THE RELATIONSHIP BETWEEN ENTERPRISE RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

STUDENT'S DECLARATION

This research project is my original work and has not been submitted to any other University for academic award.

Signed……. Date …….

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SUPERVISOR'S DECLARATION

This research project has been submitted for examination with my approval as the candidate's University Supervisor.

Signed…… …….. Date ……..

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ABSTRACT

There exists recognizable literature by a number of scholars mainly from the developed economies concluding that enterprise risk management offers companies a more comprehensive approach towards risk management than the traditional silo-based risk management perspective.

This study determines the enterprise risk management (ERM) practices adopted by non-financial firms listed in Nairobi Securities Exchange and also test where there exist relationship between identified ERM practices and financial performance of these firms as measured by Return on Investment (ROI). Data was collected from a sample of 9 firms out of 30 non-financial firms listed in Nairobi Securities Exchange for the period ended 2011.

The research findings show adoption and integration of enterprise risk management in the sample non-financial firms. The adoption of ERM practices is found to be deeply ingrained in the company's policies with very well and clearly defined structures in existence. While the adoption levels are found to be different in terms of extent, approach, and the strategy, there is enough evidence to support the researcher's proposition and previous empirical studies findings that more and more firms are adopting and integrating ERMs in their business functions, processes and departments.

The study however fails to find existence of a relationship between the firms' financial performance and the various indicators of risk management practices. There is also no significant connection between the firms' performance and the adoption of ERM. This does not agree with most of the previous works done regarding the same question but still agrees with some.

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ABBREVIATIONS

ERM – Enterprise Risk Management

CAS – Casualty Actuarial Society

CBK – Central Bank of Kenya

CIMA – Chartered Institute of Management Accountants

CMA – Capital Markets Authority

COSO – Committee of Sponsoring Organizations of the Treadway Commission

NSE – Nairobi Securities Exchange

S**&P –** Standard and Poor

SPSS – Statistical Packages for Social Sciences

SWOT – Strengths, Weaknesses, Opportunities and Threats

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The existence of evolving risk environment continues to present challenges and opportunities for the survival of businesses globally. Firms have recognized the significance and necessity of managing risks and the importance of doing this in a more coordinated way by considering both internal and external environment to adequately understand and manage these risks. This way they avoid possible financial losses and damage to company reputation. Firms that fail to manage risk also fail to maximize on the opportunities that risky environment present to them for their own competitive advantage. Empirical researches show that more and more firms are adopting risk management practices. These practices are influenced by both internal and external variables (Collier et al., 2007).

According to Galloway and Funston (2000), risky environment is characterized by four factors;

> "First is value and market confidence. Some firms have built confidence in shareholders and they are considered less risky thus experiencing lower cost of equity and higher market valuation.
>
> Secondly, they have developed strategies that deliver value to shareholders in the short term. They are able to identify their top risks to successful execution and also manage them successfully.
>
> Third is the speed by which overcapacity and competition demand innovations. All those involved in new products, new markets, new processes and new systems must be engaged promptly.
>
> Finally risky environment is characterized by existence of critical risks at any level, anywhere within the firm. All business units in the firm must work together to address these critical risks."

The use of financial derivatives in financial risk management by financial institutions and fund managers continue to increase. These instruments are forwards, futures, swaps and options. Black-Scholes (1973) and Merton (1973) provided directions that were crucial to the finance industry embracing these alternative financial products. They introduced the

basic idea that a risk free position can be created if an option is hedged with a unit of the underlying asset. The main objective of a firm employing derivatives as a part of their risk management strategy is to maximize the value of the firm.

1.1.1 The Concept of Enterprise Risk Management

Firms are faced with numerous risks such as financial risks, strategic risks, political risks, technological risks, legal risks, operational risks, reputation risks among others. Due to the limited scope and application of "Traditional Risk Management" concept, firms are beginning to adopt and implement Enterprise Risk Management (ERM) because of its holistic view of risk management (Klefner et al, 2003, Boyer et al, 2005, Hoyt et al 2008).

The existing literature on ERM is concentrated mainly on entities in the developed economies; however, the concept of ERM is generally applicable to most companies both in developed and emerging markets. Emerging markets generate higher rates of return on capital than developed markets and are characterized by high rates of volatility and are more susceptible to the external impact including regulatory and operational (Fuss, 2008).

Collier et al (2007) identify enterprise risk management as a business tool that aligns risk management with business strategy and inculcate risk management culture into the entire business operation. There are several definitions of enterprise risk management. Even though they have some similarities, the most commonly cited definition of ERM was provided by Committee of Sponsoring Organizations of the Treadway Commission (COSO). According to COSO (2004), ERM is a process effected by an entity's board of directors, management and other personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

> This definition advances the fact that risk management is an entity's global responsibility and affects all the aspects of the entities operations. It recognizes the fact that risk is present in all aspect of the entity.

De Souza et al. (2012) in citing the definition of risk by Turnbull Report of the Institute of Chartered Accountants in England and Wales, concur that other factors such as environmental risk, ethical issues and social issues affect the performance of a company.

Enterprise risk solutions originate from qualitative world of audit and control, insurance and management, quality and engineering risk management and financial market and credit risk management (Galloway and Funston, 2000). Financial institutions carefully monitor risks due to the level of regulations that they are subjected to by the governments. The regulations are designed to ensure financial viability of these institutions.

1.1.2 Firm Performance

Compared to financial firms, several listed non-financial firms in Kenya have generally delivered low annual profit margins as a result of high operational costs. However a few of them in emerging sectors, for instance Safaricom Limited in communication as per their 2009 to 2012 financial statement have consistently returned significant profits.

Generally, the performance among firms is based on their profit, market share, productivity, leverage, and stock prices. All the above factors are used to measure the shareholders return, financial and market performance of firms. This research sought to study the performance of non-financial firms in a more global way but specifically with relation to management of risk.

1.1.3 Non-financial Firms listed in NSE

For the purpose of this study, non-financial firms are those firms that are engaged in the production of goods and non-financial services but which trade their shares in Nairobi Securities Exchange (NSE). This consideration will therefore exclude insurance companies, commercial and investment banks. These companies are divided into three segments; Industrial and Allied, Agricultural, Commercial and Services. A complete list is contained in appendix I.

The general trend now is for all firms to seek ways of improving their governance and

risk management practices. This interest is driven by the strong demand by stakeholders for institutions to respond to the volatile markets in which they operate and the challenges arising from impact of global financial crisis that began in 2007.

1.2 Statement of the Problem

The view of a number of scholars is that enterprise risk management offers companies a more comprehensive approach towards risk management than the traditional silo-based risk management perspective and because of this, ERM is presumed to lower a firm's overall risk of failure hence increase the performance and so the firm's value (Gordon et al.2009). The definition by COSO (2004) which is popularly accepted by scholars and authors, and definitions by other professional bodies like CAS (2003), CIMA (2008) depict ERM as reasonable concept that is properly linked to organization performance. Hoyt and Liebenberg (2008) in their study of Insurance Industry estimated the effect of ERM on Tobin's Q, a standard measure of firm value. The study found positive relation between firm value and adoption of ERM.

In his proposed framework for finance theory, Markowitz advocated the close ties between risk and return (Markowitz, 1959). Firms that are interested in some level of return must be ready to face some risks. Even though Pagach and Warr (2010) in their study of effects of enterprise risk management on firm performance failed to support the proposition that ERM is value creating they still believe there must be a benefit of ERM in regard to performance reason why more and more firms are adopting ERM. In their study of the use of foreign currency derivatives by large non-financial firms between 1990 and 1995 using Tobin's Q to approximate firm value, Allayannis and Weston (2001) found out that hedging is associated with 4.8% premium for companies with foreign exchange exposures. However, Guay and Kothari (2003) in reacting to this finding concluded that corporate derivatives positions are generally immaterial to account for the valuation premium reported by Allayannis and Weston, and that the positive association between derivatives and value is more a reflection of the tendency of successful companies to use derivatives (Smithson et, al., 2005)

A number of studies have been done locally on traditional risk management and a few on enterprise risk management. However these studies have focused more on financial institutions.

In a survey study of Credit Risk Management techniques in Kenya carried out by Mwirigi (2004), the finding revealed inadequacies in risk management practices in Kenya and inclination by finance institutions on credit risk management techniques. However, Wambua (2010) in her study of enterprise risk management strategies and practices as determinants of performance in commercial banks in Kenya considered four types of financial risks i.e. credit risks, interest rate risk, liquidity risk and foreign exchange risks as independent variables. The findings were that credit risk, foreign exchange risk and liquidity risk management practices have positive influence on the performance of commercial banks. It also found out that interest rate risk management practices have positive correlation with performance of commercial banks.

Another study carried out by Waweru and Kisaka (2011) found significant relationship between firm's level of adoption of ERM and the firm's value. However while targeted population for this study was all firms listed in Nairobi Securities Exchange, the researchers noted that their finding was based more on responses received from financial institutions.

As can be noted from existing literature, previous local studies have focused more on financial institutions. There exist no known studies on the relationship between enterprise risk management practices and financial performance of firms specifically targeting non-financial institutions in Kenya. The study by Waweru and Kisaka (2010) looked at the level of adoption of ERM and firm's value but their findings relied on data gathered from financial institutions. This research purposed to undertake an exploratory study on the extent of adoption of enterprise risk management by non-financial firms and to examine the relationship of ERM to performance of non-financial firms listed in Nairobi Securities Exchange.

1.3 Objectives of the Study

1. To determine the enterprise risk management practices adopted by non-financial firms listed in Nairobi Securities Exchange.
2. To determine the relationship between enterprise risk management practices and performance of non-financial firms listed in Nairobi Securities Exchange.

1.4 Significance of the Study

Risk is becoming a common problem and issue among listed companies. The financial institutions are strictly regulated. There is significant evidence that a number of regulatory authorities in the developed world have adopted ERM practices to rate and regulate financial institutions. While some companies only implement ERM as a compliance requirement, others, though not required by regulation to implement ERM, still implement it as a business value adding initiative.

1.4.1 The firm management

This study will contribute to a better understanding of the implication of ERM practices in the management of firms and specifically its contribution to performance improvement. Firms will be able to discern whether ERM can be used as an alternative risk management strategy.

1.4.2 Governments

The respective government regulatory bodies involved in regulated firms will draw inferences from the study.

1.4.3 Current and potential investors

The study will assist in assessing the contribution of risk management practice to the value of the firm leading to a boost in investor confidence and informed decision.

