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DETERMINANTS OF FINANCIAL RISK MANAGEMENT STRATEGIES ADOPTED BY
PENSION FUND MANAGERS IN KENYA.



BY:

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*Determinants of
financial risk*



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DECLARATION

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

Signature..... Matilda Date..... 25.11.16

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This is to confirm that the project has been submitted with approval of the university supervisor.

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DEDICATION

This paper is dedicated to, my husband (Dr. Mbugi), daughter (Mwende), son (Kirsteen) who bore the brunt of my time in school, supported me all through and made me realize that i have what it takes. And to my dearest friend (Julie), who kept encouraging me.

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OPERATIONAL DEFINITIONS OF TERMS.

Adoption

The act or process of beginning to use something new or different or process of giving official acceptance or approval to something. Adoption of risk management refers to the use of risk management options for the betterment of an organization.

A determinant

A thing that controls or influences what happens or a factor that decisively affects the nature or outcome of something. The determinants in this study were the size of the scheme, education level of the trustees and the experience levels of the fund managers.

Fund manager

An individual or group of individuals responsible for making decisions related to any portfolio of investments often a mutual fund, pension fund, or insurance fund, in accordance with the stated goals of the fund. In this research the study focussed on the fund managers responsible for a pension fund.

Financial risk Management

The process of evaluating and managing current and possible financial risk at a firm as a method of decreasing the firm's exposure to the risk.

Operational risk

The chance of loss resulting from inadequate or failed internal processes, people or systems or from external events.

Pension Scheme

An arrangement under which eligible persons are entitled to receive payments upon retirement, death or termination of service. These could either be provident or pension schemes.

Risk

The effect of uncertainty on objectives.

Risk Management

Coordinated activities to direct and control an organisation with regard to risk.

Risk management strategies

The actions that firms take in order to respond to the identified risks and they include administrative, derivatives and insurance outsourcing. The four major types of risk management strategies are risk avoidance, risk limitation, risk acceptance and risk transfer.

ABBREVIATIONS AND ACRONYMS

BOT	Board of Trustees
CBK	Central Bank of Kenya
COSO	Committee of Sponsoring Organizations of the Tread-way Commission
CRO	Credit Risk Officer
CSPS	Civil Service Pension Scheme
DB	Defined Benefits
DC	Defined Contributions
GDP	Gross Domestic Product
GFSR	Global Financial Stability Report
IOPS	International Organisation of Pension Supervisors
IRS	Individual Retirement Schemes
KRA	Kenya Revenue Authority
NSSF	National Social Security Fund
OECD	Organization of European Community for Development
ORS	Occupational Retirement Schemes
RBA	Retirement benefits Authority
RMS	Risk Management Strategies
SPSS	Statistical Package for Social Sciences

ABSTRACT

A pension fund is a common asset pool run by a financial intermediary on behalf of a company and its employees, to generate stable growth over the long term and provide pensions for the employees when they retire. It is also a fund into which a sum of money is added during an employee's employment years, and from which payments are drawn to support the person's retirement from work in the form of periodic payments. As pension fund systems decrease and dependency ratios increase, risk management is becoming more complex in public and private pension plans. Pension funds should provide proper risk management to ensure that the retirement income of their members is safeguarded. To achieve this, pension funds should have appropriate risk management strategies that safeguard the replacement rate, investment safety and time based risks such as inflation. Risk management by pension funds should link directly to portfolio objectives and should maintain a balance between assets and liabilities in the context of funding, immunisation and the use of derivative securities. There is little evidence of schemes revising investment policies despite the severe market volatility experienced in recent years. This study sought to explore whether the size of the fund, experience of fund managers and the education levels of the trustees are determinants of the financial risk management strategies adopted by fund managers of pension schemes. The study design was descriptive survey and the target population was 19 pension fund management firms in Kenya. Data was collected using questionnaires and analysed using both descriptive and inferential statistics. The study revealed that there was a positive relationship between the size of the fund and choice of risk management strategy adopted by pension fund management firms in Kenya. The study also revealed that there was a positive relationship between trustees' education level, experience of fund managers and choice of risk management strategy adopted by pension fund management firms in Kenya. Thus, the study concludes that the size of the fund, the experience of fund managers and the trustee education levels determine the financial risk management strategies adopted by pension fund managers in Kenya. Future research in the pension's industry can be done especially on the area of trustee education and what impact it has on the performance of schemes. There is also an opportunity to study more the risk appetites for the trustees and their impact on risk management in the pension schemes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

As pension fund systems decrease and dependency ratios increase, risk management is becoming more complex in public and private pension plans. The killer risk in any pension scheme is the failure of pension asset sufficiency to meet the promised benefits to retirees. Pension funds should provide proper risk management to ensure that the retirement income of their members is safeguarded (Davis 2000). In order to achieve this, pension funds should have appropriate risk management strategies that safeguard the replacement rate, investment safety and time-based risks such as inflation (Davis 2000). According to Galer (2009), risk management by pension funds should link directly to portfolio objectives and should maintain a balance between assets and liabilities in the context of funding, immunisation and the use of derivative securities.

There is little evidence of schemes revising investment policies despite the severe market volatility experienced in recent years. In the year 2011, fourteen (14) pension schemes were wound up and another six (6) were put under interim administration as at June 2011 (RBA, 2011). This demonstrates that pension Schemes in Kenya are exposed to market risk, operational risk, governance risk, sponsor insolvency risk and counterparty fraud risk (RBA, 2011).

The risks in the pensions industry in Kenya are on the rise as evidenced by the suing of the heads of Kenya Railway Retirement Benefits scheme for misappropriating pension scheme funds and appointment of an interim administrator and making the trustees of Pyrethrum Board of Kenya pension trustees to account for the inability to pay retirees benefits (RBA, 2011).

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, 2012 (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 1,232 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. 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 determinants of risk management is concerned. There is therefore a gap as far as studying the influence of risk management practices adopted by pension fund management firms is concerned. This raises the question about what determines the financial risk management strategies adopted by pension fund management firms in Kenya.

A survey done by RBA in 2012 revealed that a large number of pension funds do not have up to date investment policies as required by law and risk management principles have not been clearly addressed by the current structure of investment policies. There was little evidence of schemes revising investment policies despite the severe market volatility experienced in recent years.

This development, combined with demographic changes that now see increasing numbers of workers approaching and entering retirement, suggests that it is time to improve upon the risk-management techniques and options currently in place.

1.1.1 Risk Management

According to Sobel and Reding (2004), 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. That is where risk management comes in.

Little research has been done on the factors that determine which risk management strategy a fund manager will adopt. Research is therefore needed to provide insights on these factors. Risk Management in a pension fund encompasses alignment of risk appetite to 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),

It is the process whereby organizations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities. Li and Liu (2002) define strategic risk management as the uncertainty of loss of a whole organization and the loss may be profit or non-profit.

(Beasley, et al., 2005). Further define, Risk management systems as the process designed to provide reasonable assurance regarding the achievement of objectives in terms of effectiveness, efficiency and resilience of operations, reliability of financial reporting and compliance with laws and

regulations. The process does not involve just one policy or procedure performed at a certain point of time but should be continually operating at all levels of the organisation, and involve all staff. Internal controls are one part of the overall risk system, which also incorporates a holistic philosophy of management oversight, risk awareness, separation of functions, communication and external controls among others.

Li and Liu (2002) state that these good practices aim to outline the main features of risk management systems which pension funds employ. They cover the role of management in the risk management process, looking more in detail at investment risk, funding risk and operational risk including outsourcing control, and the risk management mechanisms which might be in place including monitoring and reporting. The good practices also provide guidance for pension fund regulators and supervisors on how to check that such systems are not only in place but are operating effectively.

Stewart, F. (2010), Pension regulations are increasingly being focused on governance and risk management issues. Pension supervisory authorities around the world have also been following other financial sectors and moving towards a risk-based approach to pension supervision. This can be recognized as a structured process aimed at identifying potential critical risks facing each pension fund or plan and through a focused review by the supervisor, assessing the pension fund's management of those risks and the pension fund's financial vulnerability to potential adverse experience.

A risk-based supervision is a structured approach which focuses on the identification of potential risks faced by pension plans or funds and the assessment of the financial and operational factors in place to minimize and mitigate those risks. This process then allows the supervisory authority to direct its resources towards the issues and institutions which pose the greatest threat.

According to Stewart, F. (2010), one of the main objectives of risk-based supervision is to ensure sound risk management at the institutional level taking into account both the quality of risk management and the accuracy of the risk assessment. Risk-based supervision allows much of the responsibility for risk management to rest with the individual pension funds themselves, while the pension supervisory authority verifies the quality of the fund's risk management processes and adapts its supervisory stance in response.

1.1.2 Risk management strategies.

According the business directory, strategies for risk management are the “how” of risk management. An organization may use risk management strategies like risk assumption, risk avoidance, risk retention, risk transfer, or any other strategy (or combination of strategies) in proper management of future events.

(Gebler & Matterson 2010 There are three basic approaches to mitigating risk: diversification, hedging, and insurance. Any of these approaches may be justified depending on the individual investor's circumstances and stage of life. As risk becomes more relevant to fund members as they enter retirement, new approaches to investment are being assessed. Broadly speaking, they fall into one of three categories Administration strategies, Derivative strategies, or Insurance outsourcing.

1.1.2.1 Administration strategies

Administration strategies rely on dynamically altering the underlying investment mix to achieve a smoother return or risk-management outcome. Three approaches that appear to be growing in popularity are target-date funds, target-volatility funds, and continuous portfolio protection insurance (CPPI). (Gebler & Matterson 2010

1.1.2.2 Derivative strategies

(Gebler & Matterson 2010) Derivative strategies rely on the use of assets that directly facilitate risk management. Institutions have used derivatives to hedge risk for hundreds of years. Derivative strategies can work by creating exposure and by managing risk.

