its market share. These organizations will probably participate in hostile to aggressive conduct than when the business is populated by various little firms. They are likewise liable to shape a cartel and direct costs and conditions.

They may go about as value setters where by the little firms may acknowledge the formers 'value authority. This structure direct performance approach gives controllers an advantageous measuring stick, when they administer on the aggressive effect of mergers.

Different firms offer an extensive variety of insurance items. By differentiating their products from those of competitors they can make descending inclining request bend fragments for their insurance products through promotions and other offering costs. Competitors will permit every firm to trust that their activities won't come about into retaliatory activities. Passage into such industry is deemed to be simple and unethical practices, for example, value settling or market sharing is for all intents and purposes unimaginable. (Brigham and Philip, 2004). In monopolistic rivalry the long-run balance yield is resolved where the normal cost bend is digressive to the normal income bend. Now organizations don't make financial benefits since normal cost levels with the cost. At the point when the organizations are producing at not as much as least cost, monopolistic rivalry recommend that the business is working under abundance limit. In view of this a greater number of firms exist than if generation happened at the normal cost least. Insurance risks and return on assets pressures to utilize venture procedures empowering them to match the competitors' speculation yields. As they record reliably underwriting losses, that is, premium income misses the mark concerning claims installments and costs; there is significant weight on organizations to produce attractive venture returns.

2.4 Empirical Literature Review.

A Boston Consulting Group survey, Pourquery and Mulder (2009) in their study found out that operational risk management practices is gaining acknowledgment as a fundamental part of the business. The review secured 60 banks from around the globe; the members included retail, discount and all inclusive banks. 70 percent of organization CEOs saw operational risk as imperative contrasted to 30 percent of

heads of business. Business units have an essentially obligation to oversee operational risks on a day to day basis. Their support is significant in setting up a risk culture that pervades the bank and is viable at recognizing, evaluating and overseeing operational risks.

Hiwatashi (2002) in his study points out several approaches to operational risk management in financial sector. He found out that banks usually control their operation risks based on qualitative risk management policies, procedures and guidelines. Currently this method is obsolete because of increased complexity of the banks operations. To achieve the intended objective, banks should first try to measure the operational risks by prioritizing the risk control in every business line and categorize them. Measuring those risks is equally important for the management to determine whether the bank has appropriate capital to absorb the risks. Measurement will also help the banks to tie performance to employees risk management effectiveness.

Herring (2002) in his study challenged the underlying principle for employing the capital charge suggested by New Basel Capital in order to alleviate operational risks. Operational risks deemed to be complex unlike other risks, therefore the consequences are huge. Tanase and Serbu (2010) propose that banks with the help of their advance technology can manage the operational risks by offering innovative products like e-banking which reduces the exposure to operational risks by cutting down any human involvement in the whole process.

John mark (2012) in his study of modeling operational risk in Sweden indicates that operational risks appear to be anything but difficult to handle at first. Fit example information into a recurrence circulation and seriousness dispersion will begin mimicking losses and a few cells with numerous date focuses will be anything but difficult to distinguish. Operational risk management being such a wide idea to build up a model of it that must incorporate numerous kinds is exceptionally troublesome particularly when you have a less information in a cell.

Yusuf, (2005) in a survey approach examined the operational risk management in commercial banks in Kenya. The survey indicates that quantifying risks into various categories was widely practiced by Kenyan commercial banks, the research indicate that only sixteen (16) out of twenty two (22) banks surveyed had segregated risks into various categories for management and thus only few of these banks used various models to quantify risks. In addition his study notes that a Central Bank of Kenya survey of July 2005, published in the daily nation indicated that only seventeen (17) banks of the total banks registered in Kenya had put aside funds to cover against operations risk management practices and only ten (10) out of seventeen (17) has submitted adequate and consistent risk monitoring reports. In conclusion most banks in Kenya do not necessarily make an attempt to predict the degree of occurrence operational risks.

Kamau (2010) in a study of adaptation of risk management by commercial banks in Kenya, indicated that operational risk was seen to be very critical and it was 46% out of the other risks that occurred in commercial banks, and this is due to the high increase in the use of automated technology, unqualified staffs and lack of management supports in the organizations, and also the internal and external frauds policy management

