# THE EFFECT OF ENTERPRISE RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF PENSION FUND MANAGEMENT FIRMS IN KENYA

BY

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# DECLARATION

I declare that this research project report is my original work and has not been submitted for examination in any other University.

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**D63/75692/2012**

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# DEDICATION

To my beloved spouse Timothy and our children Linda, Sheila, and Grace.

# TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF ABBREVIATIONS

CAPM        Capital Asset Pricing Model

COSO        Committee of Sponsoring Organizations of the Treadway Commission

CRO        Chief Risk Officer

CSPS        Civil Servants Pension Scheme

DEA        Data Envelopment Analysis

EBRI        Employee Benefits Research Institute

ERM        Enterprise Risk Management

HHI        Herfindahl-Hirschman Index

IRA        Insurance Regulatory Authority

MM        Modigliani-Miller

MPT        Modern Portfolio Theory

NSSF        National Social Security Fund

ORS        Occupational Retirement Schemes

R&D        Research and Development

RBA        Retirement Benefits Authority

RM        Risk Management

ROA        Return on Assets

ROE        Return on Equity

S&P        Standard & Poor's

USA        United States of America

# ABSTRACT

There are currently over 1,200 pension schemes in Kenya managed by 19 pension fund management firms registered with Retirement Benefits Authority. These firms usually receive pension fund contributions from their corporate and individual clients and invest these funds on their behalf as pooled or segregated funds as agreed. The firms declare different interest rates annually from their investment returns and this attracts more pension schemes to the funds that can offer greater returns. Further, the RBA Act specifies how investment risk can be managed by placing caps on the maximum that can be invested in various portfolios. Therefore, how well a pension fund management firm is able to manage the risks may be an important ingredient to better financial performance. This is the challenge to the pension fund management firms in Kenya. The study sought to determine the level of implementation of enterprise risk management by pension fund management firms in Kenya and to assess the effect of enterprise risk management on the firm's financial performance. This study adopted a descriptive study design. The population for this study was the 19 registered pension fund management firms in Kenya by July 2014 from which 11 agreed to take part in the survey giving a response rate of 58%. Both primary and secondary data were used. Primary data was collected using questionnaires structured based on the objectives of the study. This specifically collected data on the practice and implementation of enterprise risk management by fund managers. The research instrument was administered through mail and drop and pick later methods. The respondents were the risk and compliance managers in each of the selected f. Secondary data was collected for purposes of identifying performance indices and other control variable such as size of the firms, growth, and leverage from the financial statements of each of these pension fund management firms. Data was analysed using both descriptive and linear regression analysis. The regression results revealed that the model accounted for 99.3% of the variance in financial performance as shown by the $R^2$ value. The $F$-statistic of 38.3 was significant at 5% level, suggesting that the model was fit to explain the relationship between enterprise risk management and financial performance. The coefficient results showed that event identification, risk assessment, objective setting, and information communication had negative effects on the financial performance of fund management firms while risk response, internal environment, and control activities had positive effects on the financial performance of pension fund management firms in Kenya. However, the effects of even identification and risk response on financial performance were insignificant at 5% level. Thus, the study concludes that enterprise risk management practices influence the financial performance of pension fund management firms in Kenya to a very large extent. The study recommends that the pension fund management firms in Kenya should employ robust enterprise risk management practices, improve on internal environment assessment procedures and control activities as these are likely to influence their financial performance in one way or another. Retirement Benefits Authority should regularly evaluate ERM practices of pension fund management firms and reward those with excellent practices.

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**CHAPTER ONE**

**INTRODUCTION**

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## 1.1    Background of the Study

Risk is an intrinsic part of doing business in banking and financial services, as firms must be willing to take on a fair amount of risk in order to provide the most value to shareholders. To successfully do so, one must strike an optimal balance between growth and return objectives and the associated risks and apply resources efficiently and effectively in pursuit of those goals (Sobel and Reding, 2004). That is where risk management comes in.

Risk management has emerged as a new paradigm for managing the portfolio of risks that face organizations, and policy makers continue to focus on mechanisms to improve corporate governance and risk management. Despite these developments, there is little research on factors associated with the implementation of Risk Management. Research is needed to provide insights as to why some organizations are responding to changing risk profiles by embracing Risk Management and others are not (Beasley, et al., 2005). Enterprise Risk Management (ERM) encompasses aligning risk appetite and strategy, enhancing risk response decisions, reducing operational surprises and losses, identifying and managing multiple and cross-enterprise risks, seizing opportunities, and improving deployment of capital (Beasley, et al., 2005).

Risk management strategies are the actions that firms take in order to respond to the identified risks. Liebenberg and Hoyt (2003) stated that enterprise risk management has captured the attention of risk management professionals and academics worldwide. Unlike the traditional silo-based approach to corporate risk management, ERM enables firms to benefit from an integrated approach to managing risk that shifts

the focus of the risk management function from primarily defensive to increasingly offensive and strategic (Liebenberg and Hoyt, 2003).

## 1.1.1  Enterprise Risk Management

Enterprise Risk Management is defined as the process, effected by an entity's board of directors, management, and other personnel, applied in 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). There are a number of risks that financial firms deal with. These are credit risks, market risks, liquidity risks and operational risks (Nocco and Stulz, 2006). Credit risk is the potential that a borrower/counterparty fails to meet the obligations on agreed terms. There is always scope for the borrower to default from his commitments for one or the other reason resulting in crystallization of credit risk to the bank. These losses could take the form of outright default or alternatively, losses from changes in portfolio value arising from actual or perceived deterioration in credit quality that is short of default (Nocco and Stulz, 2006). The management of credit risk includes: measurement through credit rating/ scoring, quantification through estimate of expected loan losses, pricing on a scientific basis and controlling through effective loan review mechanism and portfolio management (Nocco and Stulz, 2006).

Liquidity risk is the potential for loss to an institution arising from either its inability to meet its obligations or to fund increases in assets as they fall due without incurring unacceptable cost or losses. Theoretically, deposits or contributions generally have a much shorter contractual maturity than loans and liquidity management needs to provide a cushion to cover anticipated deposit withdrawals. Liquidity is the ability to efficiently accommodate deposit and also reduction in liabilities and to fund the loan

growth and possible funding of the off-balance sheet claims. The cash flows are placed in different time budgets based on future likely behaviour of assets, liabilities and off-balance sheet items (Al-Tamini and Al-Mazrooei, 2007). Tolerance levels on mismatches should be fixed for various maturities depending upon the asset liability profile, deposit mix, nature of cash flow etc. A firm should track the impact of pre-payment of loans & premature closure of deposits so as to realistically estimate the cash flow profile (Nocco and Stulz, 2006).