1.4.4 Scholars and other researchers

This study will among others assist scholars in finding areas for further research in risk

management and will help in giving more information to facilitate research on techniques for effective risk management.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature related to the theories on risk management and previous work on the concept of enterprise risk management, and how it relates to financial performance of firms.

2.2 Relationship between ERM Practices and Firm Performance

Risks occur when specific probabilities can be assigned to the possible results (Arnold G., 2010). It is a measure of the probability of gain or loss from a given occurrence. According to PricewaterhouseCoopers (2009), this probability of gain or loss directly affects the performance of a firm. They note that many executives still see risk management and corporate performance management as separate activities. In their survey 71% of the senior executives responded that the biggest barrier they faced in linking their risk and performance indicators is lack of reliable information. This information is sometimes available but not consolidated or structured. Therefore a company that adopts a holistic approach to risk management is able to understand the links between its risks and performance. The argument above tends to lead us to consider ERM as useful practice; for it is rich in the treatment of risk. To date the most popular definition of ERM was provided by Committee of Sponsoring Organizations of the Treadway Commission (COSO):

> Enterprise risk management (ERM) is a process, effected by an entity's board of directors, management and other personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives (COSO, 2004).

From the definition above, ERM can be described as a comprehensive risk management program. Through ERM program, the firm is able to manage its pure risk (scenario where there exist only possibility of loss or no loss e.g. medical expenses), speculative risk (situation whose outcome can be a profit or loss), strategic risk and operational risk. Strategic risk is uncertainty concerning a firm's goals, objectives and the SWOT.

Operation risks arise from general business operations. ERM program combines all these risks into one program. Therefore, a firm that implements an ERM program will offset one risk against another thereby reducing total risk in the process so long as the risks combined are not perfectly and positively correlated.

In literature, there is strong argument that there exist a relationship between enterprise risk management practices and performance of firms. These arguments indicate that the implementation of risk management practices will have reasonable positive effect on a firm's performance. Hoyt and Liebenberg (2009) in their finding based on data from insurance industry and using Tobin's Q as measure of performance, give support to this argument.

In 2005, Standards & Poor's adopted ERM as a new category of analysis for risk-management evaluation process. They reiterated that a firm with risk management is not one where managers believe that they do not take risks but rather knowingly take considered risk with the understanding that losses are possible. In the evaluation of insurance companies, Standards and Poor's identified the fact that ERM allows a more prospective view of an insurance risk profile and capital needs. Two, ERM is a highly tailored analytical process that recognizes each insurer's unique structure, products, mix of business, potential earnings streams, cash flows and investment strategy (Standards and Poor's, 2005).

There have been recognizable studies on the relationship of risks to performance especially of financial institutions in Kenya. However there are still minimal available studies on the impact or relationship of ERM to performance of non-financial firms. In Kenya, a number of financial institutions have adopted stringent risk management practices mainly because of the regulations.

2.3 Theoretical framework

An effective risk management framework should be reasonably comprehensive and cover the scope of risk to be managed. It should include the processes and procedures to

manage risk and the various roles and responsibilities of individuals involved in risk management. COSO (2004) developed a comprehensive enterprise risk framework that built in the existing internal controls frameworks.

There are several modern finance theories. Herein, three theories will be considered and explored on how they apply to risk management.

2.3.1 Corporate Risk Management Theory

The existence of corporate risk management theory can be explained in reference to the imperfections in the financial markets. Firms that manage risks in response to market imperfections generally maximize their value so there is encouragement here to manage risks. Again as pointed out by Cummins et al. (1999), imperfections that are motive risk management are usually associated with managerial behavior. They point out that managers might want to maximize their personal utility instead of maximizing value for the entity. The theory of capital market imperfections for which corporate risk management theory is embedded encourages non-financial value maximizing firms to engage in hedging activities for risk management such as underinvestment problems (Myers, 1977), taxes (Smith and Stulz, 1985), financial distress (Smith and Stulz, 1985), contracting costs (Mayers and Smith, 1987) and management incentives (Stulz, 1984).

2.3.2 Agency Theory

In simple terms, this theory is concerned with the relationship that exists primarily between the principal (shareholders) and the agent (firm managers). It is concerned with solving mainly two relationship problems, the lack of information to the principal of what the agent is doing and secondly the issue of risk sharing. The principal and agent are likely to have different risk appetites. This theory extends the analysis of the firm to include separation of ownership and control, and managerial motivation. Agency issues have been shown to influence managerial attitudes towards risk taking and hedging Smith and Stulz, (1985). Agency theory explore potential difference in preference between shareholders, management and debt holders due to asymmetries in earning distribution, which can result in the firm taking too much risk or not engaging in positive net value

projects. Agency costs include monitoring expenses such as audit fees, budget costs, control and compensation systems incurred by the principal. On the other hand, the agent incurs bonding expenses. Both parties incur residual loss due to their divergent interest. These costs are normally reflected in the share price paid by the shareholders; hence a reduction in agency cost leads to an increase in firm value. The conflicts of interests advanced in this theory can be mitigated by enterprise risk management practices if compensation schemes appropriately link managers' pay to the stock price of the firm, Han, (1996).

2.3.3 Contingent Theory

This theory considers the variation in organizational styles. Some styles which might be applicable in certain situations may not be applicable in others (Fiedler, 1964). There exist both internal and external factors that influence the treatment of specific events. Enterprise risk management is a holistic risk management approach whose goal is to align risk management practices with the overall business strategies and operations.

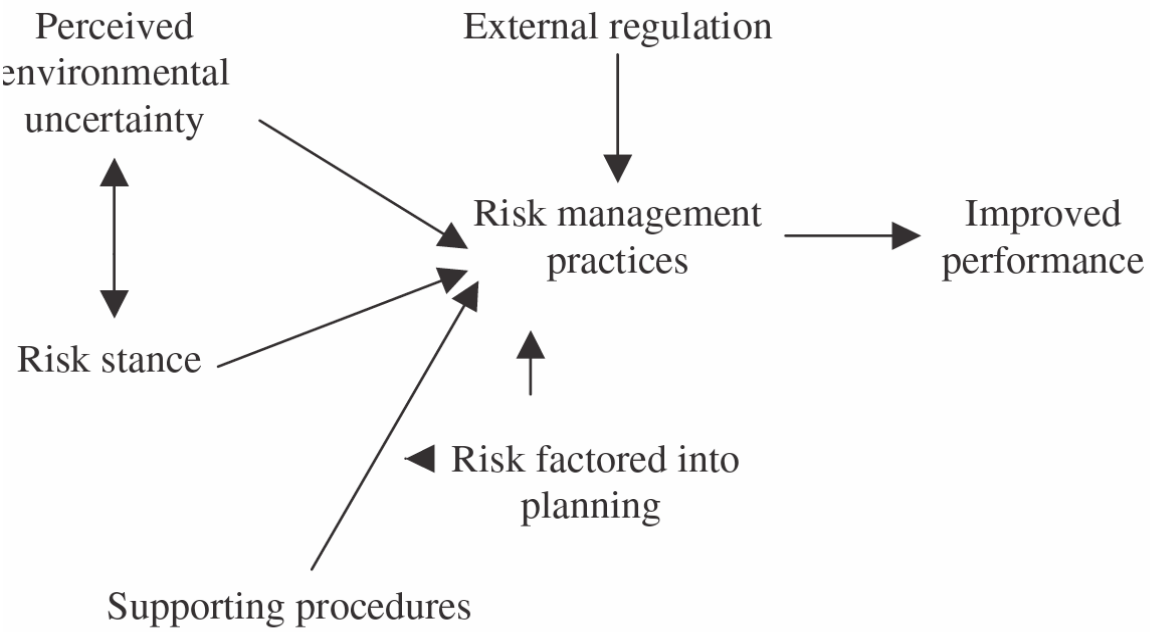
2.4 Enterprise Risk Management Practices

Several scholars have studied the use of derivatives in managing risks. However, as noted by De Souza et al. (2012) not all risks can be addressed by value hedging mechanisms. Non-financial firms have slightly different activities from financial firms. They have long-term assets such as factories, machinery and equipment which have differentiated liquidity of the portfolio of a financial institution. The risks of non-financial firms are not just restricted to operational flow.

The findings of Collier et al.(2007) through their research aimed at understanding the drivers and practice of risk management and the consequences for performance for the organizations were that there was little evidence of any contingent explanations for risk management based on either size or business sector. The survey results suggested that risk management was driven by an institutional response to calls for improved corporate governance which may reflect both protection and economic opportunity. The researchers found out that the external drivers of risk management practices rather than competition

intensity, risk or uncertainty were external stakeholders, regulators and legislation enacted through board of directors which were likely to exert authority over the policies and methods adopted for risk management.

The survey design adopted by Collier et al. (2007) is shown diagrammatically below.



According to Collier et al. (2007), the risk stance of the organization was inferred from the degree to which organizational risk management was designed to take advantage of risk as opportunity and the degree to which organizational risk was designed to provide protection from risk.

KPMG LLP (2010) surveyed twenty one US companies in insurance, banking and utilities regarding their current ERM practices. The survey identified five key practices viz: governance structure and reporting lines, emerging risk identification, risk appetite, use of scenario analysis and economic capital models and risk aware culture. They concluded that risk management must be tailored to meet a company's maturity, culture

and risk profile and that Risk management need to be integrated into a company's business decision processes.

For this study, the following risk management practices have been considered as the independent variables. They are discussed below:

2.4.1 Governance Structure and Reporting Lines

This variable considers where the risk oversight resides within the firm. It evaluates the chain of command in relation to risk management, (KPMG LLP, 2010).

2.4.2 Attention to the Significance of Drivers of Risk Management

These have to do with how the firm perceives the significance of a range of risk drivers: competitive business environment, customers/clients, critical events, shareholder's expectations, legislation and regulatory bodies such as CMA and other bodies/regulatory authorities. Compliance is a critical factor for an effective ERM. It checks that all relevant laws are being followed.

2.4.3 Risk Appetite and Strategy

This is the propensity of a firm to take risk. It considers the understanding about the perception to take risks. More broadly this is considered as the firm's culture to risk. Is risk appetite defined at both corporate and business unit level? How do staff perceive uncertainties and are they able to adopt these uncertainties and turn them into opportunities for the firm.