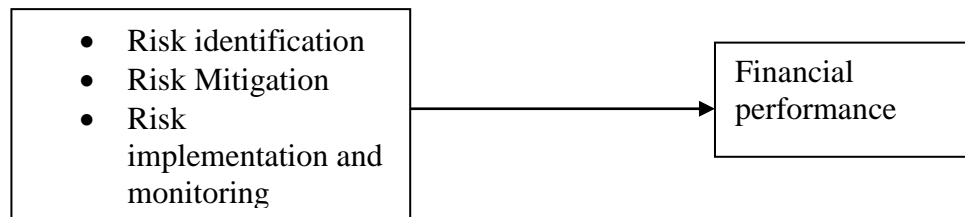
Wanjohi (2012) in his survey examined the impact of financial risk management on financial performance in banks in Kenya. In his findings, dominant part of banks in Kenya was observed to practice great financial risk management accordingly it had a positive effect to their financial performance of those banks. The study recommended that banks ought to build up a modern risk measurement technique, for example, esteem at risk, recreation procedures and Risk-Adjusted Return on Capital. The study additionally proposed the utilization of subsidiaries to lighten financial risks and additionally create instructional classes appropriate to the requirements of work force in risk management

2.5 Conceptual framework Model.

Conceptual framework is a logical instrument which has a few varieties and settings. It is chiefly used to make calculated refinements and arrange thoughts

Independent Variable

Dependent Variables



Source: Author (2016)

Figure 2.1 Conceptual Frame work.

Figure 1 above demonstrates the relationship between the dependent variable and independent variable. Financial performance which is the dependent variable is dependent on various variables.

2.6 Summary of Literature Review.

Although financial performance in any organization is influenced by a combination of various factors facing the firm, a review of the literature provides evidence as to why firms should be concerned with risk management. Vaughan and Vaughan (2008), provide a compelling reason for risk management by firms. From the above studies it's clearly that no conclusive study has been done to highlight the effects of specific operational risks management practices and various models adopted by various insurance companies and its effect on its financial performance. This study will breach that research gap.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction.

This chapter depicts the methodology that was used as part collection of data which was appropriate in answering the research question. Research methodology gives insights with respect to the systems to be utilized as a part of directing the study, (Mugenda & Mugenda, 2003). Perera (2005) stated that research methodology is an exact arrangement for considering the research problem and constitute the blue print for the proposed data collection, and investigation of similar information. incorporated in the methodology section are descriptions of the research design, the population, the sample and sampling techniques and a description of instruments or tools used to collect data, the measurement of variables and the techniques used in analyzing the data.

3.2 Research Design.

Mugenda and Mugenda (2003) outlines research design as the arrangement or structure of examination expected to get answers to research questions that incorporate a diagram of the exploration work to empower the representation of results in a justifiable organization by the clients Descriptive research design was adopted in this research. Descriptive research helps the researcher to describe the existing relationship by using observation and interpretation methods. It provides the researcher with the appropriate methodology to illustrate characteristics of the variables under study. Causal research determines causal linkages between study variables by studying existing phenomena and then reviewing available data so as to try to identify workable causal relationships.

3.3 Population of the Study.

Population is a collective of all elements that match the general set of specifications (Paton, 2002). This study adopted a census survey of all the 47 registered insurance companies operating in Kenya (IRA, 2013). A census survey approach enables to collect more accurate and reliable data. The observable characteristics of the target population should be strongly related to the characteristics intended to be generalized by the study (Mugenda & Mugenda, 2003).

3.4 Data collection.

This study depended on primary and secondary data. The primary data was gathered through questionnaires. The questionnaires questions have been standardized so that the same questions were asked to all the respondents. The questionnaires were dropped and collected from the respondents, this being the preferred method as it allows accurate information. Secondary data was collected from the internet, this is for the information the organization has chosen to share with the public on their website like financial statements, as well as articles posted online on different blogs. More data was collected from the media, Economic Surveys and Journals.

3.5 Data analysis Technique.

Data analysis is the way toward reviewing, cleaning, changing, and demonstrating data with the point of finding crucial information, proposing conclusions, and supporting basic leadership (Judd and McClelland, 1989). The study used descriptive statistics. The qualitative method was used to analyze data. While regression and correlation analysis method was used to analyze returns. Data collected was organized into various categories; a relationship was then established from these categories.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$$

Where:

- Y = Financial performance measured using ROA
- X1 = Risk identification (Measured using inspection, financial statements, establishing standards and risk rating and collateral.
- X2 = Risk mitigation (Risk control and risk financing measures)
- X3 = Risk management implementation and monitoring (Controls, responses, reporting & review)
- € = the error term

The values of X1, X2, & X3 was computed from the mean score of the responses on each for each insurance company The Y value is an average for the 5 year period, 2011-2015.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction.

This section discusses about the presentation and understanding of the research findings. The aim of the study was to understand the impact of operational risk management practices on financial performance in insurance companies in Kenya. The researcher used recurrence tables and figures to present information. The findings were intended to answer the study's research question. Data collected was amassed and reports were delivered in form of tables and figures and qualitative analysis done in text.