1.1.2.3 Insurance outsourcing.

(Gebler & Matterson 2010) , There are a variety of outsourcing options available depending on the nature of the risks a fund is looking to protect. Ultimately, institutions such as insurance companies or investment banks provide a variety of provisions of products utilizing various asset allocation strategies. For example, a fixed annuity provides access to fixed income assets whilst variable annuities provide access to equity, fixed income investments, and derivatives within an insurance context. The attractiveness of these structures is that the insurance company is capable of providing investors with a guarantee supported by its balance sheet and capital.

(Ambrogio & Elisabetta, 2010) state that a pension scheme is said to be adopting risk management strategies if it has a plan of action of attending to risks such as having a frame work of defining risks, analysis and predetermined probable course of actions to attend to risks if they arise .Risks of pension Schemes in Kenya are categorized into market risk, operational risk, governance risk, sponsor insolvency risk and counterparty fraud risk (RBA, 2012).

In (Beasley, Clune, & Hermanson, 2008) studies have suggested that pension scheme can come up with strategies to mitigate the risks which may include; coming up with business continuity plan, employing a chief risk officer, outsourcing risk management to a consultant, having a board committee dealing with risks and coming up with a risk registers (Beasley, Clune, & Hermanson, 2008).

1.1.3 Pension Fund Management in Kenya

A research paper by Odundo (2008) found that, 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). 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 are clearly outlined and anchored by RBA regulations.

The RBA provides fund managers with investment guidelines (see appendix V) 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 Statement of the problem

The killer risk in any pension scheme is the failure of pension asset sufficiency to meet the promised benefits to retirees. (Onafalajo, 2008). As pension fund systems decrease and dependency ratios increase, risk management is becoming more complex in public and private pension plans. The risks in the pensions industry in Kenya are on the rise as evidenced by the suing of the heads of Kenya Railway Retirement Benefits scheme for misappropriating pension scheme funds and appointment of an interim administrator and making the trustees of Pyrethrum Board of Kenya pension trustees to account for the inability to pay retirees benefits (RBA, 2011). The schemes are facing marketing risk, governance risk, sponsor insolvency risk and counter party fraud risk (RBA 2011).

A survey done by RBA in 2012 revealed that a large number of pension funds do not have up to date investment policies as required by law and risk management principles have not been clearly addressed by the current structure of investment policies. There was little evidence of schemes revising investment policies despite the severe market volatility experienced in recent years.

This development, combined with demographic changes that now see increasing numbers of workers approaching and entering retirement, suggests that it is time to improve upon the risk-management techniques and options currently in place.

Several studies have been conducted in the developed countries on risk management. Yemo & Servinson (2010) documented the ineffectiveness of the pension risk management strategies in Hungary in enforcing stakeholders rights, Clapman (2007) looked into lapses on drivers for adoption of risk management problem in USA, Dias 2006 looked into risk management in Brazil while Daud, Yazid and Hussin (2010b) studied Enterprise Risk Management strategy adoption in Malaysia. The global competitive survey (2012) ranked Kenya 102 out of 142 in economic performance and embracing risk management. This low ranking is evidenced by RBA 2011 report that fourteen (14) pension schemes were wound up and six (6) were put under receivership management.

This research looked at the determinants that influence the adoption of the financial risk management strategies to curb the trend of losses, fraud and collapse of pension schemes in Kenya.

1.3 Objectives of the Study

1.3.1 General objective of the study

The general objective of this study was to examine the determinants of financial risk management strategies adopted by pension fund management firms in Kenya.

1.3.2 Specific objectives of the study

The specific objectives of this study were;-

- i. To establish the relationship between the size of the fund and the financial risk management strategies adopted by fund management firms in Kenya.
- ii. To establish whether the experience of fund managers determines the financial risk management strategies adopted by fund management firms in Kenya.
- iii. To determine whether trustee education levels affects financial risk management strategies adopted by fund management firms in Kenya.

1.3.3 Research questions

This study sought to answer the following questions:

- i. Does the size of fund affect the choice of risk management strategy adopted by pension fund management firms?
- ii. Does the experience of a fund manager affect the choice of risk management strategy adopted by pension fund managers in Kenya?
- iii. How trustee education levels affect the choice of risk management strategy adopted by fund management firms in Kenya?

1.4 Significance of the study

This survey emphasized the influence of fund size, experience of fund managers and education levels of trustees as determinants of financial risk management strategies adoption by pension fund managers in Kenya. Some of the stakeholders who will find the outcomes of the research useful to utilize are: pension fund Managers, RBA, County government, National government, the National Treasury among others.

Board of trustees and fund managers being organs that are involved in management affairs of pension funds, will utilize the findings of the study and thus influence their decisions. This will enable them to appreciate the various determinants of risk management strategies.

The study will be vital to academicians for they will find empirical findings they can bank on. It has provided new insights in determinants of adoption of financial risk management strategies.

1.5 Scope of the Study

This study focussed on the financial risk management strategies adopted by pension schemes in Kenya. It covered 19 pension fund management firms. The risk management strategy adoption decisions are made by top management who are based at the headquarters in Nairobi Kenya.

The study outlines the relationship between financial risk management strategies adopted and the size of the fund, experience of the fund managers and education level of the trustees. To researchers and academicians the study has provided more information through the research studies on determinants of financial risk management strategies adoption.

1.6 Organisation of the Study

This study was structured as follows, chapter one provides the research background, research objectives, significance of the study, scope, and the limitations encountered in the course of the study. Chapter two presents literature review background, theoretical literature, empirical literature, gap analysis and conceptual framework of the study. Chapter three deals with the research methodology and design used in the study. Descriptive statistics from the survey along with the empirical results of the analyses are presented in the fourth chapter. The last chapter provides a summary and the conclusions of the study as well as some suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This study was guided by reviewing the relevant literature and studies related to the problem under investigation. In particular this chapter looks at the theoretical literature and empirical review on the determinants of financial risk management strategies adopted by pension fund managers. It also examines the relationship between the dependent variable and independent variables which are developed into a conceptual framework and finally identification of knowledge gaps to be filled by this study.

2.2 Theoretical Literature.

The theories reviewed here are borrowed from the finance literature related to risk management and the determinants of the risk management strategies adopted by pension fund managers. These theories are stakeholder theory, theory of constraints and agency theory.

2.2.1 Stakeholder Theory

One of the most important contributors to stakeholder theory is R. Edward Freeman and his book *Strategic Management: A Stakeholder Approach* (1984). The core idea of stakeholder theory is that organizations that manage their stakeholder relationships effectively will survive longer and perform better than organizations that don't. Freeman suggests that organizations should develop certain stakeholder competencies. These include, making a commitment to monitor stakeholder interests, developing strategies to effectively deal with stakeholders and their concerns, dividing and categorizing interests into manageable segments and ensuring that organizational functions address the needs of stakeholders. Stakeholder theory looks at the relationships between an organization and

others in its internal and external environment. It also looks at how these connections influence how the business conducts its activities.

Freeman, (Crane & Matten 2007) thinks that the idea of stakeholder management, or a stakeholder approach to strategic management, suggests that managers must formulate and implement processes which satisfy all and only those groups who have a stake in the business. The main task in this process is to manage and integrate the relationships and interests of shareholders, employees, customers, suppliers, communities and other groups in a way that guarantees the long-term success of the firm. A stakeholder approach is very much concerned about active management of the business environment, relationships and the promotion of shared interests in order to develop business strategies.

The theory is to this study because it suggests that the purpose of a business is to create as much value as possible for stakeholders. (Lexicon ft.com) indicated that in order to succeed and be sustainable over time, executives must keep the interests of customers, suppliers, employees, communities and shareholders aligned and going in the same direction. In this case the shareholders are the members of the scheme who expect their pension at the end of the retirement period. To keep and sustain this, the trustees and the service providers must come up with risk management strategies and determine the best for use in ensuring the risks are minimised.

This theory has been cited in a study done by Ayaibei in the study “Determinants Influencing the Likelihood of Risk Management Strategies Adoption by Pension Schemes in Kenya” 2013

2.2.2 Theory of constraints

The theory of constraints (TOC) is a systems-management philosophy developed by Eliyahu M. Goldratt in the early 1980s. It views any manageable system as being limited in achieving more of

its goals by a very small number of constraints. There is always at least one constraint, and TOC uses a process to identify the constraint and restructure the rest of the organization around it. The fundamental thesis of TOC is that constraints establish the limits of performance for any system. Most organizations contain only a few core constraints. TOC advocates suggest that managers should focus on effectively managing the capacity and capability of these constraints if they are to improve the performance of their organization.

(E. Goldratt 1999) TOC adopts the common idiom "a chain is no stronger than its weakest link." This means that processes, organizations, are vulnerable because the weakest person or part can always damage or break them or at least adversely affect the outcome. It is geared to help organizations continually achieve their goals.

(Bruce et al., 2005) One objection to agency theory is that it relies on an assumption of self-interested agents who seek to maximize personal economic wealth. The challenge is therefore, to get agents to either set aside their self-interest, or work in a way in which they may maximize their interest while still maximizing the interest of the principal. Thus, a standard of agency duty and action is necessary, not because agents are universally selfish, but because the potential for differences between the principal's and the agent's interests exists.

This theory is relevant because for the pension fund to manage its risks and achieve its goals it must have proper risk management strategies. It is therefore prudent for pension funds to have in place trustees who can come up with strategies that minimise risk.

The theory has also been cited by Millicent Oluoch in her Thesis on "Determinants of performance of pension funds in Kenya" 2013.