2.4.4 Risk Factored into Planning and Supporting Policies

This variable will help to measure the extent to which risks are identified and evaluated in the formulation of strategic plans, budgets and operation plans. The emphasis is on emerging risk identification by the firm. The variable will also measure the existence of supporting policies and risk aware culture. This can be identified through supporting documents or documented processes.

2.4.5 Use of Scenario Analysis and Economic Capital Models

Given that the primary objective of these firms is to maximize shareholder's wealth, this becomes a key aspect in the ERM practice. Scenario analysis and economic capital are good financial models that management can adopt to help with strategic decision making or capital management.

2.5 Measures of Performance

Performance can be measured through use of accounting based measures such as return on assets (ROA), return on investment (ROI), return on capital employed (ROCE) or market based measures (such as market value of equities). Accounting based measures were employed in this study. The study explored the correlation of ERM practices to firm performance.

2.6 Empirical Studies

In Kenya, there are very few known studies on ERM. However significant work has been done in the developed world. The main issues of research have been in the adoption and implementation of ERM and whether ERM really add value to firm. Still limited empirical evidence exists to support this claim. The results of some of these empirical studies mainly in developed economies are provided below.

Hoyt and Liebenberg (2008) examined US public insurance companies in their study of the value of enterprise risk management. Their sample data gathered from CRSP/COMPUSTAT database was composed of 275 insurances. They used maximum-likelihood treatment effects framework to estimate the determinants of ERM and the effects of ERM on firm value. They modeled Tobin's Q, a standard for firm value as a function of ERM. Their finding was that ERM usage was positively related to firm size, international diversification and institutional ownership. There existed a positive relation between firm value and use of ERM.

Gordon et al., (2009) examined 112 firms from US Security and Exchange Commission's EDGAR database disclosing the implementation of enterprise risk management in their

2005 10K and /or 10Q reports, to determine whether the relationship between ERM and firm performance is contingent upon the proper match between ERM and five key contingency variables i.e. environmental uncertainty, industry competition, firm size, firm complexity and board of director's monitoring. They developed an ERM index to measure this variable. They concluded that even though their finding was preliminary given the limitations such as use of 2005 data only, they find a relationship between ERM and firm performance.

To study the effect of ERM on firm performance, Pagach and Warr (2010) used business library of LEXIS-NEXIS, to obtain data for 138 announcement of senior risk officer's appointment made from 1992-2004. They only concentrated on announcement for public companies only. After applying various data control measures, they settled for 106 firms. Even though their finding failed to support the proposition that ERM is value creating they still believed there must be a benefit of ERM in regard to performance reason why more and more firms are adopting ERM.

Lai and Samad (2011) studied the enterprise risk management framework and the empirical determinants of its implementation. They surveyed 128 companies listed in the Malaysia bourse. Using product moment correlation test, they found that ERM has significant positive associations with reducing cost of financial distress, lowering cost for external financing, improving firm's credit rating, receiving reward from equity market, reducing informational asymmetries and reducing agency problem.

Eckles et al., (2011) building on the work done by Hoyt and Liebenberg studied insurance industries in the US to determine the impact of enterprise risk management on the marginal cost of reducing risk. They considered 69 firms that adopted ERM between 1995 and 2008. They argued that adoption of ERM represents a radical paradigm shift from the traditional method of managing risks individually to managing risks collectively, in a portfolio and that this allow ERM adopting firms to better recognize natural hedges, prioritize hedging activities towards key risks in the firm and optimize the evaluation and selection of available hedging instruments.

De Souza et al., (2012) using a case of non-financial firms in Brazil examined the relationship between ERM and performance management improvement. The data collection was through a questionnaire and analyzed with descriptive statistics and multiple regression analysis of correlation and association. Their finding was that there was a relationship between ERM and firm performance.

Nocco et al. (2006) noted that a company that lacks special ability to forecast market variables has no comparative advantage in bearing the risks associated with those variables. In contract, because of the knowledge in the same company, they should be able to enjoy competitive advantage in bearing information-intensive, firm specific business risk.

Smithson et al. (2005) in their attempt to answer the questions: "Does risk management add value?" surveyed a number of empirical evidences and concluded that risk management does add value. On the contrary to the implication of Capital Asset Pricing Model, financial price risks can affect the expected returns on stocks and so the stock prices.

Yusuwan et al., (2008) undertook a study on risk management practices on construction project companies in Malaysia. The objective of the study was to identify the level of awareness of risk management, to examine the policy undertaken when dealing with risks in a construction project and to identify challenges of implementation of risk management. They used primary data. The study concluded that risk management affects productivity, performance, and quality and project budget.

Rejda (2011) citing a survey by Risk and Insurance Management Society (RIMS) and the world's largest insurance broker, Marsh, in 2008 of risk management professionals concerning current issues and practices found that 7% of respondents had fully implemented an ERM program, 40% had partially implemented an ERM program and another 19% were planning to implement an ERM program. This survey showed that between the years 2006 to 2008, many respondents had moved from the planning stage to partial or full adoption of an ERM program. Rejda notes that other than holistic treatment

of risks, organization adopts ERM for competitive advantage, positive impact on revenues, reduction of earnings volatility, and compliance with corporate governance. These factors drive the desire for the implementation of ERM by non-financial entities.

Wambua (2010) studied enterprise risk management strategies and practices as determinants of performance in commercial banks in Kenya. This study considered four types of financial risks i.e. credit risks, interest rate risk, liquidity risk and foreign exchange risks as independent variables. The findings were that credit risk, foreign exchange risk and liquidity risk management practices have positive influence on the performance of commercial banks. It also found out that interest risk management practices have positive correlation with performance of commercial banks.

In 2010, Central Bank of Kenya (CBK) undertook a risk management survey on 42 banking institutions and one mortgage institution. Among others, they found out that 38% of staffs in central risk management functions were involved in enterprise risk management and compliance while 11% were involved in establishment and communication of organization's enterprise risk management objectives and direction. This survey confirms the adoption of enterprise risk management adoption by financial institutions in Kenya even though it is still not a regulatory requirement

Waweru and Kisaka (2011) studied the level of implementation of ERM in companies listed in the Nairobi Securities Exchange. Data from 22 companies listed in NSE was collected. They used Tobin's Q to measure the value of the firms. Most of the respondents to their questionnaire were financial service firms creating a possibility of industry bias in their result. The finding was that an increase in the level of ERM implementation in companies had a positive contribution to the value of the companies.

KPMG (2010) carried out an array of survey targeting different industries within the US in 2009. From a range of questions designed to see what current risk management practices were using and how far they had progressed with the practical implementation of ERM. The survey identified the following risk management practices: (1) Governance structures and reporting: Contrary to the practice for risk oversight to reside with a Risk

Committee of the Board, they found out that 70% of respondents provide ERM updates to their audit committees while less than a half report updates directly to their Board of Directors or a separate Board-level Risk Committee on a quarterly basis. (2) Emerging: More than 37% of companies reviewed emerging risk as part of their periodic risk identification. A similar percentage has defined emerging risk identification in place. (3) Risk appetite: The survey found out that nearly 30% of companies did not have articulated risk appetite statement in place while 40% noted that their corporate risk appetite statements are expressed in both descriptive and quantitative terms. (4) Use of scenario analysis and economic capital models: More than 40% of respondents perform scenario analysis while 85% use economic capital model and finally (5) Risk Aware culture: respondents were evenly split on whether there is a formal risk training/education process in their companies.

2.7 Conclusion

This section has reviewed the literature on the adoption of ERM and its impact on firm value and performance by focusing on the extent and the effectiveness of ERM as business tool. Most of the literature cited in this paper concludes that ERM is a strategic business approach that creates value to the firm.

There is however hardly any empirical research done in Kenya that examines the relationship between ERM and performance of non-financial institutions hence the motivation for this study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the overall research methodology that was used to carry out the study. This includes the research design, population and sample, data collection methods, research procedures, data analysis and presentation method. For the purpose of this project, I have narrowed down the study to non-financial institutions listed in Nairobi Securities Exchange.

3.2 Research Design

Hedges (2009) define research design as the organization of data collection strategies so that data collected can result in unambiguous conclusion. The study adopted cross-sectional design.

According to Babbie (2007), cross-sectional studies involve observations of a sample or cross section of a population or phenomenon that are made at one point or time. In these studies, information is recorded to be present in a population, but they do not manipulate variables, which mean that while the research does not determine cause-and-effect relationships between different variables, it makes inferences about possible relationships between ERM and Financial Performance. There is little or no documented research on the relationship between ERM and financial performance of non-financial firms in Kenya, therefore the research design sought to depict what exists in these in Kenya. Questionnaires and structured interviews where possible, were used to gather information from randomly selected institutions.

3.3 Population and Sample

According to Mugenda (1999), a population is the total collection of elements with common observable characteristics about which some inferences can be made. In cases where the population is very large a sample is often examined to make conclusions about the population. The study focused on thirty non-financial firms listed in the NSE because of the assumption that they are properly structured and were more likely to be having relevant information. The companies are divided into three segments; Industrial and

Allied, Agricultural, Commercial and Services. The list of all listed non-financial institutions is attached in appendix I.

3.3 Data Collection Methods

The research used both primary and secondary data. Primary data was collected using questionnaire adopted from the questionnaire developed by Collier et al. (2007). The questionnaires were sent to the Chief Risk Officers (CRO) for organizations where it was known the position exists. In the absence of a CRO, the questionnaires were mailed to the heads of internal audit or Chief Financial Officer. The respondents were asked to indicate on a 5-point Likert scale the degree of emphasis or importance attached to the enterprise risk management practices as identified in the questionnaire. Where it was possible the researcher held a meeting with CRO. This enabled oral admission of questions in a face-to-face encounter thereby allowing collection of sufficient data. Cooper and Schindler (1998), emphasizes the value of personal interview when they stated that it enables in-depth and detailed information to be obtained. Einhorn and Hogarth (1981), recommends that researchers should make extensive use of primary data.

Secondary data was obtained from the company's financial records either from Capital Markets authority library, Nairobi Securities Exchange or directly from respective company official websites. This data provided information on the respective firm's net income, net operating income, total assets, and shareholding amongst others that was used to determine financial performance.