4.2 Response Rate.

The study focused on a census of all the 47 respondents' from insurance companies. Nonetheless, out of 47 questionnaires dispersed 41 respondents totally filled in and returned them, this translated to an 87% response rate. This response rate is solid for data analysis as Mugenda and Mugenda (2003) pointed that for speculation a reaction rate of 50% is adequate for analysis and reporting, 60% is esteemed to be great and a response rate of 70% or more is superb. In any case, 13% of the respondents were hesitant to respond to fill the questionnaires this was because of reasons like, the respondent not accessible to fill them in at the required time and even after steadiness subsequent meet-ups there was no positive reaction from them. The response rate shows enthusiasm of the respondents' to take part in the survey that the study looked for

.Table 4.1 Response Rate

Response	Frequency	Percentage (%)
Filled questionnaires	41	87
Un returned questionnaires	6	13
Total	47	100

Source: Author, (2016)

4.3 Demographic Characteristic of the respondent.

The study found it was basic to learn the said data since it arranged the altruistic trust under which the study can reasonably enchant the appropriate data. The analysis

depended on this data of the respondents in order to characterize the distinctive results as per their relationship and responses.

4.3.1 Age of the respondent.

Further the survey sought respondent's age bracket. The findings showed, 48% of the respondent aged between 31-40 years, 30% aged between 41-50 years, 20% were between 21-30 years while 5% aged were over 50 years. This means that the insurance sectors has employs more young people because they are energetic and they can adjust their energy to changes made in the organization. Young minds are also known for their creativity in their jobs.

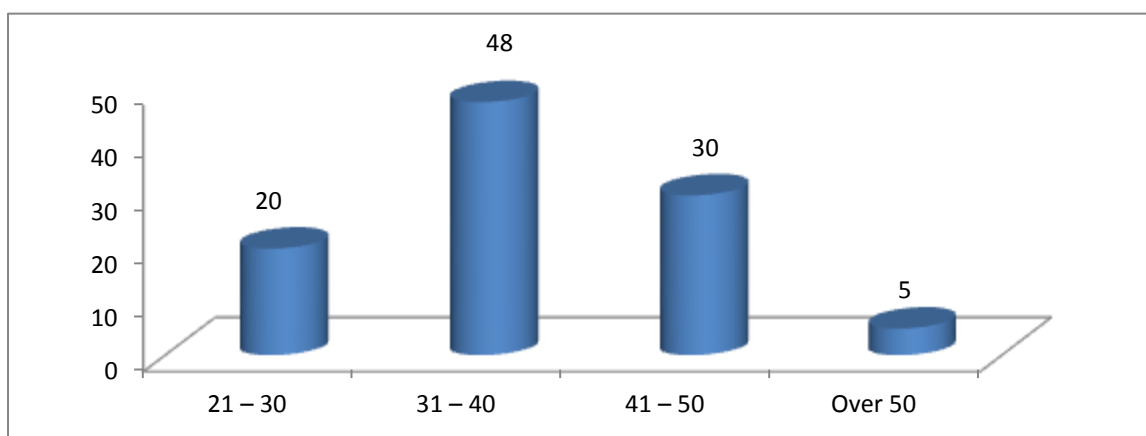


Figure 4.1 Age of the respondent

Source: Author, (2016)

4.3.2 Duration of Organization Operation.

The respondents were required to indicate the length of time that their business enterprises had been in existence. The results are shown in table 4.2 below. The study showed, 29% of the respondents their organization had been in existence for a period of 31 to 40years, 22% of the organization firms that were surveyed had been in existence for 21 to 30 years and 10 to 20 years as shown in each case, over 61% of them had been in existence for Over 61 years, 10% of them indicated that they had been operating in the country for 41 to 50years, while only 5% of the respondents their enterprises had been in presence for a period of 51-60 years.

Table 4.2 Duration of Organization Operations

	Frequency	Percentage
10 to 20	9	22
21 to 30	9	22
31 to 40	12	29
41 to 50	4	10
51-60	2	5
Over 61	5	12
Total	41	100

4.3.3 Existence of Risk and Compliance Department.

The study also requested the respondents to indicate whether the organization have risk and compliance department. According to the findings, all (100%) organization have risk management department. The finding of this study complied Carey (2001) financial sector is the most unstable in the current monetary crisis. Firms within the financial sector are exposed to a number of risks. Due to this exposure, risk and compliance department is crucial in this sector. This implies that the organization had set risk and compliance department. This implies that the organization had recognized rewards of poor risk management, hence more emphasizes on controlling it.

4.4 Impact of Operational Risk Management on Financial Performance.

Table 4.3 illustrates the impact of operational risk management on organization's financial performance. Majority (51%) of the respondents indicated that operational risk management influence organization financial performance to 41%, 22% were of the opinion that operational risk management indulgence organization financial performance to 41-60%, 20% expected operational risk management influence organization financial performance to 61-80 while 7% expected operational risk management influence organization financial performance. Harker and Satvros (2008) operational risk management is expected to significantly influence performance of company's functioning and efficiency.