2.2.3 Agency theory

(Jensen and Meckling 2009). “There is good reason to believe the agent will not always act in the best interests of the principal”, Agency theory deals with the problems that can arise when one person an agent, acts on behalf of another the principal. Specifically, the delegation of authority to the agent may result in the agent taking actions that are not in the principal’s best interests (i.e., that are acts of self-interest on the part of the agent) but which are unknown to the principal. Goals of agency theory are to constrain agents from acting improperly and to provide them with incentives to act appropriately.

(Bruce et al., 2005). One objection to agency theory is that it relies on an assumption of self-interested agents who seek to maximize personal economic wealth. The challenge is therefore, to get agents to either set aside their self-interest, or work in a way in which they may maximize their interest while still maximizing the interest of the principal. Thus, a standard of agency duty and action is necessary, not because agents are universally selfish, but because the potential for differences between the principal’s and the agent’s interests exists.

This theory is relevant to the study in that trustees are agents of the members of a pension scheme and also the principals when appointing service providers. This theory has been cited in a study done by Ayaibei in the study “Determinants Influencing the Likelihood of Risk Management Strategies Adoption by Pension Schemes in Kenya” 2013

2.2.4 Fund value (size) and choice of risk management strategy

A study by Ahire and Dreyfus, (2000), suggests that size of a pension scheme is positively related with higher process quality and risk management. This is in agreement with Schaefer (1998) study that concluded that managers of larger firms in terms of asset value exert higher levels of effort in

managing risks, noting that incentive contracting is an important motivation for managers generating performance, therefore, it affects a firm's processes as a whole.

(2004)According to the Global Financial Market Stability Report; market development and issues, there is great variation in the sophistication of pension fund management .Some of the largest funds commit considerable staff and other resources to internal trading capacity, risk analysis, and or the management of external fund managers. In other cases, medium-sized and some larger funds have only a handful of employees to evaluate benefit obligations and determine risk management policies, and often have delegated much of the detailed work to consultants and external managers.

Small changes in the return on assets can have a dramatic impact on the size of the pension fund at retirement, and hence on the pension that can be paid from this accumulated fund. In practice the returns on pension fund investments will vary every period, hence introducing some risk into the size of the pension fund at retirement, and types of pension schemes differ according to who bears this investment risk.

(2004), The Global Financial Market Stability Report; market development and issues also states that the Consultants have a significant influence over pension fund management. Many pension funds rely upon and commission their risk analysis to be done by external consultants. In addition, the corporate governance structure of pension funds, with the overall direction set by trustees or a benefits committee, which may have limited expertise on investment matters, leads to considerable reliance on consultants for expert advice.

Nevertheless, consultants often seem reluctant to propose substantial changes in Asset Liability Model strategies or portfolio composition, particularly if it would strongly deviate from their previous advice or with consensus industry practices. Therefore, historically pension fund strategies

have been quite stable, but the reliance on consensus presents some risk of herding within the industry, and may retard the development of newer risk management practices.

April 2004 GFSR Financial and risk management practices within pension funds still focus much more on the asset than the liability side of the balance sheet. This is a distinct difference from insurance companies, which traditionally placed much greater focus on liability risk rather than asset risk. With pension funds, this partly reflects the fact that assets are more easily adjustable particularly in the short term than pension liabilities.

Hoyt (2012) The stronger emphasis on assets also reflects the greater difficulty in recalculating liabilities than assets, with full actuarial recalculations typically only performed once every three years and partial updates reviewing assumptions such as inflation, discount rates, and prospective investment returns only once a year.

As such, there is a tendency for funds to regard the value of liabilities as fixed between actuarial revaluations, and this has created much less focus on liability risk. Pension scheme size can be defined in terms of asset value, number of members and coverage (RBA, 2010).

A study by Hoyt (2012) found out that larger firms are more likely to implement integrated risk management concepts than smaller firms. The Kenyan Retirement Benefits Authority categorizes schemes as per value of assets for the purpose of levy payment based on size of Scheme Fund as indicated in latest Audited Accounts (Kenya Shillings) as follows: Up to 500 million, More than 500 million but not exceeding 1,000 million, More than 1,000 million but not exceeding 5,000 and More than 5,000 million (KRBA, 2012)

2.2.5 Experience of fund Managers and the choice of risk management strategies

Hatchett, Bowie and Forester (2010) indicate that pension funds need to understand the premise of risk management since it plays a very significant role in providing increased organizational effectiveness of disparate risk management functions through a central coordinating function that has clear ownership and accountability for overall risk management.

They further assert that senior management who understand risk management will be better informed when making material decisions and should be better able to assess risk/return trade-offs, as well as having an alternative insight into emerging risks and opportunities

Pension scheme managers are responsible for ensuring that pension schemes operate effectively and sustainably. Their main function is to manage a pension fund which is a large pot of money paid in by companies and individuals over many years to provide benefits in retirement. They may coordinate schemes that are managed by a company or employer, a benefits consultancy, a public sector pension's provider or an insurance company.

They may also be involved with defining the strategic development of schemes, as well as overseeing the day-to-day management of pension funds.

The importance investors place on fund manager experience and track record has grown in recent years, with Preqin's Investor Outlook: Real Estate H1 2014 revealing that the largest proportion of investors surveyed (31%) viewed the length of a manager's track record as the most important factor to assess when seeking new fund managers.

2.2.6 Education level of board of trustees and choice of risk management strategies

The Retirement Benefits Act in Kenya does not provide minimum qualifications for one to be a trustee. However, the Act was amended in the year 2010 to make it a requirement for pensions scheme to train and certify at least one member of the board on the Trustees training certification course offered by the Retirement Benefits Authority and the Association of Retirement Benefits Schemes (ARBS). It is thus uncommon to find trustees elected by members on the basis of union activism and not on knowledge of pension scheme governance (Kiragu, 2010).

The trustees hold the legal title of the pension scheme assets and have stringent legal duties to ensure that those assets are used to provide benefits in accordance with the terms of the trust. Essentially, a pension scheme trustee's duties are to: hold the trust assets, invest the assets in accordance with the terms of the trust, and prudently collect the contributions as required by the terms of the trust and pay the benefits in accordance with the terms of the trust. It's essential that trustees understand their scheme rules and all relevant legal requirements to ensure that controls aim to secure that the scheme is administered and managed in accordance with these.

<http://www.thepensionsregulator.gov.uk/trustees/role-trustee.aspx>

The UK pension regulator also states that, it is vital that members' benefits and scheme assets are not put at risk as a result of poor controls. Trustees have a legal obligation to act in the best interests of the scheme's beneficiaries. The extent to which the board of trustees are aware of and interested in, and has an insight into, the risks to which the institution is exposed; the preparedness of the board of trustees to use adequate controls both in house and underlain by statutory rules and to make sufficient funds available for that purpose, the extent to which the board of trustees is prepared to

take risks and, when doing so, perform an adequate risk benefit analysis and the extent to which the management complies with the existing internal controls.

(RBA, 2011)The Kenyan Retirement Benefits Act of 1997, provides that the duties of the trustees shall include: Administering the scheme in accordance with the provisions of the Retirement Benefits Act, and scheme rules; keeping all proper books and records of account in respect to income, expenditure, liabilities and assets of the scheme fund; computing and preparing statements of payments of benefits to members; liaising with the Authority, sponsors, members, manager, custodian and any other professional engaged by the scheme; collecting, keeping and updating retirement benefits data of each member including maintenance of individual membership records and bank account details of the members for the purpose of payment of benefits; updating the sponsor at least quarterly during the financial year on all matter regarding the scheme (RBA, 2011) .

One question requiring judgement from the trustee is the appropriate and affordable level of risk to aim for, given the constraints placed on scheme financing by legislation, regulation and sponsor affordability. It follows that members' financial interests are best served by trustees taking actions which lead to more or higher benefits being accrued members being more likely to receive the benefit entitlement in full, members' financial loss, if they do not receive their benefit entitlement in full, being lower.

In seeking to fulfil their duties the trustees need to be mindful of the membership as a whole, as many strategic actions will have different implications for the security of different groups of members. The objectives above may, however, lead to the trustees having to reconcile themselves to trade-offs between the different objectives.

The RBA act of 1997 provides the Trustee Board should take the lead in establishing a strong risk management culture and establish an approach to risk management and ensure that this is adopted by its own internal staff and external third party advisers and is responsible for ensuring adherence to this culture. They should develop, implement and maintain a Framework that is appropriate and proportional to its own particular circumstances. They should also approve and review a risk appetite and tolerance statement for risk that articulates the nature, types, and levels of risk that the Board is willing to assume.

According to the Committee of Sponsoring Organizations of the Tread way Commission (COSO), risk appetite is the amount of risk, on a broad level, an entity is willing to accept in pursuit of value; it reflects the entity's risk management philosophy, and in turn influences the entity's culture and operating style, guides resource allocation, assists the organization in aligning infrastructure necessary to effectively respond to and monitor risks (COSO, 2010).

(COSO, 2010). States that Risk appetite is not developed in isolation from other factors. An organization should consider its capacity to take on extra risk in seeking its objectives. It should also consider its existing risk profile, not as a determinant of risk appetite but as an indication of the risks it currently addresses. It would be interesting to see how the board of trustee members respond to risk management strategies initiated in pension management firms; will they be risk takers or risk averse in relation to their educational and professional background?

2.3 Empirical Literature Review

This section explores in detail the past studies in line with the identified independent and dependent variables in study.