3.4 Data Analysis

Both quantitative and qualitative approaches to data analysis were adopted for the study. The data obtained from respondents was entered into IBM Statistical Package for Social Science (IBM SPSS) version 20 database application for analysis[1]. The data collected

[1] (IBM SPSS 20 is a latest version of the software formerly known as SPSS; it was renamed after IBM acquired it)

was analyzed using descriptive statistics. However, data collected using interviews and questionnaires which is qualitative in nature, was analyzed using conceptual content analysis. To determine the relationship between the variables, a multiple regression model based on Tobit Model as suggested by Greene (1997) was adopted. The model is of the form:

$$\mathbf{Y = \alpha + \beta 1\ X_1 + \beta 2\ X_2 + \beta 3\ X_3 + \beta 4\ X_4 + \beta 5\ X_5 + \varepsilon}$$

Where: **Y** = Performance

β = the slope or the gradient and represents the degree with which the performance of the firm improves with each enterprise risk management practice.

$\mathbf{X_1}$ = Governance structure and reporting lines

$\mathbf{X_2}$ = Attention to the Significance of Drivers of Risk Management

$\mathbf{X_3}$ = Risk Appetite and strategy

$\mathbf{X_4}$ = Risk Factored into Planning and supporting policies

$\mathbf{X_5}$ = Use of Scenario Analysis and Economic Capital Models

α = The Y intercept of the multiple regression equation and represents the performance when no risk management practice is in place.

ε = Error term

The dependent variable (performance) utilized for this study was the financial ratio, Return on Investment (ROI) for the firms in the study.

The independent variables (X_1, X_2, X_3, X_4, X_5) for the purposes of this study, were a quantified mean score of the adoption levels of the various ERM practices from governance, (X_1) to use of scenario analysis (X_5). To quantitatively measure the adoption levels of these practices, a rating scaled in this case a Likert-type scaled questionnaire

was used where higher levels of adoption of the above ERM practices were assigned higher scores and vice versa. Consequently, a higher **mean** score on each response in each of the predictor variables signified higher levels of adoption of the independent variables and vice versa.

This study covered the financial year for the period 2007-2011, and the financial statements of the company for these periods was used in determining the performance of these firms

3.5 Data Validity and Reliability.

Ary et. al (1996) defines validity as the appropriateness, meaningfulness, and usefulness of the specific inferences made from the test scores. Content validity was employed as a measure to which data collected using a particular instrument represents a specific domain or content of a particular concept. Reliability refers to the extent to which any measuring procedure yields the same results on repeated trials (Ary et. al, 1996). To ensure this, the researcher used questionnaire and a pilot test of questionnaire issued to a sample of business PhD students in three local universities. Any adjustments to questions depending on their responses were made to make the questionnaire reliable.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSION

4.1 Introduction

This chapter presents the results of the analyzed data that was collected and further discusses these findings. The tables, charts and figures in this chapter are derived from the data resultant from the findings of the study. The researcher presents the findings in three sections; the first will be a presentation of the general information of the sample, the remaining two segments will seek to address the results of the study in relation to the two research objectives as set out in chapter one.

Primary data used in this study was derived from duly filled questionnaires by various risk management personnel of the sampled non-financial firms listed in the NSE, and secondary data of that addressed financial performance was obtained from these firm's published financial reports. The accuracy, validity and reliability of the secondary data were assumed on the authority of the auditors' declaration in each of the annual financial reports.

4.2 General Information

4.2.1 Respondent's Company, Designation and Experience in Risk Management

The table below summarizes the company, the designation of the respondent in the company and the duration of experience of the respondent in the risk management position mentioned in the same company.

Table 4-1: General Information

Company	Designation	Duration at Current Position	Time Spent Managing Risks	Extent of integrating RM into all functions
C1	Area Security Manager EA	2-5 Yrs	80-100%	Fully
C2	Audit Manager	2-5 Yrs	40-59%	Small Extent
C3	Internal Auditor	2-5 Yrs	80-100%	Fully

C4	Risk Manager	2-5 Yrs	80-100%	Fully
C5	Chief Risk Officer	2-5 Yrs	80-100%	Fully
C6	HOD-Enterprise Risk	6-10 Yrs	80-100%	Great Extent
C7	Company Secretary	> 15 Yrs	1-19%	Great Extent
C8	Head Risk Management	2-5 Yrs	80-100%	Great Extent
C9	Head of Finance	6-10 Yrs	20-39%	Great Extent

The table in its entirety therefore captures the key indicators of the respondents in the nine non-financial firms sampled.

4.2.2 General Financial Performance Results

The table below summarizes various financial performance parameters of the sampled companies.

Table 4-2: Financial Performance for the last two years

		2010					2011		
	Company	ROA %	ROI %	ROS %	ROCE %	ROA %	ROI %	ROS %	ROCE %
1	C2	3.65	13.37	2.60	3.89	6.35	21.61	6.77	6.26
2	C3	6.15	21.20	21.65	13.00	4.68	22.32	17.85	10.59
3	C4	32.89	52.79	29.10	33.31	18.22	45.82	27.30	26.53
4	C5	2.18	4.66	22.59	2.29	1.29	3.00	25.38	1.39
5	C6	14.55	25.48	24.97	21.55	11.56	20.33	19.36	16.50
6	C7	3.95	10.51	7.21	5.30	20.41	46.22	32.09	25.07
7	C8	6.83	27.96	3.60	24.90	7.12	28.10	2.22	24.84
8	C9	5.61	11.91	14.34	5.40	4.00	7.58	15.12	4.08

The initials ROA, ROI, ROS and ROCE are the ordinary financial performance ratios used in finance.

4.3 Risk Management Practices

The respondents were asked to indicate the various risk practices in use in their respective companies. The responses regarding these practices are as outlined in the results below.

4.3.1 Governance Structure and Reporting Lines

The respondents were asked to indicate the governance structure and reporting lines for the risk functions within their respective companies. The responses regarding these practices are as outlined in the result table below.

Table 4-3: Risk Management Reporting Structures

Query	Statistic	Response					
To which committee are risk management updates provided?		Audit committee	Risk Committee	Audit, BOD & Risk Committee	Audit & BOD	Company Management	**Total**
	Frequency	5	1	1	1	1	**9**
	Percent	55.6%	11.1%	11.1%	11.1%	11.1%	**100.0%**
How often are risk management updates provided to the Audit Committee/BoD?		Annually	Semi-annually	Quarterly	Ad hoc	Never	**Total**
	Frequency	0	1	7	0	1	**9**
	Percent	0.0%	11.1%	77.8%	0.0%	11.1%	**100.0%**
What level of risk management report detail is provided?		Additional Detail Provided	Summary Dashboard	Detailed Risk Profile	Others	None	**Total**
	Frequency	1	4	3	0	1	**9**
	Percent	11.1%	44.4%	33.3%	0.0%	11.1%	**100.0%**
Who chairs Risk Management committee?		CEO	Chief Risk Officer	Chief Finance Officer	Internal Director	Do Not Have a Committee	**Total**
	Frequency	3	1	1	1	3	**9**
	Percent	33.3%	11.1%	11.1%	11.1%	33.3%	**100.0%**
Departments represented in the Risk Management Committee		Legal	Compliance	IT & HR	All (Legal, Compliance, IT, HR)	None	**Total**
	Frequency	0	1	0	5	3	**9**
	Percent	0.0%	11.1%	0.0%	55.6%	33.3%	**100.0%**
Person reported to by person in charge of Risk Management		CEO	CFO	Head of Audit & Risk Management	Other	None	**Total**
	Frequency	5	2	1	1	0	**9**
	Percent	55.6%	22.2%	11.1%	11.1%	0.0%	**100.0%**

From table 4.3; it can be noted that Audit committee was the function most provided with risk management updates with 56% of the respondents indicating this followed by risk committee, board of directors, a combination of the three and company management 11% each. In relation to frequency of risk management updates, 78% of the respondents indicated quarterly updates were provided in their respective companies followed by 11% who indicated semi-annually. Only one respondent indicated never.

A summary dashboard and detailed risk profile were the most popular reports provided as cited by 44% and 33% of the respondents respectively. It was noted that there is an even distribution between the various senior designations (CEOs, MDs, CROs and CFOs) when it came to chairing risk management committees.

Compliance department is the highest represented department in Risk Management committee as cited by over 67% of the respondents indicating this, either in combination with other departments or solely on its own. Legal, IT and HR represented together in combination. The person in charge of risk management mostly primarily reported to the CEO as indicated by 56% of the respondents followed by CFO and head audit and risk management in that order.

4.3.2 Accountability

When queried on accountability of the various risk aspect roles like identifying risks, analyzing and assessing risks, deciding on risk management action and reporting and monitoring risk, the respondents reactions was as illustrated in the chart below;

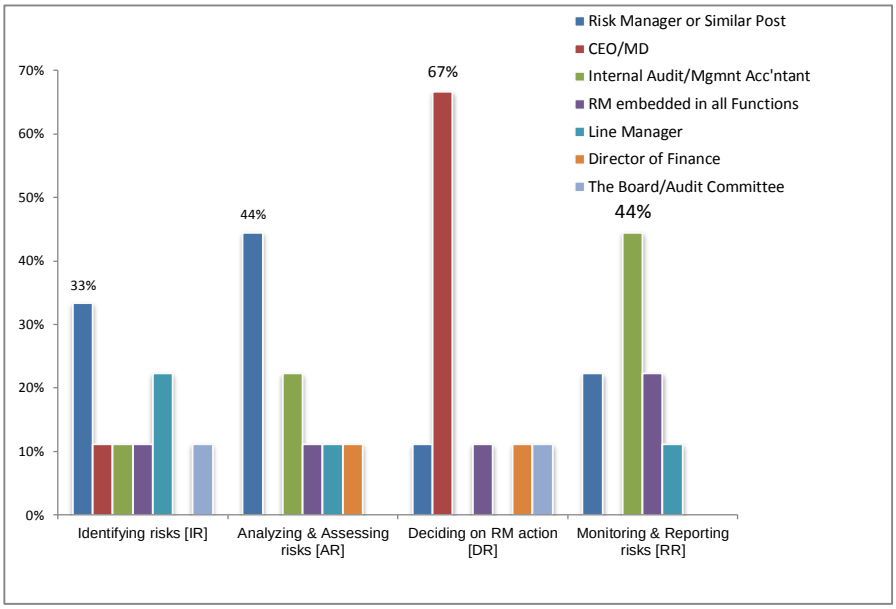


Figure 4.1: Risk Accountability

Risk manager or similar post and CEO/MD were the most cited positions as the ones primarily accountable for dealing with the different risk aspects. While 77% of the respondents indicated risk managers identified or analyzed and assessed risks, 67% indicated CEO's and MDs decided on the risk management action to be taken.