Market risk is the risk that the value of on and off-balance sheet positions of a financial institution will be adversely affected by movements in market rates or prices such as interest rates, foreign exchange rates, equity prices, credit spreads and/or commodity prices resulting in a loss to earnings and capital (Nocco and Stulz, 2006). Interest Rate Risk is the potential negative impact on the Net Interest Income and it refers to the vulnerability of an institution's financial condition to the movement in interest rates. Changes in interest rate affect earnings, value of assets, liability off-balance sheet items and cash flow (Sensarma and Jayadev, 2009). Hence, the objective of interest rate risk management is to maintain earnings, improve the capability, ability to absorb potential loss and to ensure the adequacy of the compensation received for the risk taken and effect risk return trade-off. Management of interest rate risk aims at capturing the risks arising from the maturity and re-pricing mismatches and is measured both from the earnings and economic value perspective (Sensarma and Jayadev, 2009).

Foreign exchange risk is the risk that a firm may suffer loss as a result of adverse exchange rate movement during a period in which it has an open position, either spot or forward or both in same foreign currency. Even in case where spot or forward positions in individual currencies are balanced the maturity pattern of forward

transactions may produce mismatches (Al-Tamimi, 2002). There is also a settlement risk arising out of default of the counter party and out of time lag in settlement of one currency in one centre and the settlement of another currency in another time zone. Pension fund management firms are also exposed to interest rate risk, which arises from the maturity mismatch of foreign currency position (Al-Tamimi, 2002).

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and system or from external events (Nocco and Stulz, 2006). According to Dorfman (2007), once risks have been identified and assessed, all techniques to manage the risk fall into one or more of these four major categories: risk avoidance, risk abatement, risk allocation, and risk retention. Risk avoidance involves not performing an activity that could carry risk. (Eliminate, withdraw from or not become involved in the activity). Avoidance may seem the answer to all risks but avoiding risks also means losing out on the potential gain that accepting the risk may have allowed. Risk abatement is the process of combining loss prevention or loss control to minimize a risk. It is also called risk reduction or risk optimization. Risk allocation is the sharing of the risk burden with other parties for example asset allocation to various asset classes i.e. equity, bonds, real estate, private equity, hedge funds, etc. Risk retention is a good strategy but it is impossible to transfer the risk. Defined benefit pension schemes are a good example of risk retention.

There are however a number of risks that are specific to retirement benefits scheme, which the pension fund management firms are supposed to consider in their ERM activities. These are sponsor insolvency risk (risk of the employer becoming insolvent or being unable to meet obligations to the scheme), counter-party default risk (risk of loss from the failures of a counterparty e.g. Service provider to meet its obligations), market risk (risk of losses due to movements in asset prices or interest rates),

operational risk (risk of losses resulting from inadequate internal processes, people and systems), liquidity risk (risk that the scheme will not be able to meet its payment obligations as they fall due without excessive cost), legal and regulatory risk (the likelihood of adverse consequences arising from the failure to comply with all relevant laws and regulations), strategic risk (risks to the continued viability of the scheme as a result of change in the operating environment), contagion and related party risk (risk to a scheme's operations as a result of close association with another entity), and actuarial risk (risk that assumptions made in predicting liabilities, for example life expectancy, prove to be incorrect resulting in higher than planned for liabilities) (Mutuku, 2011).

In general, companies hardly publish any comprehensive information about their existing risk management system or plans. Hence, the empirical literature is faced with the challenge of gathering information about whether or not an ERM system has been adopted and to what degree. Information about the current corporate risk management system can either be collected by using surveys or by scanning public sources. Surveys are typically used to study the level or stage of the ERM implementation. Beasley, Clune, and Hermanson (2005), for instance, conduct a survey and introduce a classification of five stages to analyse the determinants of ERM. Further studies make use of external databases such as Standard & Poor's (S&P) ERM rating (McShane, Nair, and Rustambekov, 2011) and the Osiris database (Razali, Yazid, and Tahir, 2011; Tahir and Razali, 2011) or develop their own index for the firm's ERM (Gordon, Loeb, and Tseng, 2009).

An alternative to surveys are public sources, where, e.g., business libraries or annual reports are scanned for key words, their acronyms or individual words within the same paragraph that indicate an implemented ERM system (ERM key words). Many

studies thereby revert to the appointment of a Chief Risk Officer (CRO) as a signal of an ERM system (CRO key words) (Pagach and Warr, 2011; Golshan and Rasid, 2012). This assumption may lead to biased results in cases where the existence of a CRO does not correspond to an implemented ERM system or in cases where the title or person changes (Grace et al., 2013). Furthermore, it allows for no differentiation with respect to the level of the ERM implementation. However, there are several strong arguments for using a CRO appointment as a signal. For instance, an ERM implementation process should typically be overseen and led by a senior executive due to the considerable impact of ERM and its complexity (Pagach and Warr, 2011). In addition, Beasley, Clune, and Hermanson (2005) empirically show that there is a significant positive relationship between the presence of a CRO and the ERM implementation stage, thus providing support for the proxy used in the empirical studies. More recently, indices have been introduced as methods of measuring how firms manage risks. For instance, Pooser (2012) uses a modified HHI to measure diversification as a method of managing operational risk, portfolio variance to measure financial risk, re-insurance use to measure hazard risk, and aspiration to measure strategic risk.

## 1.1.2 Financial Performance

Performance encompasses three specific areas of firm outcomes namely financial performance (profits, return on assets, return on investment); market performance (sales, market share); and shareholder return (total shareholder return, economic value added) (Divenney et al., 2008). Performance is the ultimate dependent variable of interest for those concerned with just about any area of management: accounting is concerned with measuring performance; marketing with customer satisfaction and market share; operations management with productivity and cost of operations,

organizational behaviour with employee satisfaction and structural efficiency; and finance with capital market response to all of the above.

Performance is so common in organizational research that it is rarely explicitly considered or justified; instead it is treated as a seemingly unquestionable assumption (Devinney et al., 2005). The multidimensionality of performance covers the many ways in which organizations can be successful; the domain of which is arguably as large as the many ways in which organizations operate and interact with their environment.

Meulbroek (2002) and Hoyt et al, (2008) study the value of ERM in the US insurance Industry by measuring the effect of ERM implementation on the value of the firm as measured by Tobin Q (ratio of company's market value to its replacement cost of assets). Tobin suggested that the combined market value of all the companies on the stock market should be equal to their replacement costs, Tobin (1969) and Hayashi (1982). The Q ratio is theoretically defined as the market value of a company's assets divided by the replacement value of the company's assets. Then, when the assets are priced properly in the capital market, the Q ratio should be equal to one. In their survey of evidence of whether risk management adds value to companies, Smithson et al (2005) found that 9 studies on risk management and the value of the firm also used Tobin's Q to proxy firm value.

This study uses the natural logarithm of Tobin's Q as a proxy for firm value because it dominates other performance measures. Unlike other measures, Tobin's Q does not require risk adjustment or normalization. Lindenberg and Ross (1981) also find Tobin's Q to reflect market expectations and as being relatively free from managerial manipulation. This study defines Tobin's Q as: − (market value of equity + book

value of liabilities) / (book value of assets) (Cummins, Lewis & Wei 2006; Chung and Pruitt, 1994).

Another measure of performance is Return on Assets (ROA) which is an indicator of how profitable a company is relative to its total assets. It gives an idea as to how efficient management is at using its assets to generate earnings. Related to this measure is Return on Equity (ROE) which is the amount of net income as a percentage of shareholders equity. It measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested (Pagach and Warr, 2010).