On the size of the pension scheme and it being a determinant in the adoption of financial risk management strategies, Hoyt and Liebenberg (2006) carried a study on the determinants of adoption of risk management among the insurance companies. The study found out that the size of insurance company as measured by asset value plays a significant in adoption of risk management. The age and academic qualifications of shareholder's were also found to have a significant role in adoption of risk management and author suggested that this will apply to the financial sector firms. The study, whereas sheds light on the board composition, qualifications of the board and size, it failed by generalizing a study in the insurance sector that it can apply to all sectors of financial, therefore further research needed to be undertaken on pension schemes.

On the level of education of trustees being a determinant in the adoption of financial risk management strategies, Kostyuk and Koverga (2006), examined the influence of board of trustee size and composition on risk management decisions in Ukraine transition economy and found out that Board Size and Composition professional skills diversification and the main tradeoffs corporate board contribute to the efficient work of the supervisory board is still necessary for risk management. The study was done in one country, a country that was just transitioning from war with weak structure of governance. There is a need to replicate the study in a different economic set up.

On the experience of fund managers being a determinant of financial risk management strategies, Pagach and Warr (2007) undertook a study using a proportional hazard model to examine characteristics of firms hiring a Chief Risk Officer (CRO) and the role of regulatory needs. CRO is a proxy to adopting risk management; their main conclusion is that firms adopt holistic risk management for direct economic benefits and not just to comply with regulation. In their study approach they used a probabilistic approach which no empirical data collection to test the presumptions (hypothesis). Their study is purely on the corporate sector, and has revealed in extent

literature pensions is a unique sector. The argument in this study is that adoption of risk management goes beyond regulations and direct commercial benefit to the firms but also can be applied in social security sector such as pension schemes. Without collecting primary data, the conclusion from this study can be subjective. There is therefore a need to undertake further study which the methodology entails collecting primary data.

Halim, Miller, and Dupont (2010) carried out a study on how pension funds in building their portfolio manage investment risks. They sampled 58 pension schemes based on a purposive selection approach. The findings was that most funds (adopted risk management by structuring their portfolio and that global differences in regulation regarding risk measurement and management have a major impact on how funds view the importance of risk management adoption. on pensions funds that were willing to participate in the benchmarking exercise. The shortcoming of this study is that the sample size is too small to draw firm conclusions.

Bergmann (2012) empirical study generated insights into the associations between risk management and; firm size, firm complexity, board diversity and board size looks by examining Danish companies in the medium and large-cap segment. This study was done in a developed country and one may need to replicate the study in a developing economy.

In the Kenyan context is by Njuguna (2010) who conducted a research on the performance efficiency of pension schemes in Kenya largely focusing on the return side of performance. This research aims at looking on risk side of efficiency particularly on adoption of risk management strategies.

Nyagah (2014) on the effects of enterprise risk management on fund management firms in Kenya. The study looked at leverage, size of the firm and growth opportunities as independent variables. The study found a direct relationship of these factors on risk management. On the other hand this

study will look in to other factors (education level, age and risk appetites of trustees) influencing risk management in pension management as independent variables.

In the adoption of risk management, the findings in the reviewed literature as discussed above shows that causes of adoption of financial risk management in pension schemes remains blurred. Scant literature both theoretical and empirical on the determinants of adoption of financial risk management is revealed from the literature.

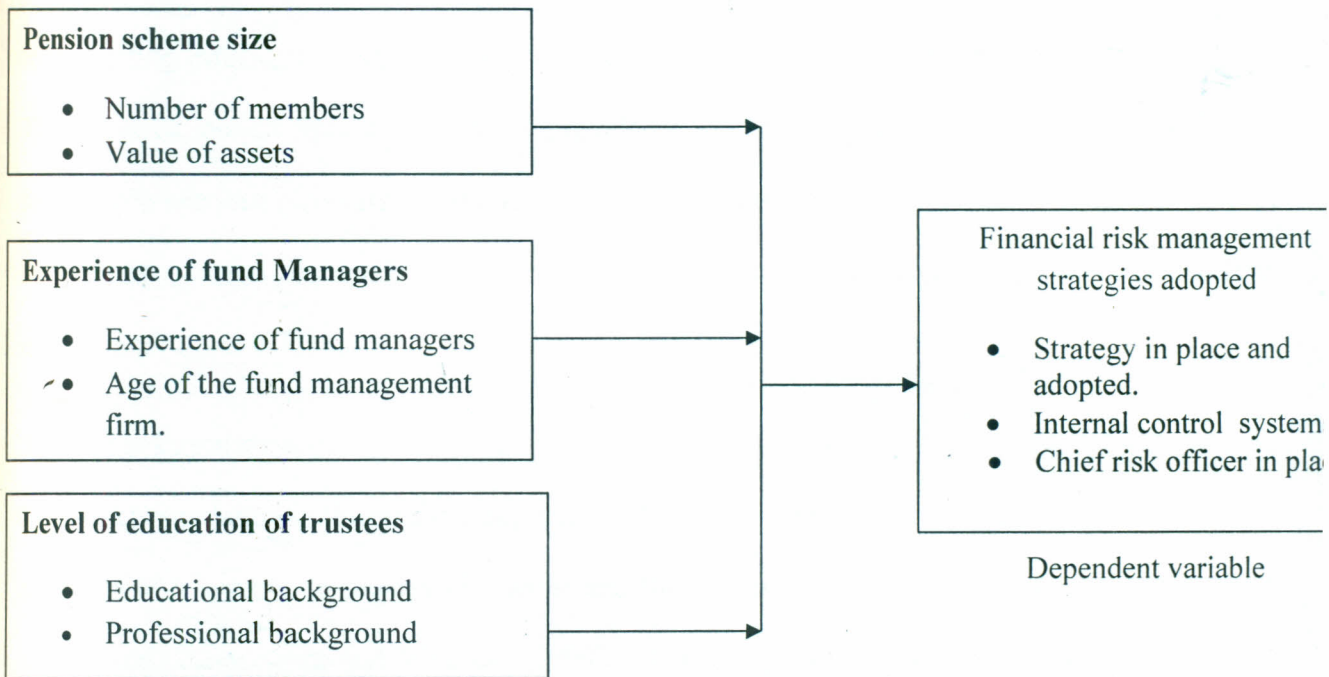
2.4 Summary of the Knowledge Gap

Globally risk management, being an integral part of strategic management, is a widely researched areas of financial management of business enterprise and corporate finance but gaps do exist in the following area; the risk management in the pension fund managers is largely ignored probably due to the fact that they are new players in the pensions sector, no record show research that has been done in Kenya in the strategic context of exploring financial risk management adoption in the pension fund managers. The likelihood of adopting risk management strategies influences by the Board of Trustees composition, Size of pension schemes, Regulation requirements, Portfolio structure and Administration structure. This were findings from a study done on Kenya's pension schemes. The study did not look at factors like education level of board of trustees. This research aimed at filling this gap.

Studies on adoption of risk management by corporate entities in international and local levels as well as in developed economies are appreciated. This study therefore sought to fill these gaps and add to the body of knowledge by focusing on risk management drivers among the occupational pension scheme in a developing country,

2.5 Conceptual Framework

A conceptual framework is defined as “a visual presentation that explains either graphically or in narrative forms the main things to be studied the key factors, concepts or variables and the presumed relationships among them” (Miles and Huberman 1994). This study adopted a conceptual framework taking the factors influencing the choice of financial risk management strategy adopted as the independent variable and the level of the risk management strategy chosen as the dependent variable. The factors affecting the choice of a risk management strategy centre on fund value or size of the fund experience of fund managers and level of education of the board of trustees. The dependent variable envisaged the type of strategy chosen for purpose of risk management, namely administrative strategies, derivative strategies and insurance outsourcing.



Independent variables

Figure 2.1 Conceptual framework

Source: Researcher (2016)

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 sampling technique. Finally the chapter, a description of data collection method, data analysis procedures and ethical considerations.

3.2 Research Design

This study adopted a descriptive survey research design for it portrays an accurate profile of a situation, Cooper and Schindler (2008). Descriptive research designs are usually the best methods for collecting information that will demonstrate relationships and describe the situation as it exists. This research design was chosen as it provided a means to gather, analyze and interpret the relationship between size/value of the fund, experience of the fund managers and education level of trustees of pension schemes; and risk management strategies adopted by the pension fund management firms in Kenya.

3.3 Target Population

The target population is the specific population about which information is required. It is the entire spectrum of a system or process of interest and the universe of people to which the study can be generalized, Vanderstoep and Johnston, (2009). The target population was the 19 registered pension fund management firms in Kenya by July 2014. (RBA July 2014), as per appendix II

Table 3.1 Target Population

Respondents	Target Population
Fund Manager	19
Scheme Administrator	19
Investment officer	19
Total	57

Source: Researcher (2016)

3.4 Sampling technique

A census of all the 19 registered pension fund management firms in Kenya by July 2014(RBA July 2014), as per appendix II constituted the sample. The respondents were 3 officers from each of the 19 firms who are the fund manager, Scheme administrator, and the investment officer. These people were chosen as they are the ones directly involved in the pension schemes.

3.5 Data collection instrument

Primary data was gathered using open and closed ended questionnaires. The questionnaires were designed to capture respondents' perceptions and views and were simplified so as to extract more information from all respondents.

The questionnaire was used as a technique for data collection because of its numerous advantages including efficiency in terms of cost and time as in the case of a descriptive survey. Secondary data was obtained from RBA through their reports, website and fund managers annual reports filed at the regulators office. The researcher used the letter issued from Kenyatta University to enable her collect

the data. This was a cheaper and reliable source of data because all fund managers are required to submit this data to RBA for compliance purposes.

3.6 Pilot study

A pilot survey to test the questionnaires was administered to at least three respondents drawn from one pension fund management firm within the study before going into data collection. This was done to appraise the instrument, to check whether the items were clear to the subjects and that they would test what they are meant to test. This also enabled the researcher to establish the validity and reliability of the research instrument.