Monitoring and reporting risk was highly a function of internal audit or management accountant more than any other person.

4.3.3 Significance of Key Drivers of Risk Management to the Firm

The various risk management personnel interviewed were asked to indicate the extent to which they agreed to some listed down key drivers of risk management.

The results of the responses are summarized here-under in table 4.4.

Table 4-4: Key Drivers of Risk Management

Key drivers of RM in your company	Response / Statistic	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Legislation	Frequency	0	0	0	6	3	4.33
	Percent	0%	0%	0%	67%	33%	100%
Regulatory bodies	Frequency	0	0		4	5	4.56
	Percent	0%	0%	0%	44%	56%	100%
Expectations of shareholders	Frequency	1	0	0	3	5	4.33
	Percent	11%	0%	0%	33%	56%	100%
The competitive business environment	Frequency	1	0	0	4	4	4.22
	Percent	11%	0%	0%	44%	44%	100%
Customers/ clients who demand it	Frequency	1	0	1	6	1	3.78
	Percent	11%	0%	11%	67%	11%	100%
A critical event or near miss	Frequency	0	0	0	2	7	4.78
	Percent	0%	0%	0%	22%	78%	100%
Board /Top management	Frequency	0	0	0	3	6	4.67
	Percent	0%	0%	0%	33%	67%	100%

Means closer to 5 which were the quantified score of 'strongly agree' indicate a high agreement with the various statements being true about being key drivers of risk management.

The only statement with a mean score of below 4 is the 'Customers demand' as being a key driver of risk management in the firm indicating a relatively lower importance compared to the other indicators.

Other drivers suggested by the respondents included; Environmental scanning and business continuity management systems, Geo-political environment, compliance to global risk and audit risk performance and Best practices.

4.3.4 Risk Appetite and Strategy

4.3.4.1 Propensity to Take Risk

The results for the firm's propensity to take risk are as illustrated below as indicated by the risk managers in the various sampled companies;

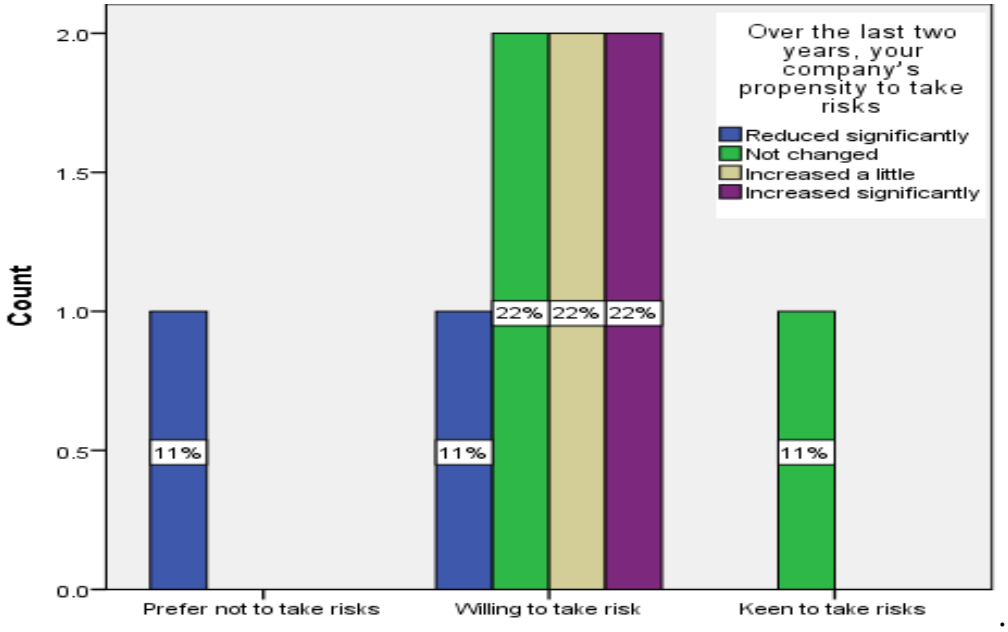


Figure 4-1: Company's Propensity to take risks

Eleven percent of the respondents who indicated that their firms preferred not to take risks also indicated reduced propensity to take risks over the last two years.

Out of the nine companies, 66% were willing to take risks and amongst them; 11% reduced significantly their propensity to take risks in the last two years while 22% apiece, either did not change, increased a little or increased significantly their propensity to take risks in the last two years. The remaining 11% were both keen to take risks and had not changed their propensity to take risks in the last two years.

4.3.4.2 Reason for Taking Risks

When queried about their firm's reasons for taking risks, the respondents responses were as summarized below;

Table 4-5: Reason for Risk Management

Risk management in your company is		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
About avoiding negative consequences	Frequency	1	0	0	5	3	4.00
	Percent	11%	0%	0%	56%	33%	100%
About achieving positive consequences	Frequency	1	0	1	4	3	3.89
	Percent	11%	0%	11%	44%	33%	100%
More a matter of personal judgment	Frequency	2	2	5	0	0	2.33
	Percent	22%	22%	56%	0%	0%	100%
Handled through a formal control system that identifies managers and report risks	Frequency	0	0	0	7	2	4.22
	Percent	0%	0%	0%	78%	22%	100%

Reasons with significant consensus as being behind the firm taking risk include the purpose being to avoid negative consequences and handling of risks through a formal control system that identifies managers and reports risks.

Those thought not be of high importance (low means score) includes; achieving positive consequences and more of a personal judgment.

4.3.4.3 Risk Approach

The respondents were given three approaches to consider and indicate which one best described their company's approach in taking various risks; the results are shown below;

Table 4-6: Approach best describing company

		Risk is considered tactly, but not documented or formally managed	Risk is considered and formally documented in a systematic way	Risk is considered, documented and used to aid decision-making throughout the business	Total
Historical approach which best describes your company in RM	Frequency	4	2	2	8
	Percent	44%	22%	22%	89%
Current approach which best describes your company in RM	Frequency	1	5	3	9
	Percent	11%	56%	33%	100%
Planned approach which best describes your company of risk in RM	Frequency	1	0	7	8
	Percent	11%	0%	78%	89%

Of the companies sampled, historically risk being considered tactly, but not documented or formally managed is more popular at 44% followed by scenarios where risk is considered and formally documented in a systematic way and cases where risk is considered, documented and used to aid decision-making throughout the business at 22% for each case.

On current approach of managing risks, 56% indicated their firms considered and formally documented risk in a systematic way while 33% considered, documented and used their current approach in risk management to aid decision-making throughout the business.

For the future,78% indicated that they would consider, documenting and using risk management to aid decision-making throughout the business.

4.3.5 Risk Factored into Planning and Supporting Policies

The table below returns the results of the respondents regarding stages at which risk is factored in formulating the listed plans;

Table 4-7: Risk factored into planning

Stage at which risk is considered in the process of formulating the following plans:		Stage of Plan Formulation				
		At the start	Through out	Subsequent Review	Not considered	Total
Budgets	Frequency	2	5	1	1	9
	Percent	22%	56%	11%	11%	100%
Operational plans	Frequency	1	7	1	0	9
	Percent	11%	78%	11%	0%	100%
Project management	Frequency	4	4	1	0	9
	Percent	44%	44%	11%	0%	100%
One-off events (e.g. mergers)	Frequency	4	5	0	0	9
	Percent	44%	56%	0%	0%	100%
Capital investment	Frequency	3	6	0	0	9
	Percent	33%	67%	0%	0%	100%

The shaded cells highlight the most popular stage at which risk is factored in the process of the listed plan formulation.

Popular stages for inculcating risk into planning for the listed planning processes as observed are at the start of the plan and throughout the process.

4.3.6 Company Policies Regarding RM Elements

The respondents were asked to rate some risk management related statements on a score of 1 to 5. The results of their responses are as shown below;

Table 4-8: Descriptive statistics on ratings of company RM policies

Statement	Statistic			
	Minimum Rated	Maximum Rated	Mean	Std. Deviation
The company has an effective risk management policy	3	5	4.00	.707
Risks are well understood throughout the company	2	5	3.78	.833
Controlling risk is highly centralized within the company	1	5	3.44	1.333
The company regularly reviews internal controls	3	5	4.22	.833
Risk management is embedded in the company's culture	3	5	3.56	.726
Formal procedures are in place for reporting risks	3	5	4.22	.833
The level of internal control is appropriate for the risks faced	3	5	3.89	.601
The company is effective at prioritizing risks	3	5	4.00	.866
Changes to risks are assessed and reported on an ongoing basis	2	5	3.89	.928

Of the nine statements, four had responses with considerably high mean (>4.0) signifying high rating or high level of consensus with the statements included; the company has an effective risk management policy, the company regularly reviews internal controls, formal procedures are in place for reporting risks and the company is effective at prioritizing risks

The rest scored means of less than four meaning most of the nine respondents did not rate them very highly compared to the four above. These included; Risks are well understood throughout the company, controlling risk is highly centralized within the company, Risk management is embedded in the company's culture, the level of internal control is

appropriate for the risks faced and finally changes to risks are assessed and reported on an ongoing basis

4.3.7 Business Model used in Risk Management

4.3.7.1 Use of Scenario Analysis and Economic Capital Models

The chart below illustrates the business model the respondents said their firms had or were adopting and the level of adoption for the specific model.