Table 4.3 Impacts of Operational Risk Management on Financial Performance

	Frequency	Percent
21%-40%	3	7
41%-60%	9	22
61%-80%	8	20
81%-100%	21	51
Total	41	100

4.5 Risk Identification.

Table 4.4 illustrates the findings of the study on the degree to which risk identification influence organization financial performance. This was determined by the use of a 5 point scale. The intention was to establish the employees' attitudes by asking the extent to which risk identification influence's the organization financial performance. The score of 1 means very low extent, 2 low extents, 3 moderate extents, 4 great extents and 5 very great extents.

The findings depicts that, most of the respondent pointed that risk analysts, executive management and employees influence formulation of operational risk management policies to a greater extent as demonstrated by a mean of 4.659, 4.341 and 4.073 respectively, the respondents pointed out that board of directors influence formulation of operational risk management policies to a greater extent as depicted by mean of 3.951. Consequently the respondents pointed out that customers influence formulation of operational risk management policies to a moderate extent as illustrated by mean of 2.902.

From the findings, the aggregate score for risk identification section of the structured questionnaire is 3.985. The total scores round off to a score of 4 on the five point scale embraced by the study. This infers that the respondents concurred with each of the things in the segment. The aggregate standard deviation is 0.746 which is small relative to the possible highest variation from the mean response. This implies that the respondents' responses closely cluster around the aggregate score of 4. Therefore, the respondents on average agreed with the items in the risk identification domain with those of differing opinion not being so far away from an agreement.

Table 4.4 Risk Identification

		Mean	StDev	CV
Board Of Directors	41	3.951	0.921	23.300
Executive Management	41	4.341	0.575	13.242
Employees	41	4.073	0.787	19.324
Customers	41	2.902	0.970	33.409
Risk Analysts	41	4.659	0.480	10.306
Total Aggregate	41	3.985	0.746	19.916

4.6 Risk Mitigation Practices score.

The researcher requested the respondent to the extent to which risk mitigation practices influence operational risk mitigation. The findings showed that most of the respondents pointed that the company insures different types of risks but not all risks as demonstrated by mean score of 4.59. The respondents also reacted that the company does not insure catastrophic risks and the company sets aside sufficient technical reserves to pay for claims as demonstrated by the mean score of 4.44 and 4.40 respectively. Respondent further pointed that the organization has a mechanism for estimating potential losses of entering into insurance contracts and that the company has developed a mechanism for transferring certain risks to third parties through reinsurance influences formulation of risk mitigation practices as illustrated by mean score of 4.17 in each case. The company trains insured parties on ways to avoid or minimize the chances of losses occurring as depicted by mean score of 4.12.

From the findings the aggregate score for risk mitigation practices field was 3.985. The total scores round off to a score of 4 on the five point scale embraced by the study. This infers that the respondents concurred with each of the things in the segment. The aggregate standard deviation is 0.746 which is small relative to the possible highest variation from the mean response. This implies that the respondents' responses closely cluster around the aggregate score of 4.

Table 4.5 Risk Mitigation Practices score

	No of respondents	Mean	StDev	CV
The company insures different types of risks but not all risks.	41	4.59	0.547	11.921
The company does not insure catastrophic risks	41	4.44	1.074	24.184
The organization has a mechanism for estimating potential losses of entering into insurance contracts	41	4.17	0.442	10.591
The company trains insured parties on ways to avoid or minimize the chances of losses occurring	41	4.12	0.678	16.450
The company has a mechanism to transfer certain risks to third parties eg. through reinsurance	41	4.17	0.771	18.497
The company sets aside sufficient technical reserves to pay for claims	41	4.40	0.632	14.374
Total Aggregate	41	4.31	0.691	16.003

4.7 Risk Management Implementation and Monitoring.

Table 4.6 demonstrates the findings of the study on the aspect of risk monitoring and implementation influence operational risk management. From the findings, respondents pointed that risks are sub divided into individual levels for further analysis; controls are in place to evaluate the efficiency of the operational risk management programs impacts financial performance to a greater extent as demonstrated by a mean score of 4.62 and 4.58 respectively. Likewise respondents reacted that the roles and responsibilities of every employee in the operational risk management are well communicated to them and regular reviews of operational risk management influence financial performance to a greater extent as shown by mean score of 4.55 and 4.50 respectively.

Table 4.6 shows that the aggregate score for risk management implementation and monitoring is 4.56 the total scores round off to a score of 4 on the five point scale embraced by the study. This infers that the respondents on average concurred with each of the things in the segment. The aggregate standard deviation is 0.525 which is

high when compared to that of the risk monitoring as well as risk management implementation and monitoring sections.