3.6.1 Validity

Validity is the ability of a test to measure what it is supposed to measure and are applied to test whether the questionnaire measures what it aimed to measure (Zikmund, 2010). Validity was assessed based on the responds from the pilot test. In the case of validity of the study, the researcher used content validity, criterion validity; construct validity, and expert validity. With content validity, the researcher ensured that the items on the test questionnaire represented the actual items the study covered. For criterion validity, the researcher compared and adjusted the study against known standards. Construct validity was based on ensuring that questionnaires are valid. For expert validity the researcher shared information with professionals in the area of specialization. After this qualitative analytical approach, the answered questionnaires were collected and checked for completeness.

3.6.2 Reliability

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials; Mugenda and Mugenda (1999). Reliability was done to measure the relevance of the tools like questionnaires. The method chosen depends to a certain extent on the nature of the instrument but also on the aspect of the reliability concept that is of greatest interest. The questionnaire was first refined for accuracy, clarity and completeness through a pilot feedback. A statistician assessed the instrument and the homogeneity of the variables before it was used. The most common method of estimating the reliability questionnaires is to use Cronbach's coefficient alpha. Cronbach's coefficient alpha estimates the consistency of items included in a questionnaire. A high coefficient indicates that the items are consistently measuring the same underlying construct. The Cronbach's coefficient alpha ranges from 0 to 1 and is a measure of reliability not a statistical test (Carmines & Zeller, 1979). A scale is considered to have good reliability if it has an alpha value greater than 0.60 (Zickmund, 2003). This study minimum test of reliability is based on Cronbach alpha of 0.70.

3.7 Data Collection Procedure

An introductory letter from Kenyatta University was obtained to enable the researcher administer the questionnaires. One research assistant was engaged to minimise the time spent on the data collection. The questionnaires were delivered to the respective respondents at their respective offices. Primary data were collected from the 19 pension fund management firms. The respondents were assured of anonymity and the questions order was counter balanced.

3.8 Data Analysis and Presentation

Data processing involved dealing with missing answers, editing and coding so as to have consistence in the raw data. This was in a bid to transform it into meaningful, clear and understandable information, to enable the researcher gain ground for drawing conclusions. Through coding, the collected raw data was transferred into symbols especially numerical for easy tabulation and counting. Data collected was examined, sorted, categorized and tabulated with aid of Statistical Package for the Social Sciences (SPSS). This was used to establish the relationship among variables.

Data will also be analysed using qualitative techniques. Inferential statistics will include analysis of variance (ANOVA), Pearson correlation and multiple regression analysis. This will be used to establish the relationship among the study variables and to test the formulated hypothesis at 95% confidence level and 5% level of significance.

The logistic regression model for this study will take the form

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + \varepsilon$$

Where:

Y= independence variable (adoption of risk management strategies)

B_0 = Constant or intercept which is the value of dependent variables when all the independent variables are zero.

B_{1-3} = The regression coefficient for each independence variables

X_1, X_2, X_3 = Dependent variables; size of the fund (SF), experience of the fund managers and trustees' education level (TEL).

ε –error term. It will be analysed to capture the relative influence on the results by the intervening variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents an analysis of the findings of the research. The results of this research were presented using several descriptive statistics e.g. frequency tables, percentages and pie charts of the different responses for the questions asked in the questionnaire to enable the researcher deduce conclusions and thereafter recommendations based on the findings. Descriptive statistics and regression analysis were also used in analysis of the data and the results of the data were interpreted carefully and accurately as possible so as to give valid and reliable results of the whole research study.

4.2 Response Rate

A total of 57 questionnaires were distributed to the 19 pension fund management firms' three selected pension employees. These were delivered to the firms with an introduction letter from the university. Forty two questionnaires were returned fully filled. This gives a response rate of 74%. This is considered a high response rate and representative of the sample. Therefore, the results can be generalized to the larger population.

4.2.1 Respondents' Gender

Table 4.1 Respondents' Gender

Variable	Frequency	Percentage
Male	24	57.1
Female	18	42.9
Total	42	100

Source: Researcher (2016)

Table 4.1 shows that (57%) of the respondents (fund managers, administrators and investment officers) were male while (43%) were female. Therefore the findings of the study were that the majority of the respondents working as fund managers, administrators and investment officers were male.

4.2.2 Respondents Positions in their Pension Schemes

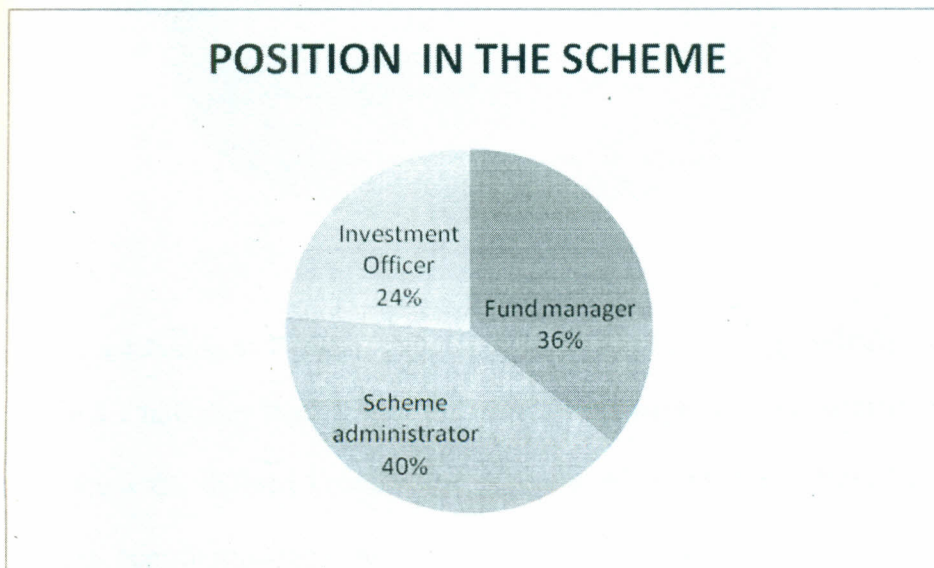


Figure 4.1 Respondents' Positions in their Pension Schemes

According to Figure 4.1, majority of the respondents were scheme administrators (40%). The Fund Managers and Investment Officers were 36% and 24% respectively an indication that majority in the industry are both fund managers and administrators

4.2.3 Type of Pension Scheme Administered by Respondents

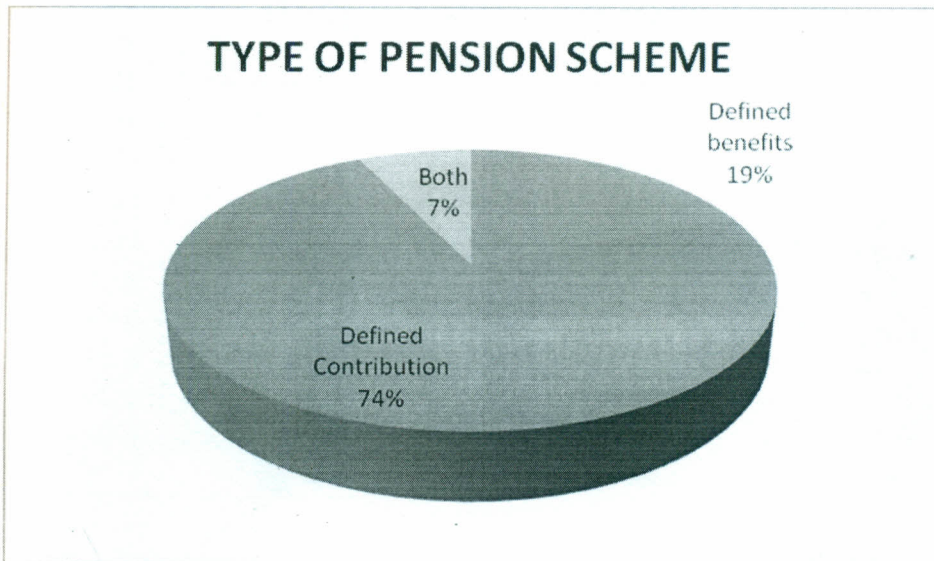


Figure 4.2 Kinds of Pension Scheme Administered By Respondents

Figure 4.2 indicates that 19% of the respondents were running defined benefits schemes while 74% were from the defined contribution schemes while 7% were from both the defined benefits and defined contribution scheme. This is consistent with population data base from the Kenya Retirement Benefits registered occupational schemes which have about 89% of the occupational schemes being of the Defined Contribution type (KRBA, 2012). According to Stewart (2010), the type of pension scheme drives the risk management structure, since the responsibility of risk varies with the type of scheme.