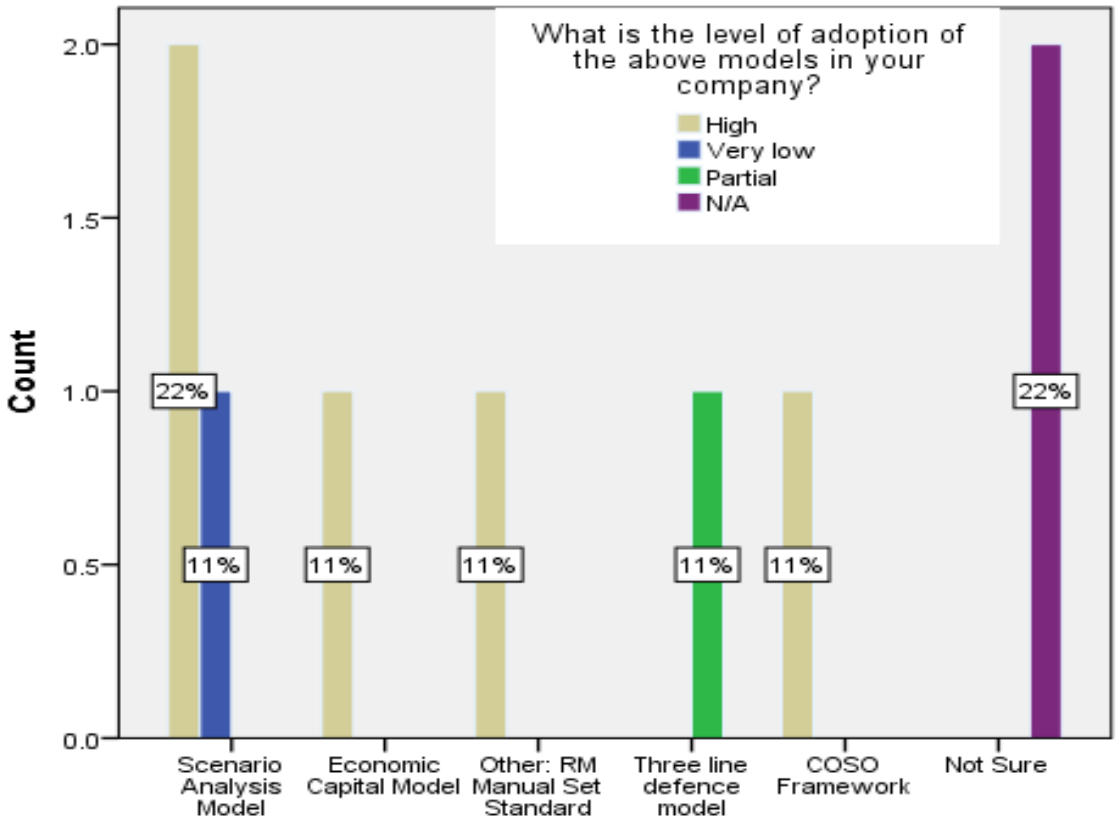


Figure 4-2: Which Business Model is adopted/implemented by your company for management of risk?

Scenario analysis model was the most used by 33% of the sample with two thirds of the firms adopting it using it highly and the remaining third utilizing it lowly.

Of the remaining 67%, 22% were not sure which model their firms used while the remaining 44% used various models in equal measure i.e. economic capital model, risk management manual set standard, three line defense model and COSO framework.

4.3.7.2 Extent of use of Business Model in Business Processes

The risk managers interviewed were further asked to indicate the extent of use of the business model they used for risk management in other processes. Their reactions were as shown in the table 4.9 below;

Table 4-9: Use of Business Model in Business Processes

Business process		Response						Statistic
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Mean
Strategic decision making	Frequency	0	0	0	5	2	7	4.29
	Percent	0%	0%	0%	56%	22%	78%	86%
Capital allocation	Frequency	0	0	4	1	2	7	3.71
	Percent	0%	0%	44%	11%	22%	78%	74%
Determining risk appetite/risk	Frequency	0	1	1	3	2	7	3.86
	Percent	0%	11%	11%	33%	22%	78%	77%
Capital planning	Frequency	0	0	2	2	3	7	4.14
	Percent	0%	0%	22%	22%	33%	78%	83%
Not used	Frequency	4	0	2	0	0	6	1.67
	Percent	44%	0%	22%	0%	0%	67%	33%

Integration of the risk management business model within other business processes was highest in ‘strategic decision making’ and ‘capital planning’ compared to ‘capital allocation’ and ‘determining risk appetite/risk.’

4.3.7.3 Benefits Accruing from Risk Management

The chart below represents the responses of the risk managers/auditors when asked to what extent they agreed/ disagreed that risk management practices employed in their company delivered benefits that exceeded the cost of those practices.

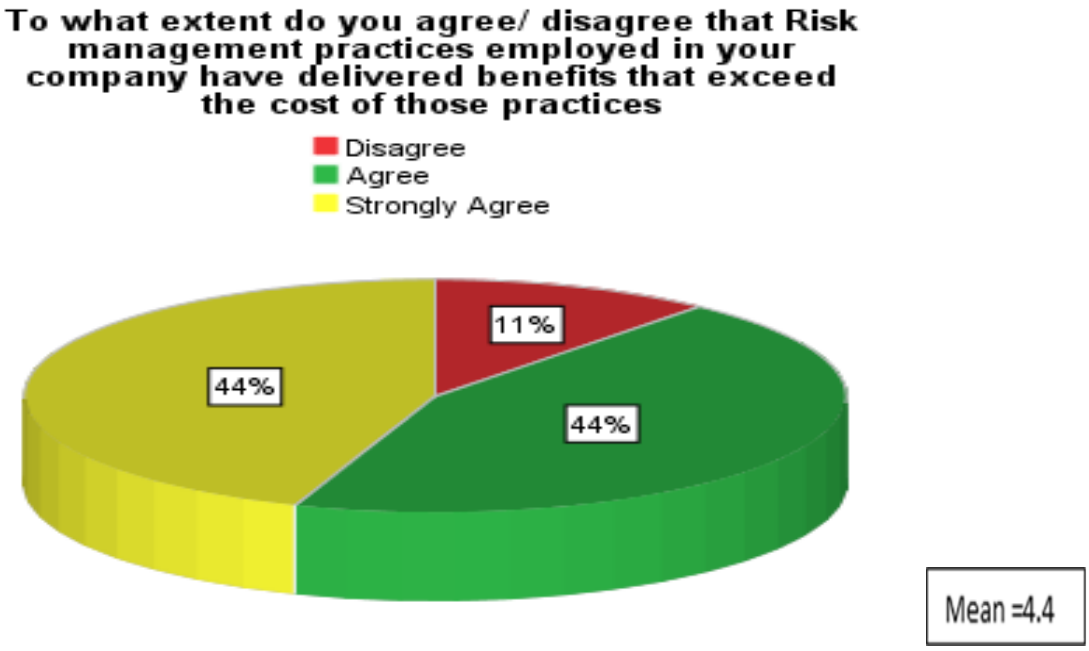


Figure 4-3: Benefits of Risk Management

With a mean score of 4.4, there was a general consensus that employing risk management practices resulted in benefits beyond the cost of implementing these practices.

When asked about the specific benefits, the respondents quoted the following as the main benefits; better anticipation, better imagination, better appetite, improved resilience, cannot be disclosed due to confidentiality, Improved Stock Management Processes, Certification & assessment monitoring through audit, Risk based audit approaches for optimal resource allocation and Avoiding negative impact on profitability

4.4 Relationship between ERM Practices and Firm Performance

4.4.1 Regression Analysis

Using data from calculations of means on the key indicators of risk management measured in the questionnaire and secondary data from financial books of the sampled firms, the regression data used for testing the degree of relationship between ERM practices and firm performance is as shown in Table **4.10.**

ROI was a better modeler of the regression equation compared to ROA since it was more reflective of current performance than ROA.

When ROA was run for regression analysis using IBM SPSS 20, the results excluded three predictors (that is their un-standardized coefficients value were very low <<0.000001) from the model while when ROI was used, all the five predictors returned significant coefficients. For that reason, ROI was a better response variable than ROA.

Table 4-10: Regression Data

	Dependent Variable	*Means of Predictor Variables*				
	ROI %	Governance	Attention to the Significance of Drivers of Risk Management	Risk Appetite and Strategy	Risk Factored into Planning and Supporting Policies	Use of Scenario Analysis and Economic Capital Models
C2	13.37	2.80	4.57	4.11	3.58	4.00
C3	21.20	2.40	4.43	3.78	3.50	3.13
C4	52.79	2.60	4.71	3.22	4.00	3.88
C5	4.66	3.20	4.43	2.89	3.33	3.13
C6	25.48	3.80	4.00	3.33	3.17	3.25
C7	10.51	3.60	3.57	2.86	2.17	2.63
C8	27.96	5.20	4.29	3.44	2.67	4.00
C9	11.91	4.20	4.57	3.89	3.50	3.86

The regression analysis for the data in Table 4-10e returns the following results;

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.755[a]	0.570	-0.506	0.18534

All the five variables returned significant coefficients to model a regression equation.. All the five predictor variables had significant values to consider using them in a regression model.

The co-efficient of multiple determination R-square value is 0.57; therefore about 57% of the variation of the ROI is explained by the five predictor variables.

The regression equation appears not to be substantially useful for making predictions since the value of R^2 at 0.57 is not very close to 1

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.091	5	0.018	0.530	0.755
Residual	0.069	2	0.034		
Total	0.160	7			

From the ANOVA table; at the 5% significance level, the model is not useful for predicting the response since;

F Value = 0.53 and p-value at 0.755 is greater than 0.05.

Therefore; at the $\alpha = 0.05$ level of significance, there does not exist enough evidence to conclude that at least one of the five predictors is useful for predicting ROI; therefore the model is not useful.

Table 4.11 gives the results of data fitted on the regression model, and it shows the coefficients returned by the model;

Table 4-11: Coefficients Table

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Intercept (Constant)	1.104	1.408		0.784	0.515
Governance (GOV)	-0.053	0.144	-0.325	-.366	0.750
Attention to the Significance of Drivers of Risk Management (ASDRM)	-0.476	0.584	-1.171	-0.814	0.501
Risk Appetite and Strategy (RAS)	-0.207	0.205	-.626	-1.009	0.419
Risk Factored into Planning and Supporting Policies (RFPSP)	0.230	0.372	0.874	0.617	0.600
Use of Scenario Analysis and Economic Capital Models SAECM	-0.376	0.323	1.286	1.164	0.364
a. Dependent Variable: ROI					

Using the regression model equation;

$$\mathbf{Y = \alpha + \beta 1\ X_1 + \beta 2\ X_2 + \beta 3\ X_3 + \beta 4\ X_4 + \beta 5\ X_5 + \varepsilon}$$

The regression model equation therefore becomes;

$$ROI = 1.104 + (-0.053)\ GOV + (-0.476)\ ASDRM + (-0.207)\ RAS + 0.230\ RFPSP + (-0.376)\ SAECM$$

Interpretation;

i) **Intercept**: using the model results for any given company, the value of ROI is equal to 1.104 when all the predictor means are equal to zero.

ii) **Governance**: results also indicate that, holding other factors constant, as the value of ROI increases by a unit, the mean of governance decrease by 0.053 0r 5.3%.

iii) **Attention to the Significance of Drivers of Risk Management:** a 47.6% decrease in the means of attention to the significance of drivers of risk management results in a unit increase in ROI.

iv) **Risk Appetite and Strategy**: A 20.7% decrease in the means of risk and strategy cause a unit increase in the ROI for any of the sampled companies.

v) **Risk Factored into Planning and Supporting Policies:** A 23% increase in the means of this function causes a unit increase in ROI.

vi) **Use of Scenario Analysis and Economic Capital Models:** A 37.6% decrease in the means of use of factors of scenario analysis and economic capital models is likely to cause a unit increase in the ROI for any given company.