In a number of studies that assess the (financial) performance of ERM, the impact is measured by excess stock market returns (Gordon, Loeb, and Tseng, 2009), cost and revenue efficiency including ROA (Grace et al., 2013) measured as net profit divided by total assets or several financial variables, such as financial leverage (measured as total debt divided by total equity), return on equity (ROE) measured as net profit divided by total equity, as well as stock price and cash flow volatility (Pagach and Warr, 2010).

## 1.1.3  Effects of Enterprise Risk Management on Firm Performance

Corporate scandals and diminished confidence in financial reporting among investors and creditors have renewed Corporate Governance as a top-of-mind priority for Boards of Directors, Management, Auditors, and Stakeholders. At the same time, the number of companies trying to manage risk across the entire enterprise is rising sharply. Thus, there is need for companies to effectively integrate Enterprise Risk Management with Corporate Governance (Sobel and Reding, 2004)

These capabilities inherent in enterprise risk management help management achieve the entity's performance and profitability targets and prevent loss of resources. Enterprise Risk Management helps ensure effective reporting and compliance with laws and regulations, and helps avoid damage to the entity's reputation and associated consequences. It delivers a current, credible understanding of the risks unique to an organization across a broad spectrum that includes all types of risk (credit risk, operational risk, market risk, liquidity risk and trading risk), lines of business and other key dimensions (SAS, 2014). In sum, Enterprise Risk Management helps an entity get to where it wants to go and avoid pitfalls and surprises along the way (Nocco and Stulz, 2006).

For a long time it was believed that corporate risk management is irrelevant to the value of the firm and the arguments in favour of the irrelevance were based on the Capital Asset Pricing Model (Sharpe, 1964; Lintner, 1965; Mossin, 1966) and the Modigliani-Miller theorem (Modigliani and Miller, 1958). One of the most important implications of CAPM is that diversified shareholders should care only about the systematic (market risk) component of total risk. On the surface it would appear that this implies that managers of firms who are acting in the best interests of shareholders should be indifferent about hedging of risks that are unsystematic (company or industry specific risks). Miller and Modigliani's proposition supports CAPM findings.

However, proponents of the value adding effect of ERM define ERM as a body of knowledge - concepts, methods, and techniques - that enables a firm to understand, measure, and manage its overall risk so as to maximize the company's value to shareholders and other stakeholders (COSO, 2004). It has been argued that, while traditional risk management is largely concerned with protecting the firm against adverse financial effects of risk, Enterprise Risk management makes risk management

part of the company's overall strategy and enables companies to make better risk adjusted decisions that maximizes shareholder value (Lam and Kawamoto, 1997,

## 1.1.4 Pension Fund Management Firms in Kenya

The retirement benefits industry in Kenya is composed of four broad schemes namely the Civil Service Pension Scheme (CSPS), the National Social Security Fund (NSSF), Occupational Retirement Schemes (ORS) and Individual Retirement Schemes (IRS) (Odundo, 2008). The CSPS and the NSSF are born out of the Acts of Parliament while the ORS and IRS are born by Trust Deeds. The members of CSPS are all civil servants and teachers, those of NSSF are formal sector workers in companies. The members of ORS are formal sector workers in companies that have schemes while the members of IRS are individuals in formal and informal sectors who join voluntarily. The CSPS is non-funded while the other schemes are funded. Further, apart from the CSPS, the rest of the schemes are subject to regulations by the Retirement Benefits Authority (RBA).

By 2008, the retirement benefits industry in Kenya had US$ 4bn in total assets with occupational retirement benefit schemes holding 69% of the assets and NSSF holding 30% of industry's assets. For the financial year ending June 2012, the industry had total assets of Kshs 432.8 billion held in various asset classes (RBA, 2012). The report shows that 34% was held in government securities, 26% in quoted equities, 18% in immovable property and 9% in guaranteed funds.

These schemes are managed by pension fund management firms registered with RBA. The RBA Act stipulates that every retirement benefit scheme appoint a fund manager. The role of fund managers' therefore clearly outlined and anchored by RBA regulations. Currently, there are over 1,200 pension schemes in Kenya and 19 pension

fund management firms (see appendix I) (RBA, 2014). The RBA provides fund managers with investment guidelines (see appendix II) in which the asset classes and the maximum percentage investment in each class is provided (Mutuku, 2007). The guidelines also offer allowance for pension fund management firms to make temporary violations of the maximum caps. These rules therefore guide risk profiles of various asset classes as invested in by pension fund management firms.

The RBA supervises the investments by pension fund management firms through a specific division whose role is purely to supervise retirement benefit schemes. The supervision of schemes has shifted to risk based supervision (RBS). The RBA has shifted from a compliance based to a more pro-active risk based approach. The approach concentrates on identifying pension risks using defined criteria, monitoring risks and dealing with any identified risk early enough before they become unmanageable and too costly to resolve. The RBS focuses on the aspects of scheme which pose high risk to the security and delivery of benefits (Odundo, 2008).

## 1.2    Research Problem

Merton (1995) argued that financial systems should be analysed in terms of a functional perspective rather than an institutional perspective. The author suggested that the central function of a financial institution is its ability to distribute risk across different participants. According to Saunders and Cornett (2006), modern financial institutions are in the risk management business as they undertake the functions of bearing and managing risks on behalf of their customers through the pooling of risks and the sale of their services as risk specialists.

A lot of people rely on their pension funds as a source of income after retirement. Retirement income accounts for 68% of the total income of retirees in Kenya

(Kakwani, Sun and Hinz 2006), 45% in Australia, 44% in Austria and 80% in France, while in South Africa 75% of the elderly population rely on pension income (Alliance Global Investors, 2007). In the United States of America 82% of retirees depend on pension income (EBRI, 2007). There are currently over 1200 pension schemes in Kenya managed by 19 pension fund management firms. These firms usually declare different interest rates annually from their investment returns and this attracts more pension schemes to the funds that can offer greater returns. Further, the RBA Act specifies how risk can be managed by placing caps on the maximum that can be invested in various portfolios. Therefore, how well a pension fund management firm is able to manage the risks may be the important ingredient to better financial performance of the fund manager. This is the challenge to the pension fund management firms in Kenya.

A search on studies on enterprise risk management in Kenya yielded studies done on credit risk management (Njiru, 2003; Kioko, 2008; Ngare, 2008; Simiyu, 2008; and Wambugu, 2008), information systems risk management (Weru, 2008) and foreign exchange risk management (Kipchirchir, 2008). The pension fund management firms have not been studied as far as enterprise risk management is concerned. There is therefore a gap as far as studying the influence of enterprise risk management practices on financial performance of pension fund management firms is concerned. The research question was therefore: what is the effect of enterprise risk management on financial performance of pension fund management firms in Kenya?

## 1.3    Research Objectives

The main objective was to examine the effect of enterprise risk management on financial performance of pension fund management firms in Kenya.