Additionally the coefficient of variation of this section is 11.521 which is highest compared to that of the production as well as risk monitoring sections. Therefore, the respondents generally agreed with the Likert items in these sections but weakly agreed compared to the risk management implementation and monitoring domains.

Table 4.6 Risk Management Implementation and Monitoring

	No respondent	Mean	StDev	CV
The roles and responsibilities of each employee in the operational risk management of the firm are well communicated to them.	41	4.55	0.552	12.140
Controls are in place to evaluate the efficiency of the operational risk management programs	41	4.58	0.549	12.010
Regular reviews of operational risk management efforts and reporting to senior management.	41	4.50	0.506	11.253
Risks are sub divided into individual levels for further analysis	41	4.62	0.493	10.679
Total Aggregate	41	4.56	0.525	11.521

4.8 Regression Analysis.

To determine the relationship between the study variables, the researcher used a regression analysis model whose outcomes were as per the following:

4.8.1 Regression model summary.

Coefficient of determination (R square) discloses the degree to which an adjustment in the dependent variable can be clarified by the adjustment in the independent variables. From the study findings, the four independent variables studied; risk identification, risk assessment, risk mitigation and risk monitoring. This explains 77.8% of variation in ROA in the listed financial institutions in Kenya as represented by the R^2 . This implies different components not contemplated in this study contribute 22.21% of change in the dependent factors.

Table 4.7 Model Summary.

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.882 ^a	.778	.756	0.0221

a. Predictors: (Constant), risk identification, risk mitigation and risk monitoring)

b. Dependent Variable: ROA

4.8.2 ANOVA (Analysis of Variance).

The Analysis of Variance (ANOVA) comprises of calculations that gives data about levels of changeability inside a relapse model and frame reason for trial of essentialness. The study findings in Table 4.5 underneath, the significance value is 0.012 which is less than 0.05, thus the model is statistically significant in predicting how risk identification, risk mitigation and risk monitoring influence ROA process in the insurance companies in Kenya. The F statistic was significant (7.32) and this demonstrated the model had a solid match.

Table 4.8 ANOVA (Analysis of Variance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.768	3	3.192	7.32	.012 ^a
	Residual	4.796	37	.436		
	Total	17.564	40			

a. Predictors: (Constant), Risk Identificationrisk Assessment, Risk Mitigation and Risk Monitoring

b. Dependent Variable: ROA

4.8.3 Coefficient of Correlation.

The study findings demonstrated that there is a critical positive relationship between risk identification and ROA ($\beta=0.764$ and P value < 0.05). Hence, a unit increase in risk identification leads to an increase in ROA by 0.764. The result of the study demonstrated that there is a critical positive relationship between risk mitigation and ROA ($\beta=0.661$ and P value < 0.05). The result of the study demonstrated that there is a critical positive relationship between risk monitoring and ROA ($\beta=0.609$

and P value < 0.05). Hence based on the above regression results, the study's regression model became;

$$Y = 6.182 + 0.764X_1 + 0.810X_2 + 0.661X_3 + 0.609X_4 + \varepsilon$$

Table 4.9 Coefficient of Correlation

	Unstandardized Coefficients		Beta	Standardized Coefficients	
	B	Std. Error		t	Sig.
(Constant)	6.182	.826		0.635	.0000
Risk identification	0.764	1.25	0.61	0.648	.0068
Risk mitigation	0.661	1.56	0.42	0.615	.0261
Risk monitoring	0.609	1.603	0.38	0.673	.0342

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction.

This section highlights the synopsis on the impacts of operational risk management practices and financial performance in insurance in Kenya. This section is organized into synopsis of findings, conclusions, suggestions and area for further research.

5.2 Summary of the Findings.

From findings of the study most of the insurance companies have risk and compliance department. This is on the grounds that financial sector is one of unpredictable area in the current financial segment. The sector is exposed to a number of risks. By having operational risk and compliance department to constantly monitor the risks could significantly influence performance of company's functioning and efficiency by 41%, 22%.

On risk identification, the study found out that risk analysts, executive management and employees, board of directors influence financial performance to a great extent. The respondents on average agreed with the Likert items in the risk identification domain with those of differing opinion not being so far away from an agreement.

On risk mitigation practices, the study found that company insures different types of risks but not all risks and that the company does not insure catastrophic risks and the company sets aside sufficient technical reserves to pay for claims. Likewise the study found that that the organization has a mechanism for estimating potential losses of entering into insurance contracts and for transferring certain risks to third parties through reinsurance/supporting that impact the financial performance.

On risk Implementation and Monitoring, the study found that risks are sub divided into individual levels for further analysis; controls are in place to evaluate the efficiency of the operational risk management programs influences financial performance to a greater extent. Additionally, the study found that duties of every representative in the operational risk department of the firm are very much conveyed to them and standard audits of operational risk management endeavors and reporting to senior management impact financial performance.