The model however as indicated above in the ANOVA interpretation, is not useful in predicting variations ROI.

4.4.2 Correlation Analysis

When a Pearson Correlation analysis was run on the data to test the level of association between the ROI versus the means of the five variables, the results are as illustrated in the table below;

Table 4-12: Correlation Table

		ROI	Governance	Attention to the Significance of Drivers of Risk Management	Risk Appetite and Strategy	Risk Factored into Planning and Supporting Policies	Use of Scenario Analysis and Economic Capital Models
ROI	Pearson Correlation	1	-0.130	0.322	-0.032	0.407	0.411
	Sig. (2-tailed)		0.759	0.436	0.940	0.317	0.311
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

None of the means of the five variables showed any significant correlation with ROI at both 0.01 and 0.05 levels of significance.

4.5 Summary and Interpretation of the Findings

In summary, the results of the findings point to the following;

There are well defined reporting lines and governance structures as a far as risk management is involved in the non-financial firms sampled. Audit committee was the most common function of providing risk management updates which were done on quarterly basis by 80% of the firms while the CEO/MD was quoted as the person most reported to by the risk manager on risk issues. The results also indicated that on most occasions all departments (legal, compliance, IT and HR) were involved in risk management with summary dashboard being the preferred type of report for providing risks updates.

When it came to accountability of various aspects of the risks, the sampled risk personnel indicated that; ‘identifying risk’ and ‘analyzing and assessing risk’ was mostly done by the risk manager or similar post in over 35% and 44% of the cases respectively.

Monitoring and reporting risk was done by audit manager/management accountant in 44% of the interviewed cases while deciding on risk management action was done by the CEO/MD in 67% of the nine firms.

Legislation, compliance to regulatory bodies, expectations of shareholders, maintaining the competitive business environment, a critical event or near miss and board /top management had high means of response indicating the risk managers interviewed agreed to a significantly large extent that the above six were key drivers of risk management in the non-financial firms sampled. Of the seven drivers queried upon, only client demands scored a low mean meaning it was not a significant key driver in pushing firms to engage in ERM.

Risk appetite in these firms was high with 66% of the respondents indicating that in the last two years their firm's willingness to take risk had either remained unchanged, gone up a bit or increased significantly. A further 11% indicated that their keenness to take risks had not changed in the last two years. This illustrates a high propensity to take risk amongst the sampled non-financial firms. The reasons for taking these risks as indicated by over 90% of the respondents about avoiding negative consequences, achieving positive results and were handled through a formal control system that identifies managers and report risks.

In dealing with risks, majority of the firms had a current and historical approach of considering risk and formally documenting it in a systematic way and considering risk tactfully but not documenting or formally managing it respectively. For planned approach of risk management; risk was to be considered, documented and used to aid decision-making throughout the business.

On factoring risk in planning and supporting policies in the business, majority of the firms factored budgets, operational plans, project management, one-off events (e.g. mergers, and capital investment either at the start or throughout the business process of projects. Company policies on risk management elements were highly rated on the companies having an effective risk management policy, the company regularly reviewing

internal controls, formal procedures being in place for reporting risks and the company being effective at prioritizing risks,

Use of structured and identifiable business models for risk management was high with 80% of the companies using one model or the other. Scenario analysis model was the most used by 33% of the sample with the two thirds of the firms adopting it using it highly and the remaining third utilizing it lowly. Of the remaining 67%, 22% were not sure which model their firms used while the remaining 44% used various models in equal measure i.e. economic capital model, risk management manual set standard, three line defense model and COSO framework model. Over 50% of the 80% who used one model or the other used it for strategic decision making and capital planning more than in any other business process. Further 88% of the sampled business who had a business model for use in risk management expressed agreement in that there were benefits that accrued from using the model. The benefits cited included; better anticipation, better imagination, better appetite, improved resilience in doing business, improved stock management processes, certification & assessment monitoring through audit, risk based audit approaches for optimal resource allocation and avoiding negative impact on profitability.

A correlation analysis on performance (ROI) and the five indicators of risk management (governance, attention to the significance of drivers of risk management, risk appetite and strategy, risk factored into planning and supporting policies and use of scenario analysis and economic capital models) individually showed either weak positive or weak negative association. Governance and risk appetite and strategy returned very low negative values of Pearson's coefficient to signify a poor negative correlation with ROI while attention to the significance of drivers of risk management, risk factored into planning and supporting policies and use of scenario analysis and economic capital models had low positive Pearson coefficient values to signify a weak positive association with ROI.

The regression analysis did not yield significant coefficients for the five supposed predictors to warrant consideration for a regression equation that could be used to explain variations in performance of the sampled non-financial firms.

While in previous empirical studies, (Hoyt & Liebenberg ,2009, De Souza et al., 2012, Smithson et al., 2005, Gordon et al., 2009, Yusuwan et al., 2008, Waweru & Kisaka, 2011) indicate there is strong argument that there exist a relationship between enterprise risk management practices and performance of firms and that these arguments indicate that the implementation of risk management practices will have reasonable positive effect on a firm's performance, this study resonates that of Pagach and Warr (2010) in failing to find a significant relationship between ERM and financial performance in the sampled non-financial firms listed in the country's stock market.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses the findings presented in chapter four in line with the objectives of the study culminating into this discourse and further tries to draw a conclusion from the same results.

5.1 Summary

In summary, the following can be said about the finding resultant from this research project;

From the onset, the study sought to establish the extent of adoption of ERM practices in non-financial firms listed in the Nairobi Securities Exchange and further find if there subsisted a relationship between this and the firm's financial performance.

Previous empirical studies and authoritative literature were reviewed to support the hypothesis of the objectives and substantiate the need to look into the researchers questions. While not all previous literature supported the hypothetical claim of there being a link between adoption of ERM and the firms performance, the few that did not find enough evidence to support it still indicated it that they believed that there must be a benefit of ERM in regard to performance and this was probably the reason more and more firms are adopting ERM.

The study adopted cross-sectional design which is essentially observational in nature in that information is recorded as it is in a population, without manipulating variables, which means that while the research did not determine cause-and-effect relationships between different variables, it made inferences about possible relationships between ERM and financial performance.

While through empirical studies there was a strong argument for widespread adoption of ERM the study also found out that, even locally; the concept and elements of enterprise risk management are well understood amongst the sampled listed non-financial

companies. From the results, the survey further supports the proposition that there is significant adoption of risk management practices amongst these companies and that regarding the extent, there's in-depth integration of ERM in business processes throughout the business and in all key functions of these firms.

The survey having earlier found through previous empirical studies that there was an argument to link ERM and the firms performance later finds that this is not necessarily true for non-financial firms listed in the Nairobi Securities Exchange. The indicators of ERM when used to find existence of a relationship that could cause a variation on financial performance of these firms failed to find a significant one.

5.2 Conclusions

The researcher discovers use, adoption and integration of enterprise risk management in the sample non-financial firms. The adoption of ERM practices is found to be deeply ingrained in the company's policies with very well and clearly defined structures in existence. While the adoption levels are found to be different in terms of extent, approach, and the strategy, there is enough evidence to support the researcher's proposition and previous empirical studies findings that more and more firms are adopting and integrating ERMs in their business functions, processes and departments.

Regarding the existence of a relationship between the firms' financial performance and the various indicators of risk management practices, the study fails to find a significant connection between the firms' performance and the adoption of ERM. This does not agree with most of the previous works done regarding the same question but still agrees with some.

This finding and subsequent conclusion however does not necessarily suggest that its conclusive to assume the above but rather offers a chance to further interrogate other significant factors that might be in play in trying to link a firm's financial performance and the firm's adoption of ERM.

5.3 Recommendation for Policy and Practice

This study established the adoption of ERM practices is found to be deeply ingrained in the company's policies with very well and clearly defined structures in existence. It confirms the significance of attention being given to risk by non-financial firms. The main goal of public companies is to maximize shareholders wealth. Literature confirms that companies that perceive existence of risk as an opportunity for growth perform better. The respective regulatory authorities need to consider enactment of some higher levels of mandatory compliance that recognizes the aspects of risk taken by company. In Kenya, significant attention has been given to financial firms. This should be extended to non-financial firms.

An effective risk management framework should be reasonably comprehensive and cover the scope of risk to be managed. It should include the processes and procedures to manage risk and the various roles and responsibilities of individuals involved in risk management. Structured management of risk delivers significant value to the firm. The responsibility for coordination of risk management should be assigned to a substantive officer. So the appointment of Chief Risk Officer or equivalent and evidenced from the research is welcome. Firms should consider adopting comprehensive enterprise risk framework developed by COSO (2004).

Since risk evolves from time to time, the management should institute appropriate steps to regular and continuous review of existing company risks. The study deduced that more and more firms are adopting and integrating ERMs in their business functions, processes and departments. In order to compete effectively therefore, firms need to benchmark and adopt current risk management practices.

5.4 Limitations of the Study

The following limitations arose in this study: First, there was a challenge getting the personnel responsible for risk management in these companies to agree to participate in completing questionnaire citing confidentiality of the information. That reluctance delayed the completion of data collection.

Secondly, only 9 (30%) of the targeted population responded to the questionnaire. Even though the responses received were significantly distributed amongst the sectors as per grouping of NSE, there was no representation from one sector, hence a probability of sector bias in the research findings.

Thirdly, the period by which the respondents were expected return of the questionnaires could have been too short which led to limitation in terms of response rate from the targeted respondents thus a contribution to the low response rate.

Finally, the small sample size of only 9 respondents also limited the extent of our statistical analysis.

5.5 Suggestions for further studies

This paper examines the relationship between enterprise risk management practices and financial performance of listed companies in NSE. Because of the various limitations cited above leading to small sample, the researcher suggests further research to cover a bigger sample.

Further research into adoption of ERM in other types of profit making organizations and their effect on financial performance is important to fill knowledge gaps and either encourage or discourage investment in ERM.