## 1.3.1  Specific Objectives

The specific objectives of this study were:

i.  To determine the level of implementation of enterprise risk management by pension fund management firms in Kenya.

ii.  To assess the effect of enterprise risk management on the financial performance of pension fund management firms in Kenya.

## 1.4  Value of the Study

This study will be important to various groups of people. First, the study enriches the theory of enterprise risk management and how such practices are important in enhancing the performance of organisations.

Secondly, this study is important to pension fund management firms as it shows the value of having and implementing enterprise-wide risk management measures in their organisations for purposes of better firm performance.

The study will provide pension schemes sponsors with an insight of extent of ERM implementation among the registered pension fund management firms and help in making informed choices of service providers.

The policy makers can obtain knowledge of the pension fund management sector dynamics as regards enterprise risk management in Kenya. They can therefore obtain guidance from this study in designing appropriate enterprise risk management requirements and policies that may regulate the sector.

The study can provide information to potential and current scholars on enterprise risk management among pension fund management firms or any other firm in Kenya. They can use the study as a guide and for purposes of furthering future research.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1    Introduction

This chapter presents the literature review. The chapter first discusses the theoretical literature where the theories on ERM are discussed. The next section focuses on a review of enterprise risk management practices followed by an empirical review of literature. The last section summarises the chapter and presents the gap in literature.

## 2.2    Theoretical Literature

The theories reviewed here are borrowed from the finance literature related to enterprise risk management. These theories are Modigliani and Miller, Modern Portfolio Theory and Capital Assets Pricing Model.

### 2.2.1  Modigliani-Miller Proposition

There is a broad literature on risk management decisions for firms in general, beginning with Modigliani and Miller (1958): Their famous theorem states that in a world of perfect and complete markets,  financial decisions are irrelevant as they do not alter the value of the shareholder's stake in the firm. The only way to increase shareholder's wealth is to increase value of the firm's assets. Neither the capital structure nor the risk management decisions have an impact on shareholder's wealth.

Some important deviations from the perfect capital markets in the Modigliani and Miller setting have been identified, giving motivations for firms to care about risk management, such as taxes, bankruptcy costs, agency costs and others (Gossy, 2008). When these reasons for risk management are incorporated into the firm's objective function, one finds the following basic result: When all risks are perfectly tradeable

the firm maximizes shareholder value by hedging completely (Gossy, 2008; Mozumdar, 2001).

Modigliani and Miller (1958) state that under the restrictive neoclassical assumptions, corporate financial decisions do not influence the value of the firm. These decisions simply redistribute the income stream among different investors. As long as investors can act in the capital markets at the same terms and conditions as the firm itself, the only way to impact firm value is by influencing the expected level of firm cash flows (Gossy, 2008).

Since ERM is part of an overall financing policy, the MM findings directly have important implications for the ERM strategy of the firm. Under the MM proposition, any investor's wealth position is unaffected by corporate risk management activities on the part of the firm (Gossy, 2008). Following this argument, a MM disciple would argue against doing any risk management at all since it is a purely financial transaction (Gossy, 2008). The immense importance of the MM proposition for corporate risk management, however, becomes apparent when it is used a starting point for identifying conditions under which corporate risk management makes economic sense. Such a positive theory of corporate risk management can be derived by relaxing the neoclassical assumptions of the MM proposition.

### 2.2.2  Modern Portfolio Theory

Modern Portfolio Theory (MPT) is a theory of investment which tries to maximize return and minimize risk by carefully choosing different assets (Markowitz, 1952). MPT is a mathematical formulation of the concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual asset. This is possible, in theory, because different types of assets

often change in value in opposite ways. For example, when the prices in the stock market fall, the prices in the bond market often increase, and vice versa. A collection of both types of assets can therefore have lower overall risk than either individually (Mandelbrot, and Hudson, 2004). The Primary principle upon which Modern Portfolio Theory is based (MPT) is the random walk hypothesis which states that the movement of asset prices follows an Unpredictable path: the path as a trend that is based on the long-run nominal growth of corporate earnings per share, but fluctuations around the trend are random (Chandra, Siddharth and Shadel, 2007).

For ERM therefore, the MPT has important implications in terms of risk minimization by investing in portfolios that have lower overall risks. The pension fund management firms invest on behalf of the pension schemes members and therefore must strive to invest in portfolios that maximise returns and minimise risks.

## 2.2.3  Capital Asset Pricing Model

The concept of risk is closely related to the insights of portfolio theory. The most important paradigm of risk is part of a set of results known in the financial economics literature as the Capital Asset Pricing Model (CAPM) developed by Sharpe (1964) and Lintner (1965) and later refined by Black (1972). It represents an extension and simplification of the model by Markowitz (1952). The Markowitz model was the first theorizing a relationship between risk and return. In his model, there are as many efficient portfolios are there are investor risk preferences. All efficient portfolios must lie on the mean-variance investment frontiers where investors can get a higher return only by accepting a higher level of risk (Gossy, 2008). The CAPM extends this theory to a situation of equilibrium. The CAPM argues that all investors will hold the same efficient portfolio (the market portfolio) regardless of their individual risk

preferences. Thereby, the CAPM is capable of determining the market price for risk and an appropriate risk measure for a single asset (Gossy, 2008).

There have been numerous anomalies of the CAPM that have been discovered by finance researchers. This has initiated a discussion of the usefulness of the CAPM for the field of strategic management starting with the contribution by Bettis (1983). He detects a conundrum regarding the role of risk in strategic management context and states the main points of controversy between finance and strategy (Vicente-Lorente, 2001). In particular, he seriously questions the implications of the CAPM on strategic management but especially corporate risk management. He identifies an implied recommendation in the CAPM to corporate management not to be concerned at all about firm-specific risks. Bettis (1983) argued that business risks are associated with firm specific resources and competencies and are strongly related to the firm-environment interface. This theory implies that for ERM, firms should institute efficient portfolios that offer maximum returns and minimum risks.

## 2.3 Determinants of Financial Performance

To distinctly isolate the relationship between ERM and value of the company, there is need to control for other factors that could influence firm performance (Liebenberg and Hoyt, 2003; Beasley et al, 2005; Hoyt et al, 2008). The controlling variables we will use are similar to those used by Hoyt et al (2008).

### 2.3.1 Enterprise Risk Management

Most literature on risk management assesses the value of risk management based on how institutions manage their financial risks using derivatives to hedge, and conclude for or against the value adding ability of risk management. However, there is very little research on how the integrated approach to risk management (ERM), taking into

account both financial and non-financial risk management activities, would have an effect on companies, in particular in emerging markets. Besides that, there seems to be limited research on factors associated with the implementation of ERM and how these factors affect the level of ERM implementation in companies in different markets (Pagach and Warr, 2010).

### 2.3.2 Size of the Firm

Kleffner et al. (2003) suggests that larger firms would be more likely to adopt ERM because of the need for a more comprehensive risk management strategy. Hoyt et al (2008) also studies the value of Enterprise Risk Management in the US insurance industry and finds that ERM usage is positively related to firm size. The larger the organization, the more complex its operations will probably be and the more its exposure to threatening events. Besides that, the larger the organization, the more resources it will probably have to implement a more comprehensive ERM program.