5.3 Conclusion.

The study intended to find out effect of operational risk management practices on financial performance in insurance companies in Kenya. Based on the findings the study concluded most of the insurance companies have risk and compliance department. It is understood that the financial sector is most unpredictable in the current financial sector. Activities inside the financial sector are presented to a substantial number of risks. By having a functional risk and compliance department it is expected to significantly influence performance of company's functioning and efficiency by 41%, 22%.

On risk identification, the study inferred that risk analysts, executive management and employees, board of directors influence financial performance to a great extent. The respondents on average agreed with the Likert items in the risk identification domain with those of differing opinion not being so far away from an agreement.

On risk mitigation practices, the study inferred that company insures different types of risks but not all risks and that the company does not insure catastrophic risks and the company sets aside sufficient technical reserves to pay for claims. Likewise the study concluded that that the organization has a mechanism for estimating potential losses of entering into insurance contracts and for exchanging certain risks to third parties through reinsurance/supporting that influence financial performance.

On risk management implementation and monitoring, the study concluded that risks are sub divided into individual levels for further analysis; controls are in place to evaluate the efficiency of the operational risk management programs influence financial performance to a very great extent. Additionally, the study concluded that

Duties of every representative in the operational risk department of the firm are very much conveyed to them and standard audits of operational risk management endeavors and reporting to senior management impact financial performance.

5.4 Recommendations.

From the study, risk identification and mitigation were found to have a huge impact on financial performance of many insurance companies in Kenya. The study therefore recommend to the management to put in place cost-effective measures for

appropriate risk identification and effective risk mitigation so that their financial performance is not impacted negatively.

The study also recommends that the management should continuously review their risk management practices to ascertain if they are still practical in the face of a continuously changing operating environment.

The management should also leverage on information technology by installing a robust information systems that can do appropriate risk evaluation proper risk assessment and measurement more accurately and monitor the risk management programs for effectiveness. Staff ought to likewise be also being prepared on risk management policies with clearly defined roles and responsibilities for risk management and compliance.

There is also need for insurance companies to address corporate governance issues in their risk management programs. Risk management programs that are supported by senior company officials are more likely to succeed, hence improve the financial performance.

5.5 Limitation of the Study.

The study relied on secondary data which had been gathered by The Insurance Regulatory Authority (IRA) the researcher had no method for freely checking the legitimacy of this information which was thought to be precise with the end goal of this study. The study findings were therefore, partly subject to the validity of the secondary data used.

The study utilized Return on Assets as a measure of financial performance. However, there are other measures of financial performance that can be used in other future studies, for instance return on equity (ROE).

The study did not use a control variable and it is therefore possible that a lack of inclusion of the remaining 6 companies may cause differences in findings.

5.6 Areas of Further study

This study researched on the effects of operational risk management practices on financial performance in insurance companies in Kenya. The study proposes that

further study to be done on difficulties influencing operational risk management practices inside an association. The study also suggests further study to be done on the effects of successful usage of risk management systems on financial performance.

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Appendix 1: Data Collection Questionnaire

The purpose of this study is to collect data that will assist in determining the operational risk management practices and how they affect the financial performance of the insurance company. The information provided will be treated with utmost confidentiality and solely be used for this study.

Part 1: Demographic Data

1) Name of the insurance company -----

2) How many branches does the insurance company have?

3) How long has the Company been in operation (In Years)?

Below 20[] 21 – 30[] 31 – 40[] 41 – 50[]

Over 50[]

4) Respondent's age (tick as appropriate)

Below 20[] 21 – 30[] 31 – 40[] 41 – 50[]

Over 50[]

5) Do you have a risk and Compliance Department in your Organization?

Yes

No

Part II: Business information

SECTION I: EFFECTS OF OPERATIONAL RISKS ON FINANCIAL PERFORMANCE

6) Please rate the extent to which operational risk management impacts on financial performance of your organization?

{ }0% - 20% () 21% - 40% () 41% - 60%, () 61% - 80% (), 81% - 100%

SECTION II: RISK IDENTIFICATION

7) To what extent does your company involve the following parties in formulating operational risk management policies? Use scale 1 - 5 where 1 is to a lesser extent and 5 to a greater extent.

STATEMENT	1	2	3	4	5
Board Of Directors					
Executive Management					
Employees					
Customers					
Risk Analysts					

SECTION III: OPERATIONAL RISK MITIGATION

7) To what extent does your company adopt the following risk mitigation practices?

Use a scale of 1 – 5.

STATEMENT	1	2	3	4	5
The company insures different types of risks but not all risks.					
The company does not insure catastrophic risks					
The organization has a mechanism for estimating potential losses at the time of entering into insurance contracts					
The company trains insured parties on ways to avoid or minimize the chances of losses occurring					
The company has a mechanism for transferring certain risks to third parties e.g. through reinsurance/hedging.					
The company sets aside sufficient technical reserves to pay for claims.					