4.2.4 Structure of Schemes Respondents Administered

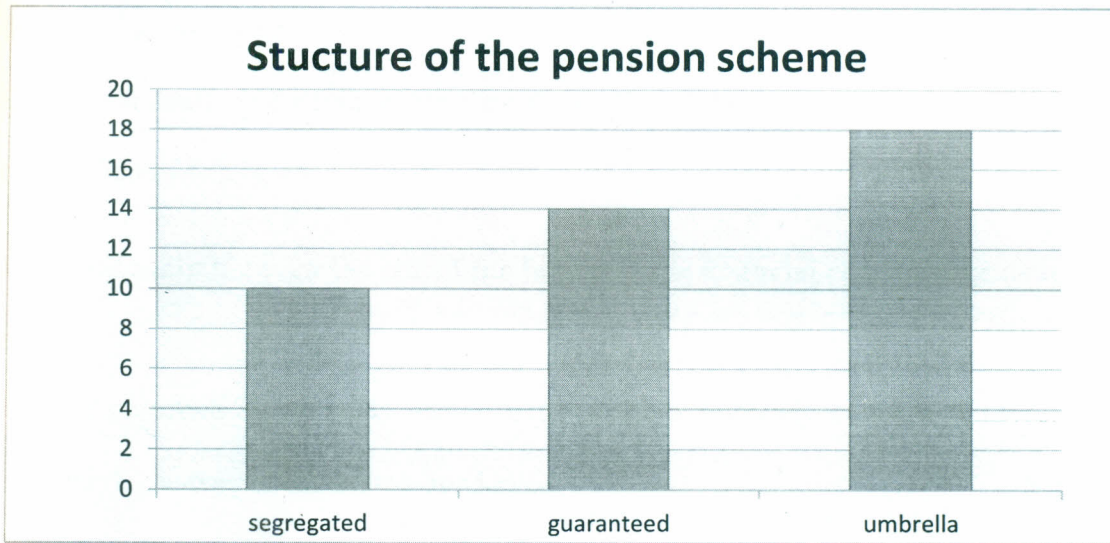


Figure 4.3 Structure of Pension Schemes Respondents Administered

Figure 4.3 shows that out of the 42 respondents, (43%) administered schemes with umbrella structure, (33%) administered schemes with guaranteed structure and (24%) administered schemes with segregated structure. Therefore according to the findings the majority of the pension schemes in Kenya have the umbrella structure of pension scheme. This is consistent with rba report that most schemes can save on costs by investing in umbrella schemes.

4.2.5 Risk Management Strategies Respondents Used

Table 4.2 Risk Management Strategies used by Respondents

Strategy	Frequency	Percent
Insurance	15	35.7
Derivatives	12	28.6
Administrative	8	19.0
A combination of all	4	9.5
None	3	7.1
Total	42	100.0

Source: Researcher (2016)

An examination of Table 4.2 reveals that insurance and derivatives were the most commonly used financial risk management strategies adopted by (35.7%) and (28.6%) of respondents respectively. Eight respondents used administrative strategies, three respondents used no strategy and four used a combination of strategies

4.3 Relationship between the size of the fund and the financial risk management strategies adopted.

The first objective of the study was to find out the relationship between the size of fund and the financial risk management strategies adopted.

Table 4.3 Size of Pension Schemes Managed by Respondents

Variable	Frequency	Percentage
Up to Ksh.500 million	15	36
Ksh.500 million to Ksh.1 billion	12	29
Ksh.1 billion to ksh.5 billion	8	19
More than Ksh.5 billion	7	17
Total	42	100

Source: researcher (2016)

Table 4.3 shows the value assets of the scheme as per the last audited accounts. (36%) managed schemes with asset value of more than Ksh.500 Million, (29%) managed schemes with asset size of Ksh.500 Million up to Ksh.1 billion while 19% managed schemes with asset value of up to Ksh.5 billion and 17% managed schemes with value of Ksh. 5 billion. The study therefore reveals that a majority of the administrators manage schemes of up to kshs 1 Billion; this is consistent with earlier finding that most of the scheme administrators manage Umbrella schemes. Umbrella schemes are many small schemes administered under a similar trust deed and rules

Table 4.4 Does Size of Pension Fund Determine Risk Management Strategy?

	Frequency	Percentage
Yes	37	88.1
No	5	11.9
Total	42	100

Source: Researcher 2016

According to Table 4.4, majority of the respondents (88.1%) consider pension scheme size as a driver to adoption of pension scheme risk management strategy. Only five (11.9%) of the respondents were of the opinion that pension scheme size does not influence adoption of risk management.

The respondents who felt that value of pension scheme funds influenced the financial risk management strategies were asked to indicate the extent of this influence. Their responses are shown in Table 4.5

Table 4.5 Respondents' Opinion on how Value of Pension Schemes Influence Risk management Strategies

	Frequency	Percent
Very great extent	9	23.7
Great extent	20	52.6
Moderate extent	7	18.4
Low extent	2	5.3
None at all	-	-
Total	38	100.0

Source: Researcher 2016

According to Table 4.5, in total, (76 %) of the respondents who felt that size of pension schemes influenced risk management strategies were of the opinion that this influence is to great or very great extent while 24% were of the opinion that the association was moderate /low. These findings concur with Ahire and Dryfus (2000) as well as Schaefer (1998) who have found that fund managers adopt risk management strategies depending on the value of their assets.

4.4 Relationship between experience of fund managers and the financial risk management strategies adopted

The second objective of the study was to determine whether there was a relationship between fund managers' experience and the financial risk management strategies they adopted.

The respondents stated their experience in terms of number of years they had worked in their pension funds and the age of the fund in which they were currently working. Figure 4.4 is a summary of their responses

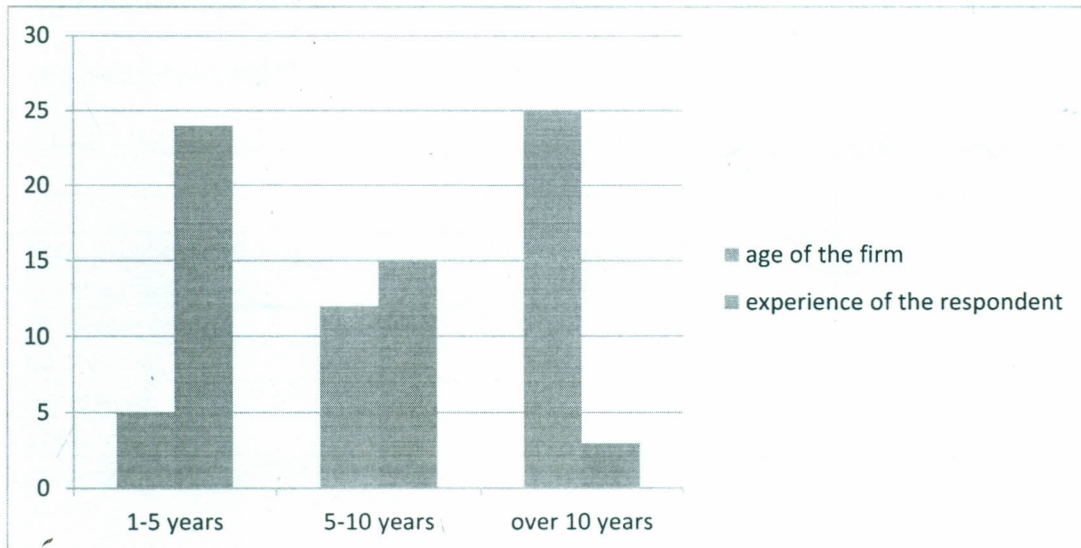


Figure 4.4 Fund Managers' Experience.

As Figure 4.4 shows, 24 fund managers (57%) have an experience of 1-5 years in the pension industry. Those with 5-10 years in the pension industry were 15 (36%) while only three respondents *had more than 10 years' experience.* According Figure 4.4, 25(60%) of the respondents worked in firms that had been in existence for over ten years, 12 (29%) of respondents worked in firms that had been in existence for 5 -10 years and five of them worked in firms that had been in existence for 1-5 years

Respondents were asked whether in their opinion experience determined the financial risk management strategies adopted. Their responses are shown in Table 4.6

Table 4.6 Does Experience Determine Risk Management Strategy?

	Frequency	Percentage
Yes	40	95.0
No	2	5.0
Total	42	100.0

Source: Researcher (2016)

As Table 4.6 reveals, majority of the respondents (95%) were of the opinion that experience determines the risk management strategy used. These respondents indicated the degree to which experience influenced the risk management strategy as shown in Table 4.7

Table 4.7 Respondents' Opinion on how Experience Influence Risk Management Strategies

	Frequency	Percent
Very great extent	16	38.1
Great extent	20	47.6
Moderate extent	5	11.9
Low extent	1	2.4
None at all	-	-
Total	42	100.0

Source: Researcher (2016)

As Table 4.7 reveals, a total of 85.7% of the respondents were of the view that experience influenced the risk management strategy adopted to a great of very great extent.

Looking at the results in Table 4.6 and Table 4.7, it is possible to conclude that the respondents were of the view that experience influenced the choice of risk management strategies adopted by fund managers because with experience, managers have a better understanding of risk and greater knowledge of the best way deal with it (Hatchett, Bowie & Forester, 2010).

4.5 Relationship between trustee education levels and financial risk management strategies adopted by fund management

The study investigated whether the education level of trustees influenced the choice of risk management strategy. Figure 4.5 shows the education level of the respondents.