### 2.3.3 Leverage

Firms with higher leverage are more likely to suffer financial distress. Excessive leverage may also limit a firm's flexibility when pursuing additional profitable investment projects. The effect of ERM adoption on leverage is dependent upon whether the firm decides that it needs to lower its risk exposure in these areas, or whether the firm decides that because of ERM, it can afford to bear more financial risk. Thus the impact of ERM adoption on leverage is unclear, however, for firms that were previously at their target leverage level, greater control of operational risks would suggest that the firm could increase its debt capacity (Liebenberg and Hoyt, 2003).

### 2.3.4 Growth Opportunities

Beasley et al (2005) states that as companies growth rate increases, the scope of events threatening it are likely to differ in nature, timing, and extent. Therefore the faster a company is growing, the more likely it will embrace ERM. However, Hoyt et al (2008) finds no significant relationship between the rate of growth of a company and its level of ERM implementation. Allayannis and Weston (2001), control for the effect of growth opportunities on Tobin's Q using the ratio of R&D expenditure to sales, or capital expenditure to assets. However, data related to R&D expenditure was not available for this study thus consequently the study used historical (one-year) sales growth as a proxy for future growth opportunities. This method was also used in Feng-Li Lin (2010) and Hoyt et al (2008).

## 2.4    Empirical Literature

There have been a large number of studies published about risk management in general. However, the number of the empirical studies on risk management practices in financial institutions is relatively small. The following is an attempt to summarize the main conclusions of some selected studies.

### 2.4.1  International Evidence

Beasley, Pagach and Warr (2008) studied 120 US companies between 1992 and 2003 to examine market reaction to Chief Risk Officer (CRO) hire announcement. ERM was measured as CRO key words while performance was measured as cumulative abnormal returns after announcement. A linear regression analysis was used to analyse the data. The study found that generally, the market did not react to CRO announcement. However, there was a positive reaction from non-financial firms. Further, there was a positive effect of firm size and earnings volatility on shareholder

value and a negative effect of leverage and cash ratio on shareholder value. This was true only for non-financial firms.

Hoyt and Liebenberg (2008) examined the impact of ERM on shareholder value of 125 US insurers between 2000 and 2005 using a maximum likelihood model. ERM was measured using ERM and CRO key words as proxies while performance was measured using Tobin's Q. The study found a significant positive relation between firm value and ERM. The results showed that ERM improves shareholder value by approximately 17%.

Gordon, Loeb, and Tseng (2009) studied 112 US companies in 2005 to examine the impact of ERM on performance using linear regression. ERM was measured using ERM index created by the author and performance was measured using excess stock market return. The results showed a significant positive relation between ERM and firm performance. The study also revealed that this was contingent upon proper match between a firm's ERM system and five firm specific factors.

Pagach and Warr (2010) examined 106 US companies in a bid to determine the impact of ERM on financial performance using logit and matched sample model. ERM was measured using CRO keywords as proxies and financial performance was measured using several financial variables. The results showed a significant decrease in stock price volatility after introducing ERM.

Tahir and Razali (2011) examined the impact of ERM on shareholder value of 528 Malaysian firms in 2007 using linear regression model. ERM was measured using secondary data from Osiris database and shareholder value was measured using Tobin's Q. The study found a positive but insignificant relation between ERM and shareholder value.

Grace et al. (2013) examined the impact of ERM on performance of 523 US insurers between 2004 and 2006 using linear regression model. A survey was carried out where ERM was measured using ERM activity while performance was measured using cost and revenue efficiency using Data Envelopment Analysis (DEA). The study found a significant positive impact of ERM on cost and revenue efficiency depending on ERM activity.

## 2.4.2  Local Evidence

Njiru (2003) sought to examine how cooperatives manage their credit risks. The study was done among cooperatives in Embu District. The study was a survey of coffee co-operatives in the area. The results revealed that the methods of managing credit risk were similar to the ones commonly espoused in finance textbooks.

Kioko (2008) examined the credit risk management techniques used by commercial banks in Kenya to manage unsecured loans. The study was a survey of various commercial banks. The study revealed that the Banks used a combination of credit management methods for unsecured loans.

Further, Kipchirchir (2008) examined the practices of motor vehicle firms towards foreign exchange risk management. The study was a survey of the motor vehicle industry in Kenya. The results revealed that the most commonly used foreign exchange risk management method was hedging.

In another study by Ngare (2008), credit risk management practices by commercial banks were sought. This was a survey of commercial banks in Kenya. The results revealed a combination of credit risk management methods used by commercial banks in Kenya.

Simiyu (2008) on the other hand sought to establish the credit risk management techniques in microfinance institutions in Kenya. The study design was survey of microfinance institutions in Nairobi. The study revealed that the methods did not differ from those of commercial banks.

Weru (2008) assessed the information systems risk management practices of firms. This was a case study design. The study revealed that the organization used various information system risk management strategies as recommended by COSO framework.

Waweru and Kisaka (2013) examined the effect of ERM implementation on the value of 20 companies listed on the Nairobi Securities Exchange in 2011. A survey was carried out where ERM was measured using the level of implementation while firm value was measured using Tobin Q. The results showed that there was a positive relation between level of ERM implementation and firm value.

## 2.5    Summary of the Literature Review

From the theoretical review, three theories have been advanced that explain the adoption of ERM practices in organisations. The theories are Modigliani-Miller framework, capital market theory, and modern portfolio theory. In this study, it is important to understand which theory may better explain the adoption of ERM for fund managers in Kenya.

The empirical review shows a number of international studies that have examined the impact of ERM on performance. The results show mixed results and therefore inconclusive. Further, studies have measured ERM using different methods which may not significant explain the effects of ERM on performance. For instance, Waweru and Kisaka (2013) use an ERM implementation index from primary data

while Pagach and Warr (2010) use keywords from secondary sources. While most studies on risk management in Kenya have also focused on specific risks and not ERM as a whole (Weru 2008; Simiyu, 2008) and therefore they may not be reliable as having provided an analysis of ERM in organisations.

# CHAPTER THREE
# RESEARCH METHODOLOGY

## 3.1    Introduction

This chapter presents the research methodology. First, a presentation of the research design is provided. This is followed by an explanation on the target population, the sample. A description of data collection method and data analysis procedures and model.

## 3.2    Research Design

This study adopted a descriptive study design. Descriptive research design is a design that is used when the researcher wants to describe specific behaviour as it occurs in the environment (Greener, 2008). The aim of the study was to evaluate the effect of ERM on financial performance of pension fund management firms in Kenya. According to Mugenda & Mugenda (2003) the purpose of descriptive research is to determine and report the way things are and it helps in establishing the current status of the population under study. Borg & Gall (1996) note that descriptive survey research is intended to produce statistical information about aspects of a study that interest policy makers.

## 3.3    Population

The population for this study was the 19 registered pension fund management firms in Kenya by July 2014. According to RBA website, the list of the 19 registered pension fund management firms is provided in appendix I. Given that the number of firms is not so large, all the 19 pension fund management firms were used in this study. This was therefore a census survey.