SECTION IV: OPERATIONAL RISK MANAGEMENT IMPLEMENTATION AND MONITORING.

8) To what extent are the following facets of operational risk management implementation and monitoring applicable to your company? Use a scale of 1 – 5.

STATEMENT	1	2	3	4	5
Operational risk management program is well documented					
Operational risk management efforts are supported by senior Employees are properly trained on risk management policies of the firm.					
The roles and responsibilities of each employee in the operational risk management efforts of the firm are well communicated to them.					
Controls are in place to evaluate the efficiency of the operational risk management programs					
Regular reviews of operational risk management efforts and reporting to senior Management.					
Risks are subdivided into individual levels for further analysis					

Thank you

Appendix II: List of insurance companies in Kenya

AAR Insurance Kenya Ltd
Africa Merchant Assurance Company Ltd
AIG Kenya Insurance Company Ltd
APA Insurance Ltd
APA Life Assurance Limited
British American Insurance Company
Cannon Assurance Company Ltd
CFC Life Assurance Company Ltd
CIC General Insurance Company Ltd
CIC Life Assurance Company Ltd
Continental Reinsurance Company Ltd
East Africa Reinsurance Company Ltd
Fidelity Shield Insurance Company
First Assurance
GA Life Assurance
GA Insurance Ltd
Gateway Insurance Company Ltd
Geminia Insurance Company
ICEA LION General Insurance Company Limited
ICEA LION Life Insurance Company Limited
Intra Africa Insurance Company Limited
Invesco Assurance Company Limited
Kenindia Assurance Company Limited
Kenya Orient Insurance
Kenya Reinsurance Corporation Limited
Madison Insurance Company Limited
Mayfair Insurance Company Limited
Mercantile Insurance Company Limited
Metropolitan Life Insurance Company Limited
Occidental Insurance Company Limited
Old Mutual Life Insurance Company Limited

Pacis Insurance Company Limited
Pan Africa Life Insurance Company Limited
Phoenix of East Africa Insurance Company Limited
Pioneer Assurance Company Limited
Real Insurance Company Limited
Resolution Insurance Company Limited
Takaful Insurance
Tausi Insurance
The Heritage Insurance
Jubilee Insurance
Kenya Alliance Insurance
The Monarch Insurance
Trident Insurance
Direct Line Assurance Company
Corporate Insurance Company
Xplico Insurance Company
UAP Life Insurance
UAP Insurance Company

Appendix III: Average Mean Scores on Risk Management Practices for Each Insurance Company.

	Risk identification	Risk mitigation	Risk management Implementation
AAR Insurance co LTD	4.5714286	4.5714286	4.5714286
AIG Ins	4.5714286	4.5714286	4.5714286
Amaco	4.8571429	4.8571429	4.8571429
APA Ins	5	5	5
APA LIFE	3.7142857	3.7142857	3.7142857
Britam Insurance co	4.5714286	4.5714286	4.5714286
Cannon Assurance	4.8571429	4.8571429	4.8571429
Capex Insurance co ltd	4.5714286	4.5714286	4.5714286
CIC Life assurance	4.5714286	4.5714286	4.5714286
Corporate Insurance	5	5	5
Direct Line Assurance	4.5714286	4.5714286	4.5714286
CIC general Ins CO Ltd	4.7142857	4.7142857	4.7142857
First Assurance Co Ltd	5	5	5
Fidelity Shield	4.7142857	4.7142857	4.7142857
G.A Insurance co ltd	4.8571429	4.8571429	4.8571429
Gateway insurance co ltd	4.5714286	4.5714286	4.5714286
Geminia Ins. Co Ltd	4.5714286	4.5714286	4.5714286
Heritage Ins co ltd	4.5714286	4.5714286	4.5714286
ICEALION General	4.7142857	4.7142857	4.7142857
ICEALION Life Assurance	4.8333333	4.8333333	4.8333333
Jubilee Ins Co ltd	4.2857143	4.2857143	4.2857143
Kenindia Assurance Co Ltd	4.7142857	4.7142857	4.7142857
Kenya Orient Insurance Ltd	4.2857143	4.2857143	4.2857143
INVESCO Insurance Ltd	4.8571429	4.8571429	4.8571429
Madison Insurance Co Ltd	4.8571429	4.8571429	4.8571429
Mayfair Insurance co. ltd	4.5714286	4.5714286	4.5714286
Metropolitan life assurance	4.4285714	4.4285714	4.4285714
Monarch Insurance Co Ltd	4.7142857	4.7142857	4.7142857
Occidental Insurance Co	4.8571429	4.8571429	4.8571429