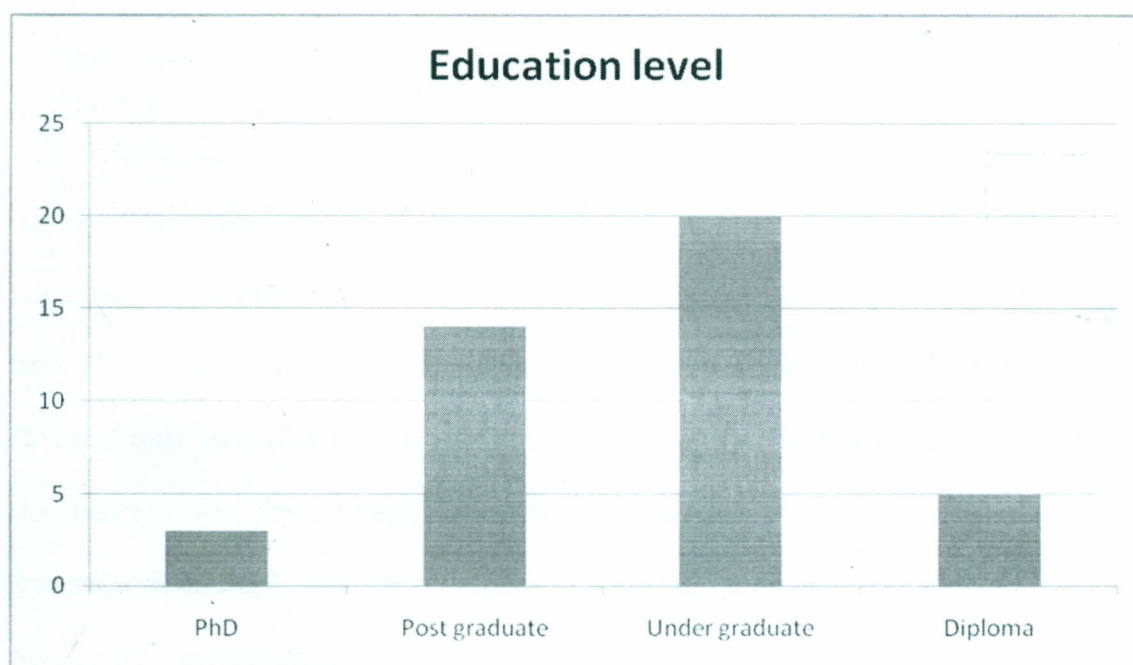


Figure 4.5 Respondents' Level of Education

According to Figure 4.5, five respondents (12%) had diplomas, 20 respondents (48%) had under graduate degree, 14 respondents (33%) had post graduate degrees and three respondents (7%) had PhD education. Majority of the respondents according to Figure 4.5 had undergraduate degrees.

Respondents stated the number of trustees in their schemes, the number of those trustees that had been trained and certified by the RBA/Association of Retirement Benefits Schemes and the number of those that had undergone other forms of trustee certification. This information is summarized in Table 4.8

Table 4.8 Number of Trained Trustees

Number of trustees	Number of trustees in program managed by respondent		Number of trustees trained and certified by RBA		Number of trustees with other certification	
	F	%	F	%	F	%
1 to 2 trustees	-	-	16	38	19	45
3 to 4 trustees	20	47.6	20	48	5	12
5 to 6 trustees	10	23.8	1	2	0	0
7 to 8 trustees	9	21.4	2	5	0	0
9 trustees	3	7.1	0	0	0	0
None	-	-	3	7.1	18	43
Total	42	100.0	42	100.0	42	100.0

Source: Researcher (2016)

According to the information in Table 4.8, (47.6%) respondents had three to four trustees in their fund, (23.8%) had five to six trustees, while (28%) had between seven to nine trustees.

38% had trustees between 1-2 trustees trained and certified by RBA, 48% respondents had three to four trustees with RBA certification, 7% had between five to six trustees certified and 7% had trustees with no RBA certification. This shows that there is an aggressive campaign by RBA to have all the trustees certified.

On other training other than RBA certification (45.2%) had one to two trustees with certification other than RBA's, 12% had three to four trustees with such certifications and 43%) respondents had no trustees with certifications other than RBA's

There is evidence from the findings that schemes now have trustees who are trained and certified by RBA and other bodies.

The respondents were asked to state the person who was responsible for coming up with and enforcement of the adoption of a financial risk management strategy.

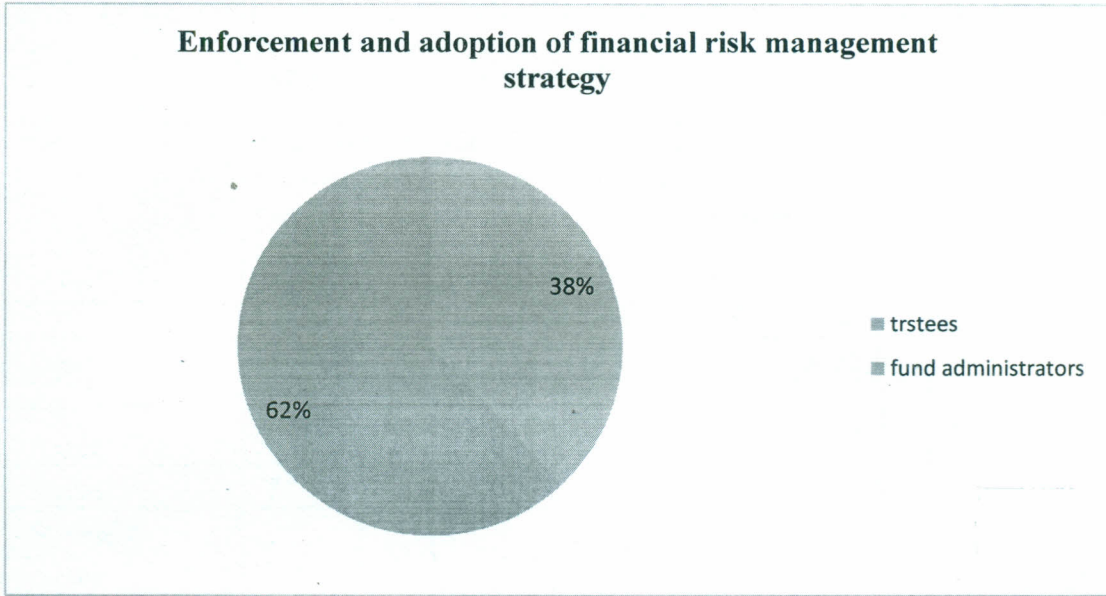


Figure 4.6 Respondents' View on Enforcement and Adoption of Financial Risk Management Strategy.

According to Figure 4.5, majority of the respondents (62%) were of the opinion that it's the responsibility of the fund administrators to come up with and enforce adoption of a financial risk management strategy while 38% of the respondents said it was the responsibility of the trustees.

The respondents who stated that trustees were responsible for coming up with and enforcing risk management strategies were also required to give their views on four issues on a scale where 5= strongly agree, 4=agree, 3= somehow agree, 2= disagree and 1= strongly disagree. Their responses are summarized in Table 4.9

Table 4.9 Respondents' Views on Adoption of Risk Management Strategies

	The board has articulated a risk-management strategy		The strategy is adopted .		The strategy is updated regularly.		The risk management strategy is aligned with the schemes strategic plan.	
	F	%	F	%	F	%	F	%
Disagree	1	6.3	2	12.5	4	25.0	5	31.3
Somehow Agree	3	18.8	6	37.5	5	31.3	6	37.5
Agree	7	43.8	7	43.8	4	25.0	3	18.8
Strongly Agree	5	31.3	1	6.3	3	18.8	2	12.5
Total	16	100.0	16	100.0	16	100.0	16	100.0

Source: Researcher (2016)

On the issue of whether the board has articulated a risk management strategy, majority of respondent's agreed (93.7%) and only 6.3% disagreed

In terms of adoption of the strategy, most respondents agreed (87.5%),) and 12.5% respondents disagreed that the strategies were adopted in most of the respondents' funds.

25% of the respondents were of the opinion that regular updating of strategies was not done while the balance of 75% agreed

Finally, on the question of whether risk management strategy is aligned with the schemes strategic plan, 31.3% of respondents somehow were not in agreement while the balance of 68.7 % were in agreement that the strategy is aligned with the schemes strategic plan.

Table 4.10 Respondents' Views on Fund Management Firms' Staff

	The management staff are qualified and competent.		The management is structured and composed in a manner to match the size and complexity of the operations.		Responsibilities have been assigned in an adequate manner to the individual members of the management		There is an adequate span of control for the administrator	
	F	%	F	%	F	%	F	%
Strongly Disagree	-	-	-	-	-	-	1	3.8
Disagree	1	3.8	1	3.8	5	19.2	8	30.8
Somehow Agree	5	19.2	6	23.1	8	30.8	8	30.8
Agree	10	38.5	13	50.0	10	38.5	6	23.1
Strongly Agree	10	38.5	6	23.1	3	11.5	3	11.5
Total	26	100.0	26	100.0	26	100.0	26	100.0

Source: Researcher (2016)

On qualification and competency of management staff, majority responded that the schemes have competent managers while only 1% responded that the managers were not competent.

The management is also structured and composed in a manner to match the size and complexity of the operations as evidenced by a combined response rate (agree, somehow agree and strongly agree) of 96.2%

The respondents also agreed that the responsibilities have been properly assigned in an adequate manner to individuals by a combined (agree, somehow agree and strongly agree) response rate of 81%

From these results, it is possible to conclude that for most respondents' schemes, management staffs were qualified and competent; the management was structured and composed in accordance with the size and complexity of their operations with an adequate span of control.

4.6 Regression Analysis.

Table 4.11: Model Summary

Model	R	R square	Adjusted R square	Standard error
	0.994	0.989	0.955	0.032

Source: Research findings (2016)

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in the above table the value of adjusted R squared was 0.955 and indication that there was variation of 95.5% on adoption of risk management strategies in relation to the size of the fund, the experience of fund manager and trustee education levels at 95% confidence interval. The findings show that 99.4% financial risk management strategies adopted by pension fund management firms in Kenya could be accounted to the size of fund, experience of managers and trustees education levels.

R shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by 0.994.

Table 4.12: ANOVA

Model	Df	Sum of squares	Mean Squares	F	Significance F
Regression	3.000	286.799	95.600	93762.354	0.002
Residual	1.000	0.001	0.001		
Total	4.000	286.800			

Source: Research findings (2016)

From the ANOVA statistics shown in table the processed data, which is the population parameters, had a significance level of 0.002. This is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5%. The F critical at 5% level of significance was (93762.354). Since F calculated is greater than the F critical (value = 215.71), this shows that the overall model was significant and that trustees' education level, size of the fund and experience of fund managers influences financial risk management strategies adopted by pension fund management firms in Kenya.