## 3.4    Data Collection

Both primary and secondary data were used. Primary data was collected using questionnaires (see appendix III) structured based on the objectives of the study. This specifically collected data on the practice and implementation of enterprise risk management by fund managers. The research instrument was administered through mail and drop and pick later methods. The respondents were the risk managers in each of the 19 selected fund managers. A three week period was given for the respondents to fill in the questionnaires after which they were collected for analysis.

Secondary data was collected for purposes of identifying performance indices and other control variable such as size of the firms, growth, and leverage. Thus, the financial statements of each of these pension fund management firms was scrutinized to provide the secondary data relevant for the study.

## 3.5    Data Analysis

Data was analysed using both descriptive and linear regression analysis. Objective 1 was analysed using descriptive statistics especially the mean scores and standard deviations. In order to test for the relationship between enterprise risk management and performance, the regression analysis was used. Analysis was aided by SPSS version 22.

### 3.5.1  Analytical Model

The following model was used to perform the regression analysis.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \mu$$

Where $\alpha$, $\beta$, and $\mu$ are constants. Table 3.1 operationalises the variables in the model:

**Table 3.1:    Measurement of Variables**

| Variable | Measurement |
|---|---|
| $Y$ | Financial performance measured using return on assets (ratio of income to total assets) |
| $X_1$ | Internal environment measured as the level of its implementation from Likert type questions 4 – 7. |
| $X_2$ | Objective setting measured as the level of its implementation from Likert type questions 8 – 9. |
| $X_3$ | Event identification measured as the level of its implementation from Likert type questions 10 – 11. |
| $X_4$ | Risk assessment measured as the level of its implementation from Likert type questions 12 – 13. |
| $X_5$ | Risk response measured as the level of its implementation from Likert type question 14. |
| $X_6$ | Control activities measured as the level of its implementation from Likert type question 15. |
| $X_7$ | Information and communication measured as the level of its implementation from Likert type question 16. |
| $X_8$ | Size of the firm measured as log of book value of assets |
| $X_9$ | Leverage measured as ratio of book value of liabilities to the book value of equity |
| $X_{10}$ | Historical (one-year) revenue growth as a proxy for future growth opportunities |

**Source: Researcher**

## 3.5.2  Test of Significance

A correlation matrix was examined to show the interrelationships within the variables under study. This helped show any serial correlations. A multiple regression analysis was then carried out. ANOVA and F-test showed the fitness of the model used in the study. The coefficients showed how each of the variables influence performance. The results of significance was interpreted at 5% level of significance. Both p-values and t-tests were interpreted.

# CHAPTER FOUR

# DATA ANALYSIS, RESULTS AND DISCUSSION

## 4.1 Introduction

This chapter presents the results of the study in terms of descriptive analysis and inferential analysis. The chapter also presents a discussion of findings.

## 4.2 Results

This section presents the results of the descriptive analysis, correlation analysis, and the regression analysis. A total of 19 questionnaires were distributed and 11 were returned fully filled. This gives a response rate of 58%. This is considered a high response rate and representative of the sample. Therefore, the results can be generalised to the larger population.

## 4.2.1 Descriptive Analysis

Table 4.1 shows the summary descriptive analysis results in terms of the mean scores and standard deviations. These were computed from the descriptive statistics tab in SPSS version 22 after merging the questions that related to a specific element together through 'compute variable' tab in SPSS.

**Table 4.1:    Summary Descriptive Results**

| Variables | Mean | Std. Deviation |
|---|---|---|
| Performance (ROA) | -.0444 | .47907 |
| Objective setting | 4.5455 | .41560 |
| Risk Assessment | 4.5455 | .26968 |
| Information and communication | 4.5455 | .68755 |
| Internal environment | 4.3864 | .20505 |
| Risk response | 4.3636 | .50452 |
| Control Activities | 4.1818 | .75076 |
| Event Identification | 3.9091 | .80057 |
| Age of the firm | 19.4545 | 13.52304 |
| Size of the firm | 15.3318 | 2.12125 |
| Leverage | 5.2289 | 12.36039 |
| Revenue growth | 3,189,393 | 9,347,063 |

**Source: Research Findings**

The results in Table 4.1 show that the mean ROA was -0.04 with a standard deviation of 0.48. This suggests that the fund management firms performed poorly in terms of their ROA. On the enterprise risk management measures, the results show that all of them were scored highly (more than a mean of 3.0) which suggests that these practices were practiced highly in by the fund management firms surveyed. The control variables reveal that the mean age of the firm was 19.45 years, the mean size of the firm was 15.33 pension schemes and the mean leverage was 5.23. Further, the results show that the mean revenue growth was Sh. 3,189,393 million.

## 4.2.2 Correlation Analysis

The study examined the correlations among the independent variables in order to ascertain if there were any serial correlations. The results are shown in Table 4.2. As shown, the study found that there were a number of independent variables that were highly correlated with each other (correlation coefficients of over 0.5) which suggested the presence of serial correlations.

A further analysis was conducted to ascertain the extent to which each of the independent variables was problematic. The results are shown in Table 4.3. As shown, the results reveal that the variables that were problematic (VIF values of more than 5) were internal environment, objective setting, event identification, control activities, and information communication. These were therefore transformed using first differences before running them in the regression model. The SPSS removes the variable "Event Identification" because it is extremely correlated with others. The VIF is too high it exceeds the tolerance levels. That's why you can't see it.

**Table 4.2:** **Correlation Matrix**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROA | 1 | | | | | | | | | | | |
| Internal environment | -.267 | 1 | | | | | | | | | | |
| Objective setting | .018 | .067 | 1 | | | | | | | | | |
| Event Identification | -.075 | .235 | -.362 | 1 | | | | | | | | |
| Risk Assessment | -.608$^*$ | .329 | .426 | .137 | 1 | | | | | | | |
| Risk response | -.440 | .198 | .390 | .338 | .601 | 1 | | | | | | |
| Control Activities | .069 | -.015 | .772$^{**}$ | -.053 | .449 | .600 | 1 | | | | | |
| Information & communication | -.276 | .661$^*$ | .429 | .008 | .392 | .524 | .564 | 1 | | | | |
| Age | .427 | -.331 | .058 | -.231 | -.198 | -.525 | -.304 | -.589 | 1 | | | |
| Size | .733$^*$ | -.165 | -.540 | .241 | -.701$^*$ | -.500 | -.366 | -.324 | .307 | 1 | | |
| Leverage | .086 | .174 | .294 | .507 | -.079 | .404 | .295 | .184 | -.147 | -.116 | 1 | |
| Revenue growth | .106 | -.283 | .096 | .078 | -.088 | -.166 | .011 | -.193 | .431 | .328 | -.088 | 1 |

**Source: Research Findings**

**Table 4.3:** **Collinearity Statistics**

| | Tolerance | VIF |
|---|---|---|
| Internal environment | .103 | 9.704 |
| Objective setting | .081 | 12.386 |
| Risk Assessment | .085 | 11.831 |
| Risk response | .212 | 4.719 |
| Control Activities | .060 | 16.711 |
| Information and communication | .118 | 8.489 |
| Age | .180 | 5.569 |
| Size | .101 | 9.895 |
| Revenue | .510 | 1.962 |
| Leverage | .311 | 3.213 |

**Source: Research Findings**

## 4.2.3  Regression Analysis

Table 4.4 shows the results for the regression model summary showing R, $R^2$, and adjusted $R^2$ as well as the standard error of estimate. The model analysed was based on first differences of the offending dependent variables (enterprise risk management). The control variables were all deleted from the model after their inclusion led to a perfect correlation.