Ltd			
Old mutual	4.5714286	4.5714286	4.5714286
Pacis insurance Co Ltd	4.4285714	4.4285714	4.4285714
Pan Africa life insurance	4.4285714	4.4285714	4.4285714
Phoenix	5	5	5
Pioneer assurance	4.2857143	4.2857143	4.2857143
Takaful	4.7142857	4.7142857	4.7142857
Tausi Assurance co	4.2857143	4.2857143	4.2857143
Trident	4.8571429	4.8571429	4.8571429
UAP Insurance Company Limited	4.5714286	4.5714286	4.5714286
UAP Life Assurance	3.8571429	3.8571429	3.8571429
Xplico Insurance Co Ltd	4	4	4

Appendix IV: ROA per year for each insurance company.

Insurance Companies	2015	2014	2013	2012	2011
AAR Insurance Kenya Limited	0.1	0.06	0.05	0.02	0.01
A P A Insurance Limited	0.05	0.05	0.04	0.02	0.04
Africa Merchant Assurance Company Limited	0.04	0.03	0.05	0.03	0.02
Apollo Life Assurance Limited	0.02	-0.01	-0.05	-0.04	0.02
AIG Kenya Insurance Company Limited	0.03	0.15	0.08	0.09	0.08
British-American Insurance Company (Kenya) Limited	-0.03	0.02	0.05	0.05	0.04
Cannon Assurance Limited	-0.01	0.04	0.08	0.1	0.03
Capex Life Assurance Company Limited	0.01	0.02	0.01	0.02	0.03
CIC General Insurance Limited	0.06	0.06	0.08	0.07	0.06
CIC Life Assurance Limited	0.03	0.04	0.07	0.07	0.03
Corporate Insurance Company Limited	0.08	0.08	0.07	0.14	0.01
Direct line Assurance Company Limited	0.04	0.09	0.03	0.07	0.03
Fidelity Shield Insurance Company Limited	0.02	0.06	0.05	0.07	0.03
First Assurance Company Limited	0.06	0.08	0.07	0.04	0.07
G A Insurance Limited,	0.04	0.05	0.07	0.07	0.05
Gateway Insurance Company Limited	-0.07	0.01	0.06	-	0.39
Geminia Insurance Company Limited	0.02	0.06	0.07	0.06	0.05
ICEA LION General Insurance Company Limited	0.04	0.06	0.07	0.02	0.09
ICEA LION Life Assurance Company Limited	0.01	0.02	0.06	0.07	0.09
Intra Africa Assurance Company Limited	0.04	0.01	0.04	0.05	0.14
Invesco Assurance Company Limited	0.02	-0.03	0.11	0.01	0.09
Kenindia Assurance Company Limited	0.02	0.01	0.02	0.01	-0.01
Kenya Orient Insurance Limited	0.01	0.04	0.06	0.05	0.04
Madison Insurance Company Kenya Limited	0.1	0.03	0.04	0.13	0.02
Mayfair Insurance Company Limited	0.09	0.06	0.04	0.02	0.02
Metropolitan Life Insurance Kenya Limited	-0.11	-0.14	-0.12	-0.18	-0.26
Occidental Insurance Company	0.08	0.1	0.1	0.07	0.05

Limited					
Old Mutual Life Assurance Company Limited	0	-0.03	-0.65	-0.06	0.02
Pacis Insurance Company Limited	0.04	0.07	0.18	0.08	0.02
Pan Africa Life Assurance Limited	0.01	0.02	0.02	0.1	-0.02
Phoenix of East Africa Assurance Company Limited	0.03	0.34	0.06	0.02	0.01
Pioneer Assurance Company Limited	0.06	0.16	0.04	0.03	0.03
Shield Assurance Company Limited	-0.38	-0.05	-0.04	0.04	-0.06
Takaful Insurance of Africa Limited	0.02	0.01	-0.01	-0.11	-0.2
Tausi Assurance Company Limited	0.07	0.07	0.1	0.09	0.04
The Heritage Insurance Company Limited	0.04	0.1	0.11	0.1	0.11
The Jubilee Insurance Company of Kenya Limited	0.02	0.02	0.03	0.01	0.03
The Monarch Insurance Company Limited	0.04	0.1	0.04	0.04	0.07
Trident Insurance Company Limited	0.03	0.02	0.03	0.26	0.03
UAP Insurance Company Limited	0.03	0.06	0.08	0.12	0.13
UAP Life Assurance Limited	-0.08	-0.03	0.04	0.06	0.02
Xplico Insurance Company Limited	0.01	-0.01	0.02	0.05	0.02
Total	0.71	1.86	1.28	2.09	1.52
Mean	0.03	0.047	0.028	0.054	0.045
STDev	0.029	0.06	0.114	0.049	0.063