The study also recommends further research to determine whether there exist significant correlation between business sector and level of implementation or adoption of ERM in NSE.

In order to determine the long-term impact of implementation of ERM on financial performance, further studies should be done covering several financial periods.

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APPENDICES

APPENDIX I: LIST OF LISTED NON- FINANCIAL FIRMS

1. Rea Vipingo Ltd.
2. Sasini Tea & Coffee Ltd.
3. Kakuzi Ltd.
4. Access Kenya Group
5. Marshalls E.A. Ltd.
6. Car & General Ltd.
7. Kenya Airways Ltd.
8. CMC Holdings Ltd.
9. Nation Media Group Ltd.
10. Trans-Century Ltd
11. ScanGroup Ltd.
12. Standard Group Ltd.
13. Safaricom Ltd.
14. Uchumi Supermarkets Ltd
15. Athi River Mining Ltd.
16. BOC Kenya Ltd.
17. British American Tobacco Kenya Ltd.
18. Carbacid Investments Ltd.
19. E.A. Cables Ltd.
20. E.A. Breweries Ltd.
21. Sameer Africa Ltd.
22. Kenya Oil Ltd.
23. Mumias Sugar Company Ltd.
24. Unga Group Ltd.
25. Bamburi Cement Ltd.
26. E.A Portland Cement Co. Ltd.
27. Kenya Power & Lighting Co. Ltd.
28. Total Kenya Ltd.
29. Eveready East Africa Ltd.
30. Kengen Ltd

Source: NSE

APPENDIX II: LETTER OF INTRODUCTION

John Otieno Opiyo
D61/9097/2006
University of Nairobi
School of Business

TO: The Respondent

Dear Sir/ Madam,

RE: RESEARCH PROJECT

I am a master's student at the University of Nairobi pursuing a Master of Business Administration (MBA) degree in Finance. I am required to submit as part of my coursework assessment a research project report on a management problem affecting firms in Kenya. For that purpose, I am currently conducting a study of relationship between enterprise risk management practices and the performance improvement of non-financial firms listed in Nairobi Securities Exchange.

I humbly request for your valuable time in assisting to complete the attached questionnaire. The information you provide in this study will be treated with utmost confidentiality and will not be used for any other purpose other than for the intended academic use. I also hereby undertake not to make direct references to your name in any presentation or report related to this study.

I would appreciate any additional information inform of any suggestions and / or comments which you deem necessary to make my research findings more comprehensive, conclusive, relevant and representative of the area of study. A copy of the research finding will be availed to you upon request.

Thanking you in advance, I look forward to your due support.

Yours Faithfully,

John O. Opiyo

APPENDIX III: QUESTIONNAIRE

The questionnaire seeks to collect information on the enterprise risk management practices employed by listed non-financial firms in Nairobi Securities Exchange and their relationship to performance improvement.

PART A: GENERAL INFORMATION

1. Name of Company……
2. Current job title in the Company ……

PART B: RISK MANAGEMENT PRACTICES

Instruction: Where applicable tick (√) the appropriate answer

SECTION 1: GENERAL INFORMATION		
1.1	Years worked in current role	<2years [ ] 2-5years [ ] 5-10years [ ] >15years [ ]
1.2	What proportion of your work time is spent dealing with risk management	None [ ] 1-19% [ ] 20-39% [ ] 40-59% [ ] 60-79% [ ] 80-100% [ ]
1.3	To what extent do you agree/ disagree that your company's risks management functions is integrated in all activities	Strongly disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly Agree [ ]
SECTION 2: RISK MANAGEMENT PRACTICES		
	Governance structure and reporting lines	
2.1	To which committee are risk management updates provided?	Audit committee[ ] Board of directors[ ] Risk Committee[ ] Finance Committee [ ] Other [ ]

<table>
<tr><td>2.2</td><td>How often are risk management updates provided to the Audit Committee/BoD?</td><td>Annually [ ] Semi-annually [ ]
Quarterly [ ] Ad hoc [ ]</td></tr>
<tr><td>2.3</td><td>What level of report detail is provided?</td><td>Additional detail provided [ ]
Summary Dashboard [ ]
Detailed Risk Profile [ ]</td></tr>
<tr><td>2.4</td><td>Who chairs Risk Management committee?</td><td>CEO [ ] Chief Risk Officer [ ]
Chief Finance Office [ ] Internal Audit [ ]
Other [ ] Do not have committee [ ]</td></tr>
<tr><td>2.5</td><td>Please tick if these department are represented in the Risk Management Committee</td><td>Legal [ ] Compliance [ ] IT [ ] HR [ ]
Other
_____</td></tr>
<tr><td>2.6</td><td>Who does the person in charge of Risk Management report to?</td><td>CEO [ ] CFO [ ]
Other _____</td></tr>
<tr><td>2.7</td><td>Who in your company is primarily accountable for
Key:
Identifying risks [IR]
Analyzing & Assessing Risks [AR]
Deciding on Risk management Action [DR]</td><td>
<table>
<tr><th></th><th>IR</th><th>AR</th><th>DR</th><th>RR</th></tr>
<tr><td>i. CEO/ managing director</td><td></td><td></td><td></td><td></td></tr>
<tr><td>ii. The board/ audit committee</td><td></td><td></td><td></td><td></td></tr>
<tr><td>iii. Director of finance</td><td></td><td></td><td></td><td></td></tr>
<tr><td>iv. Internal audit</td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

	Reporting & monitoring risk (RR)	v. Risk manager or similar post					
		vi. Management accountant					
		vii. Line managers					
		Other (Please specify below)					
		…… …… …… ……					
Attention to the Significance of Drivers of Risk Management							
2.8	To what extent do you agree/disagree that the following are key drivers of risk management in your company: **Key:** SD- Strongly disagree D- Disagree N- Neutral A- Agree SA- Strongly Agree		**SD**	**D**	**N**	**A**	**SA**
		i. Legislation					
		ii. Regulatory bodies					
		iii. Expectations of shareholders					
		iv. The competitive business environment					
		v. Customers/ clients who demand it					
		vi. A critical event or near miss					
		vii. Board / top management					
	viii. Are there other drivers of risk management in your	Yes [ ] No [ ]					

<table>
<tr><td></td><td>organization</td><td>Please describe
……
……
……..</td></tr>
<tr><td></td><td colspan="2">Risk Appetite and Strategy</td></tr>
<tr><td>2.9</td><td>How would you describe your company’s propensity to take risks</td><td>Refuse to take risks [ ] Prefer not to take risks [ ]
Neutral [ ] Willing to take risk [ ]
Keen to take risks [ ]</td></tr>
<tr><td>2.10</td><td>Over the last two years, has your company’s propensity to take risks</td><td>Reduced significantly [ ] Reduced a little [ ]
Not changed [ ] Increased a little [ ]
Increased significantly [ ]</td></tr>
<tr><td>2.11</td><td>To what extent do you agree/ disagree that risk management in your company is:
Key: SD- Strongly disagree
D- Disagree N- Neutral
A- Agree SA- Strongly Agree</td><td>
<table>
<tr><th></th><th>SD</th><th>D</th><th>N</th><th>A</th><th>SA</th></tr>
<tr><td>i. About avoiding negative consequences</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ii. about achieving positive consequences</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>iii. More a matter of personal judgment</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>iv. Handled through a formal control system that identifies</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

		managers and report risks					
2.12	Of the four approaches set out below, which ONE statement best describes your company i). history ii) current and iii) Planned approach to risk management **Key:** Historical approach 2 years ago (HA) Current Approach (CA) Planned approach next 2 years(PA)		**HA**		**CA**		**PA**
		i. Risk is not considered					
		ii. Risk is considered tactly, but not documented or formally managed					
		iii. Risk is considered and formally documented in a systematic way					
		iv. Risk is considered, documented and used to aid decision-making throughout the business					

	Risk Factored into Planning and Supporting Policies			
2.13	When formulating the following plans **Key:2** **For Column A:** 1. - Not		**A** **Where is risk**	**B** **To what extent are**

	considered 2. - At the start 3. - Throughout 4. - Subsequent Review **For Column B:** Where (1) stands for Not at all and (5) Fully		**considered in the process?**				**risks identified and factored in:**				
			1	2	3	4	1	2	3	4	5
		i. Strategic plans									
		ii. Budgets									
		iii. Operational plans									
		iv. Project management									
		v. One-off events (e.g. mergers)									
		vi. Capital investment									

2.14	In a scale of 1 – 5 please rate the following statements by ticking appropriately:		**1**	**2**	**3**	**4**	**5**
		i) The company has an effective risk management policy					
		ii) Risks are well understood throughout the company					
		iii. Controlling risk is highly centralized within the company					

		iv. The company regularly reviews internal controls					
		v) Risk management is embedded in the company's culture					
		vi. Formal procedures are in place for reporting risks					
		vii. The level of internal control is appropriate for the risks faced					
		viii. The company is effective at prioritizing risks					
		ix. Changes to risks are assessed and reported on an ongoing basis					
	Use of Scenario Analysis and Economic Capital Models						
2.15	Which business model adopted/implemented by your company for management of risk?	Scenario Analysis Model [ ] Economic Capital Model [ ] Other _____					
2.16	What is the level of adoption of	Very low [ ] Low [ ] Partial [ ] High					

<table>
<tr><td></td><td>the above models in your company?</td><td>[ ]

Very high [ ]</td></tr>
<tr><td>2.17</td><td>To what extent do you agree/ disagree that business model sighted above is used for :

Key: SD- Strongly disagree

D- Disagree N- Neutral

A- Agree SA- Strongly Agree</td><td>
<table>
<tr><th></th><th>SD</th><th>D</th><th>N</th><th>A</th><th>SA</th></tr>
<tr><td>i. Strategic decision making</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ii. Capital allocation</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>iii. Determining risk appetite/risk</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>iv. Capital planning</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>v. Not used</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
vi) Others – (Please specify)
_____
_
</td></tr>
<tr><td>2.18</td><td>To what extent do you agree/ disagree that Risk management practices employed in your company have delivered benefits that exceed the cost of those practices</td><td>Strongly disagree [ ] Disagree [ ] Neutral [ ]

Agree [ ] Strongly Agree [ ]</td></tr>
</table>

2.19 Are there any specific improvement or benefits that have been realized as a result of employing risk management? If yes, please highlight:

Yes [ ] No [ ]

_____

_____

_____

Thank you for your cooperation