**Table 4.4:      Model Summary**

| R | $R^2$ | Adjusted $R^2$ | Std. Error of the Estimate |
|---|---|---|---|
| .996 | .993 | .967 | .09188 |

**Source: Research Findings**

The results in Table 4.4 show that the variables had a high effect on financial performance of pension funds (R = 0.996). The model accounted for 99.3% of the variance in financial performance as shown by the $R^2$ value. The standard error of the estimate was 0.09.

The ANOVA results are shown in Table 4.5 and show whether the model was fit to explain the relationship between enterprise risk management and financial performance.

**Table 4.5:      ANOVA**

|  | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 2.263 | 7 | .323 | 38.300 | .026 |
| Residual | .017 | 2 | .008 | | |
| **Total** | **2.280** | **9** | | | |

**Source: Research Findings**

The results in Table 4.5 show that the F-statistic of 38.3 was significant at 5% level, p = 0.026. This shows that the model was fit to explain the relationship between enterprise risk management and financial performance.

Table 4.6 shows the regression coefficients for the independent variables used in the study. Both standardised and unstandardized coefficients are shown together with the t-values and the p-values.

**Table 4.6:     Regression Coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | **B** | **Std. Error** | **Beta** | | |
| (Constant) | 3.430 | .550 | | 6.232 | .025 |
| EI | -.102 | .050 | -.169 | -2.023 | .180 |
| RA | -.801 | .157 | -.452 | -5.100 | .036 |
| RR | .108 | .085 | .111 | 1.275 | .331 |
| D (IE) | 2.211 | .265 | 1.315 | 8.349 | .014 |
| D (OS) | -1.215 | .127 | -1.393 | -9.577 | .011 |
| D (CA) | 1.020 | .082 | 2.015 | 12.476 | .006 |
| D (IC) | -.730 | .078 | -1.443 | -9.416 | .011 |

*Key: Event identification (EI), risk assessment (RA), risk response (RR), internal environment (IE), objective setting (OS), control activities (CA), information and communication (IC). D = first difference.*

**Source: Research Findings**

The results in Table 4.6 show that event identification had a negative effect on financial performance. This relationship was however insignificant at 5% level, p = 0.180. The results show that risk assessment had a negative effect on financial performance. This effect was significant at 5% level, p = 0.036. The results also show that risk response had a positive effect on financial performance. This effect was not significant at 5% level, p = 0.331. The results show that internal environment had a positive effect on financial performance and this effect was significant at 5% level, p = 0.014. Further, the results show that objective setting had a negative effect on financial performance. This relationship was significant at 5% level, p = 0.011. The

study revealed that control activities had a positive effect on financial performance and this effect was significant at 5% level, p = 0.006. Finally, information and communication had a negative effect on financial performance. This relationship was significant at 5% level, p = 0.011.

## 4.3   Interpretation of Findings

The study found and reported in Tables 4.2 and 4.3 that there were cases of serial correlations among the independent variables. More specifically, the offending variables were internal environment, objective setting, event identification, control activities, and information communication. In order for them to be useful for regression, a transformation using first differences was therefore done.

The study examined the effect of event identification on financial performance of pension fund management funds in Kenya. The study found that event identification had a negative but insignificant effect on financial performance. This means that event identification as an enterprise risk management practice does not affect the financial performance of pension fund management firms in Kenya.

The study examined the effect of risk assessment on financial performance of pension fund management funds in Kenya. The results show that risk assessment had a negative and significant effect on financial performance. This means that risk assessment as an enterprise risk management practice affects the financial performance of pension fund management firms in Kenya. More specifically, a unit increase in the risk assessment practice leads to a 0.801 units decline in financial performance.

The study examined the effect of risk response on financial performance of pension fund management funds in Kenya. The results show that risk response had a positive

but insignificant effect on financial performance. This means that risk response as an enterprise risk management practice does not affect the financial performance of pension fund management firms in Kenya.

The study examined the effect of internal environment on financial performance of pension fund management funds in Kenya. The results show that internal environment had a positive and significant effect on financial performance. This means that internal environment as an enterprise risk management practice affects the financial performance of pension fund management firms in Kenya. More specifically, a unit increase in the internal environment practice leads to a 2.211 units increase in financial performance.

The study examined the effect of objective setting on financial performance of pension fund management funds in Kenya. The results show that objective setting had a negative and significant effect on financial performance. This means that objective setting as an enterprise risk management practice affects the financial performance of pension fund management firms in Kenya. More specifically, a unit increase in the objective setting practice leads to a 1.215 units decline in financial performance.

The study examined the effect of control activities on financial performance of pension fund management funds in Kenya. The results show that control activities had a positive and significant effect on financial performance. This means that control activities as enterprise risk management practice affects the financial performance of pension fund management firms in Kenya. More specifically, a unit increase in the control activities practice leads to a 1.020 units increase in financial performance.

The study examined the effect of information and communication on financial performance of pension fund management funds in Kenya. The results show that

information and communication had a negative and significant effect on financial performance. This means that information and communication as an enterprise risk management practice affects the financial performance of pension fund management firms in Kenya. More specifically, a unit increase in the risk assessment practice leads to a 0.73 units decline in financial performance.

The model used in this study as shown by the ANOVA results was also useful as the F-statistic was significant at 5% level. The model accounted for 99.3% of the variance in financial performance as shown by the $R^2$ value. This means that this model accounted most of the variance in financial performance and therefore it is a useful model in estimating the relationship between enterprise risk management and financial performance of pension fund management firms in Kenya.

# CHAPTER FIVE
# SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1    Introduction

This chapter presents the summary of findings, conclusions, recommendations, limitations of the study, and suggestions for further research.

## 5.2    Summary

The study examined the effect of enterprise risk management on financial performance of pension fund management firms in Kenya. The descriptive results showed that the mean ROA was -0.04. The results show that all the enterprise risk management measures had higher mean values which suggests that these practices were practiced highly by the fund management firms surveyed. The mean age of the firm was 19.45 years, the mean size of the firm was 15.33 pension schemes, the mean leverage was 5.23, and the mean revenue growth was Sh. 3,189,393 million.

The regression results revealed that the model accounted for 99.3% of the variance in financial performance as shown by the $R^2$ value. The $F$-statistic of 38.3 was significant at 5% level, suggesting that the model was fit to explain the relationship between enterprise risk management and financial performance. The coefficient results showed that event identification, risk assessment, objective setting, and information communication had negative effects on the financial performance of pension fund management firms while risk response, internal environment, and control activities had positive effects on the financial performance of pension fund management firms in Kenya. However, the effects of even identification and risk response on financial performance were insignificant at 5% level.