Table 4.13: Coefficients

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	9.643	0.027	351.168	0.002	9.294	9.992
X1	1.894	0.004	444.202	0.001	1.840	1.949
X2	2.831	0.010	271.017	0.002	2.964	2.698
X3	1.312	0.006	213.249	0.003	1.234	1.390

Source: Research findings (2016)

From the data in the above table the established regression equation was

$$Y = 9.643 + 1.894X_1 - 2.831X_2 + 1.312X_3$$

From the above regression equation model it was revealed that holding; trustees' education level, size of the fund and Experience of fund Managers respectively at a constant zero, choice of risk management strategy adopted by pension fund management firms in Kenya would be at 9.643. It follows that unit increase in trustees level of education would lead to an increase in choice of risk

management strategy adopted by pension fund management firms in Kenya by a factor 1.894. A unit increase in size of the fund would lead to a decrease in choice of risk management strategy adopted by pension fund management firms in Kenya by a factor 2.831. A unit increase in experience of fund Managers would lead to an increase in choice of risk management strategy adopted by pension fund management firms in Kenya by a factor 1.312. All the variables were significant since ($p > 0.05$), Meaning that the results show there is a strong evidence that education level, size of the fund and experience of managers are determinants of risk management strategy adopted.

From the finding on the Adjusted R squared , the study revealed that that there was variation of 95.5% on choice of risk management strategy adopted by pension fund management firms in Kenya attributed to variance in trustees' education level, size of the fund and Experience of fund Managers. From the finding on the ANOVA statistics, the study found that there was a significance level of 0.2% which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance value was less than 5%.

From the above regression equation model it was revealed that holding; trustees' education level, size of the fund and Experience of fund Managers respectively at a constant zero, choice of risk management strategy adopted by pension fund management firms in Kenya would be at 9.643.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the findings of the study, conclusions drawn from these findings and recommendations for policy and further research which should be of interest to both academics and practitioners. The broad objective of the study was to investigate the factors that determine the financial risk management strategies adopted by pension fund managers. The study was a descriptive survey design based on three objectives. Data was collected and analysed using descriptive statistics and frequency tables according to the objectives of the study.

5.1 Summary of the study

5.1.1 Demographics of Respondents' Funds

The study established that majority of trustees in the respondents' funds had received certification from the RBA or other certifying bodies, with very few who that lacked RBA certification. They also responded stated that their boards were balanced to a great extent or very great extent in terms of expertise and background.

Majority of the respondents stated that fund administrators were responsible for coming up with and enforcing adoption of financial risk management strategies and were also of the view that the management of their schemes were qualified, competent, structured and composed in accordance with the size and complexity of their operations.

The majority respondents stated that trustees were responsible for coming up with and enforcing risk management strategies and that the board had articulated a risk management strategy and adopted the strategy.

5.1.2 Risk management strategies adopted by the respondents

The study sought to find out which risk management strategies the respondents used. It emerged that the two most commonly adopted strategies were insurance and derivatives while a few adopted administrative strategies.

The study investigated whether the size of the fund influenced the financial risk management strategy adopted and majority responded that it does to a great extent.

The second objective of the study was to determine whether the level of experience of fund managers determined the financial risk management strategy chosen. Majority of the respondents were of the view that experience influenced the financial risk management strategy adopted to a very great extent.

The third objective of the study was to establish whether trustees' level of education influenced their choice of financial risk management strategies and the response was also that it does to a great extent.

5.2 Conclusion

The study revealed that there was a positive relationship between the size of the fund and choice of risk management strategy adopted by pension fund management firms in Kenya. The study also revealed that there was a positive relationship between experience of fund managers, trustees' education level, and choice of risk management strategy adopted by pension fund management firms in Kenya

Thus, the study concludes that the size of the fund the level of experience and the trustee education levels determine the financial risk management strategies adopted by pension fund managers in Kenya.

5.3 Policy Recommendations

The study recommends that the fund management hire experienced fund managers and also invest in training trustees to enhance their education since it was found that there was a positive relationship between trustees' education level, experience of fund managers and choice of risk management strategy adopted by pension fund management firms in Kenya. Therefore no trustee would be allowed to serve in the boards without certification.

The study recommends a need for pension fund management firms in Kenya to control the size of the fund since the study found that this factor positively affect the choice of risk management strategy adopted by pension fund firm.

The study recommends Retirement Benefit Authority on a regular basis to evaluate the educational level of trustees and also review the qualifications of the pension fund managers as the two objectives have an influence on the financial risk management strategies adopted by pension fund managers.

To researchers and academicians the research is important because it validates previous studies that have been done on the same subject and will therefore reinforce the findings.

5.4 Limitation of the Study

The major constraints of this study was resistance due to the sensitivity of the topic of risk management and this was overcome by accompanying each questionnaire with a covering letter informing the respondent that the research study will be purely for academic purposes and that utmost confidentiality will be maintained. The questionnaires were structured in a simple way to avoid being too long and ambiguous.

5.5 Areas for Further Research.

As a result of this study, the researcher was able to identify a number of areas that might require additional research.

Future research in the pension's industry can be done especially on the area of trustee education and what impact it has on the performance of schemes.

There is also an opportunity to study more the risk appetites for the trustees and their impact on risk management in the pension schemes.

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Part A: General Information

1. Name of the organisation:
2. Number of pension schemes managed by the pensions fund management firm.....
3. Please indicate (Tick as appropriate).
Gender: Male [] Female []
4. What is your position in the pension scheme (Tick as appropriate?)
Fund manager [] Scheme Administrator [] Investment Officer []
5. What kind of scheme do you administrate?
Defined benefits [] Defined contribution [] Both []
6. What is the structure of the scheme chosen in question 5?
Segregated [] Guaranteed [] umbrella [] others [] specify.....

Part B: Determinants

7. value/size of the pension scheme assets (Kshs)

	Up to 500 million	More than 500 million but not exceeding 1 Billion	More than 1Billion but not exceeding 5 Billion	More than 5,000 Billion
At what value do the asset of the scheme stand in the last audited accounts				

8. In your opinion does the value/size of a fund determine the risk management strategy in place?

Yes []

No []

9. If yes to what extent

Very great extent []

Great extent []

Moderate extent []

Low extent []

None at all []

10. Experience of the fund managers

Please tick as appropriate

	1-5 years	5-10 years	Over 10 years
Number of Years worked in the pension industry			
Age of the firm you are currently working in.			

11. What is your education level?

Post Graduate []

Under Graduate []

Diploma []

Others [] Please specify.....

12. In your opinion does experience determine the financial risk management strategies adopted?

Yes []

No []

If yes to what extent

Very great extent []

Great extent []

Moderate extent []

Low extent []

None at all []

13. If not why

14. Level of education and Risk Appetite of fund trustees.

How many Trustees are there in the scheme you manage?	
How many of those Trustees have been trained and certified by the RBA/Association of Retirement Benefits Schemes	
How many have undergone any other trustee's certification/training other than the one mentioned above?	

15. To what extent is the BOT adequately balanced in terms of expertise and background.

Very great extent []

Great extent []

Moderate extent []

Low extent []

None at all []

16. In your opinion what is the overall risk appetite of the trustees?

Very low []

Low []

Moderate []

High []

Very high []

17. Whose responsibility is it to come up with and enforce adoption of a financial risk management strategy?

Trustees, [] Fund administrator [] others specify []

18. If it is the responsibility of the trustee to come up with and enforce a Financial risk management strategy,

Indicate the extent to which you agree or disagree with the statements below. Use a likert scale of 1-5, where 5 = strongly agree 4. Agree 3. Somehow agree 2. Disagree 1.Strongly disagree

	5	4	3	2	1
The board has articulated a risk-management strategy which identifies risk, sets parameters and measures, monitors and controls for these risks.					
The strategy is adopted .					
The strategy is updated regularly.					
The risk management strategy is aligned with the schemes strategic plan.					

19. If it is the responsibility of the Administrator to come up with and enforce a financial risk management strategy, indicate the extent to which you agree or disagree with the statements below. Use a likert scale of 1-5, where 5 = strongly agree 4. Agree 3. Somehow agree 2.

Disagree 1.Strongly disagree

	5	4	3	2	1
The management staff are qualified and competent.					
The management is structured and composed in a manner to match the size and complexity of the operations.					
Responsibilities have been assigned in an adequate manner to the individual members of the management					
There is an adequate span of control for the administrator					

20. Does the regulatory framework play a role when choosing a risk management strategy for adoption?

Yes []

No []

Thank you very much for taking your time to answer the questions.

Appendix I: 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)



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23rd February, 2016

TO WHOM IT MAY CONCERN:

REF: KU/MBA-PHD/RECOMM. LETTERS/VOL IV (9)

RE: MATILDA WAKERE ITA - D53/CTY/21594/2012

This is to confirm that the above named is a Master of Business Administration (**FINANCE Option**) student in the **School of Business, Kenyatta University**.

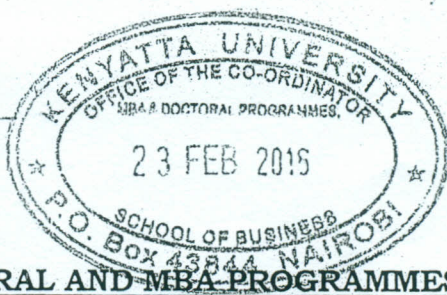
She is through with course work and has successfully defended her MBA Project proposal (**Determinants of Adoption of Financial Risk Management Strategies by Pension Fund Managers in Kenya**). She has done all the corrections that were pointed out by the examiners during the defense and she is now embarking on data collection.

Any assistance accorded to him will be much appreciated by this office.

Thank you.


SAMUEL MAINA
COORDINATOR, DOCTORAL AND MBA PROGRAMMES

SM/tw



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