## 5.3    Conclusion

The study examined the effect of enterprise risk management on financial performance of pension fund management funds in Kenya. The study found that risk assessment, objective setting, and information communication had negative significant effects while internal environment and control activities had positive significant effects on the financial performance of pension fund management firms in Kenya. Overall enterprise risk management practices accounted for almost all of the variance in financial performance of the firms. Thus, the study concludes that enterprise risk management practices influence the financial performance of pension fund management firms in Kenya to a very large extent.

## 5.4    Recommendations for Policy

The study makes a number of recommendations. First, the study recommends that the pension fund management firms in Kenya should employ robust enterprise risk management practices as these are likely to influence their financial performance in one way or another.

Secondly, the study recommends that in order for pension fund management firms to improve on their financial performance, they should focus more on improving how they assess their internal environment and work on control activities as these are likely to enhance financial performance of these firms.

Lastly, the study recommends that the Retirement Benefits Authority should, on frequent basis, evaluate the enterprise risk management measures put in place by the pension fund management firms in Kenya and reward those with excellent practices. This will encourage more firms to institute ERM practices as well as create more awareness on the need for the same in all organisations.

## 5.5    Limitations of the Study

The study was conducted on pension fund management firms in Kenya and this limits the applicability of the results to the pension fund management firms. Thus, other financial institutions that also deal with investment may not benefit from this study or the results may not apply to them.

The study focused 11 pension fund management firms out of the 19 available ones as it was not possible to collect data from all of them given the privacy concerns and non-compliance by others. While this is 58% of the sample, it may limit the applicability of the results to all pension funds. However, it is important to note that the response rate was impressive, given the previous studies on the same using surveys.

The study was also conducted as a survey using both primary and secondary data. While this method was able to achieve the objective of the study, the primary data cannot be so reliable and may therefore limit the application of this study for the pension fund management firms in Kenya.

## 5.6    Suggestions for Further Research

There is need for more studies in this area to examine how ERM influences financial performance of firms in Kenya. This can be done by including all other financial institutions in Kenya and by conducting a panel regression analysis.

More studies should be done to examine other factors that may influence performance of pension fund management firms in Kenya. This study assessed how ERM can influence performance and more studies need to examine other factors that may influence firm performance.

It is also important that future research examine the issue of ERM deeply by examining the practice of ERM in organisations and the trends in ERM practice. This will inform policy makers on what areas need changes for the ERM practices to be effective.

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# APPENDICES

## Appendix 1:        Pension Fund Management Firms in Kenya as at

## 30th June 2014

1. African Alliance Kenya Investment Bank Limited
2. Alpha Africa Asset Managers Limited
3. Amana Capital Limited
4. Apollo Asset Management Company Limited
5. British-American Asset Managers Limited
6. Centum Asset Managers Limited
7. CIC Asset Management Limited
8. CO-OP Trust Investment Services Limited
9. Dry Associates Limited
10. Genesis Kenya Investment Management Limited
11. ICEA Lion Asset Management Limited
12. Kenindia Asset Management Company Limited
13. Madison Asset Management Services Limited
14. Old Mutual Asset Managers (Kenya) Limited
15. Pinebridge Investment East Africa Company Limited
16. Sanlam Investment Management Kenya Limited
17. Stanlib Kenya Limited
18. UAP Investments Limited
19. Zimele Asset Management Company Limited

**Source: RBA (2014)**

**Appendix II:      RBA Investment Guidelines for Pension Funds**

| Investment Class | Maximum (%) |
| --- | :---: |
| Cash | 5 |
| Fixed deposits | 30 |
| Fixed income (private) | 30 |
| Government securities | 70 |
| Quoted equity | 70 |
| Unquoted equity | 5 |
| Offshore investments | 15 |
| Immovable property | 30 |
| Guaranteed funds | 100 |
| Other investments | 5 |

**Source: RBA (2007)**

# Appendix III: Research Questionnaire on ERM Implementation

**Part A:** **General Information**

1. Name of the organisation: …………………………………………………….
2. The year when the pensions fund management firm was established in Kenya.

   …………………………………………………………………………………
3. Number of pension schemes managed by the pensions fund management firm.

   …………………………………………………………………………………

**Part B:** **ERM Implementation**

**Internal Environment**

4. What is the overall risk appetite of the organization?

   Very low      [   ]

   Low           [   ]

   Moderate     [   ]

   High          [   ]

   Very high     [   ]


5. How committed is the Board of Directors (BOD) to establishing a risk management philosophy?

   Least committed         [   ]

   Less committed          [   ]

   Moderately committed    [   ]

   Highly committed        [   ]

   Extremely committed     [   ]


6. What is the overall integrity and ethical values and the commitment to competence of the organization?

   Very low      [   ]

   Low           [   ]

   Moderate     [   ]

High            [    ]
Very high       [    ]

7.  State the extent to which the assignment of authority and responsibility over
    risks is well managed?

    Very low       [    ]

    Low            [    ]

    Moderate       [    ]

    High           [    ]

    Very high      [    ]

## Objective Setting

8.  How well are strategic and related objectives defined?

    Very poor      [    ]

    Poor           [    ]

    Moderate       [    ]

    Good           [    ]

    Very good      [    ]

9.  How often is the achievement of these objectives monitored?

    Least frequently     [    ]

    Less frequently      [    ]

    Moderately           [    ]

    More frequently      [    ]

    Most frequently      [    ]

## Event Identification

10. How do internal and external forces impact the risk profile?

    Very low       [    ]

    Low            [    ]

    Moderate       [    ]

    High           [    ]

    Very high      [    ]

11. How well are deficiencies captured and reported?

Poorly         [     ]

Poor           [     ]

Moderately   [     ]

Well           [     ]

Very well      [     ]

**Risk Assessment**

12. To what extent does the organisation identify the largest risks to the company, in terms of significance and likelihood?

Very low extent      [     ]

Low extent          [     ]

Moderate extent    [     ]

Large extent        [     ]

Very large extent    [     ]

13. Thinking of other areas within the company, how well do you receive information from the shared services groups (e.g. IT, Finance, HR)?

Poorly         [     ]

Poor           [     ]

Moderately   [     ]

Well           [     ]

Very well      [     ]

**Risk Response**

14. To what extent are risks monitored and reported within your organization?

Very low extent      [     ]

Low extent          [     ]

Moderate extent    [     ]

Large extent        [     ]

Very large extent    [     ]

**Control Activities**

15. How effective are overall controls in preventing risks and carrying out risk activities within your organization?

    Least effective       [    ]

    Less effective        [    ]

    Moderate            [    ]

    More effective       [    ]

    Most effective       [    ]

**Information and Communication**

16. How frequently does the organization/your department capture information and communicate related risk?

    Least frequently     [    ]

    Less frequently      [    ]

    Moderately         [    ]

    More frequently     [    ]

    Most frequently      [    ]

**Thank you for taking part in the survey.**

**The End**